

# Mathematics

Teacher Guide

2015



Standard Based

## Elementary One

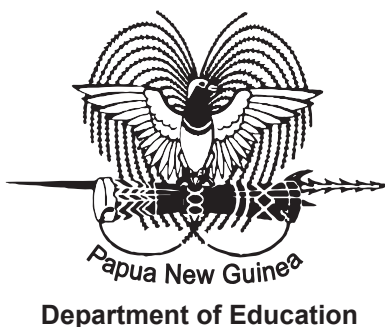


# **Mathematics**

## **Teacher Guide**

### **2015**

**Elementary One**  
**Standard Based**



## **Issued free to schools by the Department of Education**

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First Edition

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## SECRETARY'S MESSAGE

The Mathematics Elementary 1 Teacher Guide is part of the new Standard Based Curriculum for Elementary schools in Papua New Guinea. This means that the study of Mathematics in Standard Based Curriculum is written to raise the standards of numeracy level in Papua New Guinea in comparison to the Pacific and elsewhere globally. This enhances the 21st Century changing and technological needs for individual's full participation and performance in the society.

The standards stated in the Mathematics Syllabus describe what students should know, be able to do and achieve before they begin primary school. They are based on everyday Mathematics used in the community and teachers are encouraged to use resources in the community to help in their teaching.

The teachers should plan their daily lessons using the examples outline in this Teacher Guide. They should also use the assessment methods and strategies for students to achieve the content standards. Teachers are required to use their understanding about Mathematics concepts and make teaching and learning fun and enjoyable for students.

I commend and approve this Elementary 1 Teacher Guide for Mathematics to be used in all Elementary schools throughout Papua New Guinea.



.....  
**DR. UKE W KOMBRA, PhD**  
**Acting Secretary for Education**

# INTRODUCTION

Mathematics at the Elementary level of schooling is based on everyday Mathematics used in the community. When students are introduced to formal learning the known knowledge and skills of mathematics is the foundation by which teachers take on to help students to learn the unknown knowledge and skills in mathematics. The lessons taught therefore should be playful, fun and should be used by students for their everyday living.

The Standard Based Mathematics accommodates the community mathematics and provides opportunities for students to learn the new concepts in Mathematics. It helps them to compete with their peers not only in the community but also in the nation.

This Teacher Guide for Elementary One provides the scripted lessons that teachers will use to learn many concepts in Mathematics linking both to what students already know and what they need to learn.

## **How to use the teacher guide**

This teacher guide is organised into sections;

- Teaching and learning strategies and approaches,
- Planning and programming
- Daily Lesson plans (scripted )
- Assessment and reporting samples
- Glossary
- Resources and Materials

You as the implementer of this teacher guide should do the following;

- Read or skim through all the sections of the book
- Then plan all lessons into yearly, weekly and daily plans as suggested according to your context.
- The lessons are all numbered; therefore this should make it easy for you to insert into your teaching plans. Ensure all lessons are taught during the year
- Implement or teach the lessons according to your plans.

# INTRODUCTION

## ASSESSMENT AND REPORTING

In standard based curriculum assessment, the input, the process and output of the lesson and its impact on the child's learning is very important. Therefore it is important that you assess the students what they learn during introduction of the lesson, during class participations and what they learn at the end of each lesson. This can be done using checklists or observations sheets that you are familiar with or you can check what they produce and write in their books to verify your assessments of each student. Short, simple tests can be given, for example counting in 2s, 5s and 10s.

Each lesson has an assessment task at the end of the lesson and you should be able to use the assessment samples to record the progress of your student on weekly basis. These should be kept in their student portfolios. This will give you the honest assessment by the end of each term and year.

Check and link all assessment tasks to the content standards in the syllabus to ensure that the assessment tasks have met the mathematical knowledge, skills and attitudes embedded in the standards.

Modify or plan lessons that will cater for content standards that do not have the lessons

Report the progress of your students learning using the suggested samples according to your termly or yearly plans.

## Time allocation

Time allocated for Mathematics is 240 minutes per week and each lesson can be taught for 60 minutes per week.

## Songs and rhymes

The Mathematics lessons can start with Mathematical songs and rhymes, and starter activities to help students think in Mathematics and enjoy doing the activities. Some suggested songs are placed in the Resources part of this Teacher Guide.

## Mathematical terms and resources

Teachers are required to use Mathematical terms and words as used in the lessons and prepare resources before teaching the lessons. Word lists and resources have been made for your reference.





## KEY FEATURES

### Curriculum principles

The Mathematics syllabus is based on three learning principles:

- children learn best when new learning is built on what they already know in their culture and home
- when children play, use real objects and solve real life problems
- when mathematics is fun, challenging and structured.

### Benefits for students

When students are introduced to Mathematics in Elementary One they

- learn about mathematics at an early age .
- learn to count numbers, compare and order numbers, combine and separate numbers, measure heights, weights, lengths, make patterns and shapes and collect data using their prior knowledge and skills from Elementary Prep
- will use what they learn in Mathematics in Elementary Prep
- learn to compete with others, and enjoy to participate in Mathematics as a very important skill in their everyday lives

### Catering for diversity

Many students have special needs including those who are gifted or those who are disadvantaged physically, emotionally or intellectually. Provide opportunities in the mathematics curriculum for these students so that they can participate in a variety of experiences and develop appropriate Mathematics skills. Use acceptable terms to describe people with disabilities such as students with speech, sight or hearing impairment or students with a physical disability.

### Inclusive Curriculum

Students are surrounded by many situations, experiences and messages that are contained in the curriculum. Students use these to help them understand their world and form opinions about themselves and others. It is important that these messages and experiences lead students to understand that they have the right to participate in any curriculum activity regardless of their gender, ability, language group, culture or where they come from.

An inclusive curriculum:

- supports students to use their vernacular language and encourages teachers to use local materials and relate teaching to real life situations
- helps students to value and appreciate different roles, responsibilities and obligations that males and females play in their society
- values and places equal emphasis on female and male experiences in the curriculum

## KEY FEATURES

- recognises that students come from many different cultural and language backgrounds and caters for these differences for students from different living environment
- recognises that everyone belongs to a cultural group and all cultural groups should be treated with respect
- provides a range of learning experiences cultural activities
- allows students to appreciate, respect and participate in cultural activities from other cultures
- promotes a safe , healthy, happy and non –threatening learning environment
- provides opportunities for students to apply problem – solving and thinking skills in a range of learning situations
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### Mathematics syllabus

The Standards Based syllabuses for Language, English, Culture and Community and Mathematics have the same format for Elementary.

The content of Mathematics:

- is presented in strands and topics
- the strands are same from Elementary Prep to Elementary 2
- the topics for Elementary Prep is less than Elementary 1 and Elementary 2
- the knowledge, skills, attitudes and values are written as standards
- each standard in the syllabus has set of performance indicators that give the student what they should know and be able to do. These are all expressed in the scripted lessons that you will use to teach mathematics on daily basis
- the assessment task is also given for each topic so that you are progressively assessing student's competencies and achievements of standards. They are also shown in the lessons that you will use in this teacher guide.
- the syllabus also has the benchmark to work towards so that by the end of Elementary 2 students should be competent and qualified in mathematical knowledge, skills and attitudes and are able to move to grade 3 at primary level of schooling. These can be tested at the end of grade 2. When you assess assessment tasks the students should be able to achieve the bench making standards by the end of E2

**Conditions of learning** – a model of natural learning – refer to Teacher Guide (2004)

Conditions	What does this mean	In mathematics
Immersion	Learners need to be surrounded with many learning materials and situations	Surround students with Mathematics resources and materials – stones, sticks, shells, shapes, linking cubes, etc. these are all included in the resources section for each term.
Demonstration	Learners need to receive many demonstrations of how to do things	Teachers demonstrate how to count or group sets of objects etc. and show students how to do the activity. At the introduction and during supervision of the lesson activity.
Expectation	Learners receive messages from other people who help them to realise that they have the capacity to master certain skills	Students must look forward to what they will learn at the end of the lesson. Be able to take this skill and apply it or use it at home or in the community. Parents must hear their children counting numbers not only in school but also at home.
Responsibility	Learners make their own decisions about when, how and what to learn when given any learning task.	During scripted lesson activities everyone should be encouraged to decide and take responsibility for doing the activities during the lesson.
Use	Learners need time and opportunities to practise the skills and knowledge which they have learnt.	Students are given during the lesson to practice and display their skills. Take home work should be given in E2 classes.
Approximation	Learners must be allowed to make guesses about how to say things. It is quite acceptable for learners to make mistakes in order for learning to take place	During teacher and student interaction the learner must be allowed to make mistakes to help him /her learn from the mistakes. Questions should be asked to help student learning.
Response	Learners learn from feedback that reinforces correct solutions or corrects mistakes. This feedback must be relevant and non-threatening.	At the end of the lesson time given time for feedbacks and assessment to see how well students are doing and learning. They must be appraised during and at the end of lessons.

## Approaches of teaching and learning

### Student - centred-approaches

Here are some ideas about student learning approaches that you should ensure they are implemented during teaching and learning with the children at Elementary Prep level.

What students should do during lessons?	What teacher should do for teaching?
<ul style="list-style-type: none"> <li>• Students should do more talking than the teacher</li> <li>• Plenty of time given to their activities</li> <li>• Take part in many different activities that relate to real life experiences to develop critical thinking and understanding e.g. plenty of play activities</li> <li>• Discover new information on their own and with guidance from the teacher</li> <li>• Use an inquiry learning approach to explore a topic</li> <li>• Frequently work in small groups to cooperate with peers</li> <li>• Have a chance to evaluate their efforts</li> <li>• Use real objects to support learning</li> <li>• Choose activities and topics for their projects</li> <li>• Have a chance to correct their efforts</li> <li>• Choose who they will share the learning situation with</li> </ul>	<ul style="list-style-type: none"> <li>• Play the role of a facilitator</li> <li>• Provides a rich learning environment for students' leaning</li> <li>• Develop a supportive atmosphere in the classroom</li> <li>• Implement the daily lesson plans</li> <li>• Make resources available – prepare tasks for learning</li> <li>• Observe children and supervise their progress</li> <li>• Ask questions to assist children's learning</li> <li>• Appraise students efforts and shows how to improve from their mistakes</li> <li>• Is aware of what students do , how they feel and respond with understanding</li> <li>• Is patient and gentle in his or her approach</li> </ul>

### Multigrade teaching

Usually teachers in a school would have one grade to teach for the whole year. In many communities the enrolments are low, so schools may have multigrade classes. This means that two or three different grades are grouped together and are supervised by one teacher. The classes are made up of students of different ages, abilities, interests and needs grouped together for learning.

A successful multigrade classroom provides opportunities for students to work in small groups, pairs, individually and as a whole class. The group work must have a purpose. One way of grouping is in ability groups based on the real needs identified. If students are experiencing difficulties, small groups will meet their needs. The tasks provided for each group needs to be challenging. The students must be clear about what they are expected to do and have them practise the skills while the teacher assists particular groups.

## • Learning and thinking strategies in Mathematics

Strategy	Learning situation in mathematics class
Mental Mathematics	Develop mental mathematics thinking and process skills in children
Number Rhymes and songs	Reinforce simple number bonds, number patterns, sequencing, conversation, ordering of number
Games Memory games Number bonds game Shape games	Collecting of variety of games and rhymes develop children's enjoyment of mathematics Support mental mathematics Develop mental images of number shapes etc..
Interactive story e.g. fraction story to reinforce half	Develop mental images of numbers, shapes etc.  Using puppets and toys to gain attention Reinforce concepts
Mathematical vocabulary; Oral work based on practical activities, reading aloud and silently, writing and recording in variety of ways, mathematics dictionary	Develops student's thinking in understanding spoken and written instructions, familiar with mathematical vocabulary, understand meaning of words in mathematics Teacher and children can make mathematics dictionary and use it in class
Response strategy – thumbs up – down- across	Method that allows students to self-assess their understanding – good to use in big classes to assess students quickly
Role Play (action/kinaesthetic)	Role play about e.g. sharing out objects as in addition, division
Visual clues	Calculation on the board in reference to objects used in activity e.g. showing children how they obtained the solutions to their problems
Oral clues – Questioning about; • Remembering facts • Using facts • Predicting • Applying reasoning • Interpreting results • Designing and comparing procedures	The use of questioning helps students to understand mathematical ideas and use the terms correctly- teacher may ask questions in different ways to help students pick up meaning of ideas and concepts. Teacher asking open and closed ended questions using appropriate maths vocabulary develops higher order thinking skills and helps them to recall fact and helps them to give good answers and respond in appropriate ways
Class involvement	Writing, answering questions, watching role play and actively participating in play activities
Investigations and problem solving	These can be used in different ways to develop higher order skills such as reflection, analysis, being able to discuss and express themselves, help creative thinking skills, problem solving and developing and using language to think

# PLANNING AND PROGRAMMING

## Time Table.

Use the sample time table below to plan your teaching and learning plan for each week. Mathematics should be taught for 40 minutes per day

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8.00 - 8.30am	Assembly and devotions				
8.30-9.30	Language	Language	Language	Language	Language
9.30-10.30	English	English	English	English	English
10.30 -11.00	Recess				
11.00 – 11.40	Maths lesson 1	Maths lesson 1	Maths lesson 1	Maths lesson 1	Maths lesson 1
11.40 -12.00	CRE	CRE	Maths lesson 2	Maths lesson 2	C & C
12.00N -1.00	Lunch				
1.00-2.30pm	C & C	C & C	C & C	C & C	C & C

Time allocations per week	
Block times (assembly and devotion)	150 minutes
Recess and time breaks	360 minutes
Christian Religious Education (CRE)	60 minutes
Language	300 minutes
English	300 minutes
Mathematics	240 minutes
Culture and Community	360 minutes
Total time allocations per week	1770 minutes

The school should end at 2.30pm for each day.

# PLANNING AND PROGRAMMING

## Elementary 1 Yearly Plan for teaching scripted lessons

This yearly plan is organised into terms for you and have been used to plan the objectives for each day's scripted lessons. Every elementary school will be teaching the same topics at the same time.

Week 1 is either orientation (Term 1) or revision of previous terms' learning.

Week 10 is to assess and report to parents on students' progress

Weeks	Term 1	Term 2	Term 3	Term 4
1	<b>Orientation</b>	<b>Revision</b>	<b>Revision</b>	<b>Revision</b>
2	<b>Numbers up to 1000 (Counting)</b> 1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Numbers up to 1000 (Addition)</b> 1.1.2 Understand the use of relative size of numbers in various situations	<b>Addition and Subtraction of 2 and 3 digit numbers (Addition)</b> 1.1.4 Extend their understanding of addition and subtraction to calculate 2 digit numbers	<b>Units of Length (Money)</b>
3	<b>Numbers up to 1000 (Counting)</b> 1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Numbers up to 1000 (Subtraction)</b> 1.1.2 Understand the use of relative size of numbers in various situations	<b>Addition and Subtraction of 2 and 3 digit numbers (Subtraction)</b> 1.1.4 Extend their understanding of addition and subtraction to calculate 2 digit numbers	<b>Triangles &amp; Quadrilaterals (Plane Shapes -2D Shapes)</b> 1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures
4	<b>Numbers up to 1000 (Counting)</b> 1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Numbers up to 1000 (Addition and Subtraction)</b> 1.1.2 Understand the use of relative size of numbers in various situations	<b>Units of Length (Capacity)</b>	<b>Triangles &amp; Quadrilaterals (Symmetry)</b> 1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures
5	<b>Numbers up to 1000 (Comparing and ordering)</b> 1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Simple Fractions (Fractions)</b> 1.1.3 Show and represent the meaning of half and quarter as equally divided part of a whole using pictorial or concrete objects	<b>Reading time (Time)</b> 1.2.3 Understand and set the units of time and duration in hours and days	<b>Triangles &amp; Quadrilaterals (Angles &amp; Direction)</b> 1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures



# PLANNING AND PROGRAMMING

Weeks	Term 1	Term 2	Term 3	Term 4
6	<b>Numbers up to 1000 (Place Value)</b> <b>1.1.1</b> Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Units of Length (Length)</b> <b>1.2.1</b> Understand and compare length of objects using the units of measurement such as centimetre ( <i>cm</i> ) and metre ( <i>m</i> )	<b>Units of Length (Money)</b>	<b>Shape of box (Solids -3D Shapes)</b> <b>1.3.2</b> Knowing boxes by the component of the faces and make a box
7	<b>Numbers up to 1000 (Place Value)</b> <b>1.1.1</b> Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<b>Units of Length (Length)</b> <b>1.2.1</b> Understand and compare length of objects using the units of measurement such as centimetre ( <i>cm</i> ) and metre ( <i>m</i> )	<b>Numbers up to 1000 (Money)</b>	<b>Rules of addition and subtraction (Extending and Using Patterns.)</b> <b>1.4.1</b> Apply using rules for inverse operation to calculate addition and subtraction
8	<b>Numbers up to 1000 (Addition)</b> <b>1.1.2</b> Understand the use of relative size of numbers in various situations.	<b>Units of Length (Addition)</b> <b>1.2.2</b> Extend the understanding of standard units of measurement in length to add and subtract quantities of measurement using scale	<b>Collecting and representing data (Representing and Interpreting Data)</b> <b>1.4.2</b> Understand and use simple tables and graphs to represent and compare various types of situations in everyday life	<b>Numbers up to 1000 (Addition)</b> <b>1.1.1</b> Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000
9	<b>Numbers up to 1000 (Subtraction)</b> <b>1.1.2</b> Understand the use of relative size of numbers in various situations.	<b>Units of Length (Weight)</b>	<b>Triangles &amp; Quadrilaterals (Plane Shapes -2D Shapes)</b> <b>1.3.1</b> Understand and investigate components of triangles and quadrilaterals as geometrical figures	<b>Numbers up to 1000 (Subtraction)</b> <b>1.1.1</b> Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000
10	<b>Reporting</b>	<b>Reporting</b>	<b>Reporting</b>	<b>Reporting</b>



# PLANNING AND PROGRAMMING

## Weekly objectives

Weekly and daily lesson objectives have been written for you for every term. Use this to make sure your teaching is keeping pace with other schools.

### Elementary 1 Term 1

Week	Standard	Day	Objective
1	Orientation, registration and revision		Get to know their school environment and settle into classroom. Assess what the children already know.
2	Count the number of objects in a set 0 to 50 or more	Monday	Count 0 to 30 and count objects in both the child's language and English forwards and backwards.
		Tuesday	Count 0 to 35 and count objects in both the child's language and English forwards and backwards.
		Wednesday	Count 0 to 40 and count objects in both the child's language and English forwards and backwards.
		Thursday	Count 0 to 45 and count objects in both the child's language and English forwards and backwards.
		Friday	Count 0 to 50 and count objects in both the child's language and English forwards and backwards.
3	Recognize odd and even numbers	Monday	Recognise even and odd numbers between 0 to 30.
		Tuesday	Recognise even and odd numbers between 0 to 40.
		Wednesday	Recognise even and odd numbers between 0 to 50.
		Thursday	Count on in twos from any number from 1-50.
		Friday	Count back in twos from any number from 2-50.
4	Estimate the number of objects in a set from 0-50 or more	Monday	Group and count number of objects in a set 0-50
		Tuesday	Estimate and count the number of objects in a set between 1-20
		Wednesday	Estimate and count number of objects in a set between 1-30
		Thursday	Estimate and count number of objects in a set between 1-50
		Friday	Estimate and count number of objects in a set between 1-50

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5	Compare and order sets of objects and numbers 0-50 or more  Use vocabulary; first to twentieth	Monday	Group, compare and order sets of objects and numbers using the words first, second, to tenth.
		Tuesday	Group, compare and order sets of objects and numbers; from first to twentieth.
		Wednesday	Compare and order numbers using number cards 0-50
		Thursday	Identify the position and value of numbers between 1 -50
		Friday	Order numbers 0-50 and place them in their correct positions using a number line.
6	Write numbers in tens and units from 0-50 or more	Monday	Use base 10 materials to show numbers 0-20
		Tuesday	Draw pictures of the base 10 materials showing numbers from 0-20
		Wednesday	Use base 10 materials to show numbers 0-20
		Thursday	Draw pictures of the base 10 materials showing numbers from 0-20
		Friday	Draw pictures of the base 10 materials showing numbers from 0-50
7	Break numbers into tens and units e g. $24=20 + 4$	Monday	Write a 2 digit numbers 0-20 in tens and units eg 14 is $10 + 4$
		Tuesday	Write a 2 digit numbers 0-30 in tens and units
		Wednesday	Write a 2 digit numbers 0-40 in tens and units
		Thursday	Write a 2 digit numbers 0-50 in tens and units
		Friday	Order two digit numbers from smallest to biggest eg, 35, 27, 24, 42, 17
8	Add sets of objects and numbers 0-50	Monday	Make and add two 2 sets of objects 0-10
		Tuesday	Use mental arithmetic to add two 2 sets of objects 0-10
		Wednesday	Add two 2 sets of objects 0-25 with no renaming
		Thursday	Use mental arithmetic to add two 2 sets of objects 0-15
		Friday	Make up and tell number stories for addition problems

## PLANNING AND PROGRAMMING

9	Make number sentences and stories to estimate and solve subtraction problems 0-50 or more  Use mental arithmetic to solve simple addition and subtraction sums 0-50 or more	Monday	Write and solve number sentences for simple subtraction problems 0-20
		Tuesday	Write and solve number sentences for simple subtractions 0-50
		Wednesday	Write and solve number stories for subtractions between 0-20
		Thursday	Use mental arithmetic to solve simple subtraction problems 1-25
		Friday	Use mental arithmetic to solve simple subtraction problems 1-25
10	Assessment and reporting week		Report to parents on the children's assessment for this term

### Elementary 1 Term 2

Week	Standard	Day	Objective
1	Revise Term 1 content		Revise Term 1 number content
2	Do repeated addition for numbers 2 and 5	Monday	Use a 100 number square to do repeated addition of 2 from 0-20
		Tuesday	Use a 100 number square to do repeated subtractions of 2 from 20-0
		Wednesday	Use a 100 number square to do repeat additions of 5 from 0-50
		Thursday	Use a 100 number square to do repeat subtractions of 5 from 50-0
		Friday	Do repeat additions of 2 starting from different numbers eg 1, 3, 5
3	Make number sentences and stories to estimate and solve subtraction problems 0-50	Monday	Do simple subtraction problems from 0-20 using a 100 square
		Tuesday	Write number sentence for subtraction problems 0-20
		Wednesday	Do simple subtraction problems 0-50 using a 100 square
		Thursday	Write number sentence for simple subtraction problems 0-50
		Friday	Make up number stories for subtraction problems 0-50

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4	Use mental arithmetic to solve simple addition and subtraction problems 0-50.	Monday	Use mental arithmetic strategies to solve simple addition and subtraction problems 0-20
		Tuesday	Explain the mental strategies they have used to solve addition and subtraction problems 0-20
		Wednesday	Use mental arithmetic strategies to solve simple addition and subtraction problems 0-50
		Thursday	Explain the mental strategies they have used to solve addition and subtraction problems 0-50
		Friday	Play number games involving mental arithmetic
5	Divide into halves whole objects and sets of objects.	Monday	Use the word 'half' correctly
		Tuesday	Show how to divide everyday shapes in half
		Wednesday	Divide sets up to 10 objects into two halves
		Thursday	Divide sets up to 20 objects into two halves
		Friday	Draw the second half of a 2D shape
6	Estimate and measure height, width and length using a metre ruler or a metre rope.	Monday	Know that the hand spans of different people are different sizes
		Tuesday	Know why it is important to use standard units
		Wednesday	Estimate and measure the height, width and length of their desks using a metre stick
		Thursday	Use the words height, length and breadth correctly
		Friday	Estimate whether objects are more than 1m or less than 1m

## PLANNING AND PROGRAMMING

7	Compare height and length using 'more than 1m' or 'less than 1m'.	Monday	Measure and compare the heights of classroom furniture and put them in order from shortest to tallest
		Tuesday	Measure and draw objects that are less than 1m and more than 1m
		Wednesday	Know when it is better to use a 1 metre stick and when to use a 1 metre rope
		Thursday	Estimate the height of trees in the playground by comparing them with a 1m stick
		Friday	Know that some adults, e.g. a carpenter, need to measure accurately in their work
8	Add sets of objects and numbers 0-50 or more  Make number sentences and stories and solve addition problems 0-50 or more	Monday	Know that in additions numbers can be added in any order
		Tuesday	Put the bigger number first to make the additions easier
		Wednesday	Write number sentences for simple additions
		Thursday	Make and solve number stories 0-20
		Friday	Make and solve number stories 0-50
9	Estimate and measure light and heavy objects using improvised balances.	Monday	Compare the weights of light objects using a beam balance using the words 'heavier than' and 'lighter than'
		Tuesday	Compare the weights of heavier object using a beam balance using the words 'heavier than' and 'lighter than'
		Wednesday	Put objects in order of weight from lightest to heaviest and heaviest
		Thursday	Group objects according to their weight using light, lighter, lightest and heavy, heavier and heaviest
		Friday	Say why beam balances are more accurate than weighing with hands
10	Assessment and reporting week		Report to parents on the children's assessment for this term

# PLANNING AND PROGRAMMING

## Elementary 1 Term 3

Week	Standard	Day	Objective
1	Revise Term 2 content		Revise Term 2 number content
2	Add sets of objects and numbers 0-50 or more  Make number sentences and stories and solve addition problems 0-50 or more  Do repeated addition for numbers 2 and 5	Monday	Use addition by counting on a number line 0-20
		Tuesday	Use addition by counting on a number line 0-50
		Wednesday	Count on and back confidently in 2s and 5s
		Thursday	Know that addition is the opposite of subtraction
		Friday	Check addition problems by doing subtractions eg $5+4=9$ ; $9-4=5$ ; $9-5=4$
3	Use simple arithmetic to solve subtraction problems with numbers 0-50	Monday	Use flash cards to do subtractions with single digit numbers and with double digit numbers.
		Tuesday	Use objects to show that the meaning of $(6 - 2)$ and $(2-6)$ are not the same
		Wednesday	Use flash cards to do subtraction problems that do not involve carrying over.
		Thursday	Do subtraction by counting back on a number line
		Friday	Do subtraction by counting back on a number line
4	Compare and estimate capacity using non-standard units, e.g. cup, jug Estimate and measure the capacity of containers using standard unit litre (L)	Monday	Know the meaning of the words capacity, full, empty, nearly full, nearly empty
		Tuesday	Estimate and count how many spoonfuls of water will fill different cups and jugs
		Wednesday	Know how to use 1L measures
		Thursday	Estimate and measure how many cups of water can be poured from a 1L bottle of water
		Friday	Understand why we use standard units to measure capacity
5	Read day, date, month and events using calendar. Read time in hours and half hour on clock face.	Monday	Know that a calendar tells us the date of every day in the year and when important things happen
		Tuesday	Read the dates on the calendar for today and yesterday
		Wednesday	Read the dates on the calendar for today and tomorrow
		Thursday	Read the time on a clock face to the hour.
		Friday	Read the time on a clock face to the $\frac{1}{2}$ hour

## PLANNING AND PROGRAMMING

6	Recognise notes up to K50 and exchange and use coins up to K1 or more	Monday	Recognise 5t, 10t, 20t, 50t, K1 coins
		Tuesday	Exchange 5t, 10t, 20t, 50t and K1 coins up to the value of K1
		Wednesday	Recognise K2, K5, K10, K20 and K50 notes
		Thursday	Exchange K2, K5, K10, K20 and K50 notes
		Friday	Solve addition and subtraction problems involving money
7	Calculate how many items may be bought with a sum	Monday	Calculate how many small objects they can buy with 50t
		Tuesday	Calculate how many small objects they can buy for K1
		Wednesday	Calculate the biggest number of items they can buy with 50t
		Thursday	Calculate the biggest number of items they can buy with K1
		Friday	Calculate how much change they should receive up to K1
8	Select and sort real objects by two features e.g. shape, colour or size.	Monday	Collect any number of objects less than 50, and group into their most obvious features, e.g. all green, round, stones, cans or others.
		Tuesday	Describe and write down the common feature of the objects in each group.
		Wednesday	Sort and write down the number of things that are in the classroom, e.g. number of desks, tables and others.
		Thursday	Find out and record the number of students who come from different areas in the classroom.
		Friday	Observe, identify, group and record things in the environment according to their common features.
9	Identify, sort and name four sided shapes in their environment.	Monday	Pick out a square and a rectangle and describe what is similar and different about a them.
		Tuesday	Pick out and describe a square from the other four sided shapes.
		Wednesday	Pick out and describe a rectangle from the other four sided shapes.
		Thursday	Correctly identify squares and rectangles from the other four sided shapes.
		Friday	Report to parents on the student's assessment for this term
10	Assessment and reporting week		Report to parents on the student's assessment for this term

# PLANNING AND PROGRAMMING

## Elementary 1 Term 4

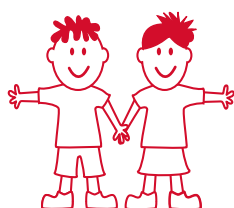
Week	Standard	Day	Objective
1	Revise Term 3 content		Revise Term 3 number content
2	Calculate how many items may be bought with a sum	Monday	Calculate the cost of 2 items up to K1
		Tuesday	Calculate the cost of 3 items up to K2
		Wednesday	Calculate how many small items they can buy with K2
		Thursday	Calculate how much change they should get up to K1
		Friday	Calculate how much change they should get up to K2
3	Draw and make patterns using 2D shapes	Monday	Make drawings of shapes that they recognize from things such as bilums, baskets, mats, floor mats.
		Tuesday	Draw and make patterns using squares and rectangles
		Wednesday	Draw and make patterns using circles.
		Thursday	Draw and make patterns using triangles
		Friday	Draw and make patterns using combination of different shapes.
4	Identify one line of symmetry in shapes and in the environment.	Monday	Collect leaves and fold length wise to show the line of symmetry.
		Tuesday	Draw shapes on folded edges, cut out and open to show the line of symmetry.
		Wednesday	Draw squares and rectangles, cut out, fold to find the lines of symmetry.
		Thursday	Draw other four sided shapes, cut out, fold to find lines of symmetry
		Friday	Recognise symmetrical shapes and pictures in the environment.
5	Give, follow and draw simple moving and turning directions using half turns, clockwise and anticlockwise. Recognize right angles in the environment.	Monday	Give and follow simple directions to move forward, backward and sideways from a starting point.
		Tuesday	Draw directions of their movements and identify the right angles in these drawings.
		Wednesday	Give and follow simple directions to move clockwise and anticlockwise from a starting point.
		Thursday	Draw the direction of their clockwise and anticlockwise movements.
		Friday	Show and name the right angle in these drawings.



## PLANNING AND PROGRAMMING

6	Group, describe and name common solid shapes using non-standard words like ball, box, tins and cans.	Monday	Collect and group any solids that can be found in the local environment according to their common features.
		Tuesday	Pick out the boxes from the other solids and describe their features.
		Wednesday	Pick out the tins and cans from the other solids and describe their features.
		Thursday	Pick out the balls from the other solids and describe the features.
		Friday	Recognize solids in the environment, and in the pictures.
7	Recognize the pattern in odd and even number sets. Work out missing numbers in a given set of numbers. Recognise and follow patterns in addition and subtraction	Monday	Identify odd and even numbers between 0-50 on flash cards and order them in separate sets.
		Tuesday	Recognise the increasing and decreasing pattern of 2 in odd and even number sets.
		Wednesday	Show and find the value of the unknowns in simple additions using objects eg $5+3=8$
		Thursday	Show and find the value of unknowns in simple subtractions using objects.
		Friday	Recognize patterns and fill in missing numbers in other number sets, e.g. 3, 6, 9, ..., 15
8	Add sets of objects and numbers 0-50 or more  Make number sentences and stories and solve addition problems 0-50 or more	Monday	Know all the ways of adding two numbers to make 10 using objects
		Tuesday	Know all the ways of adding two numbers to make 20 using objects
		Wednesday	Know all the ways of adding two numbers to make 10 using a number line
		Thursday	Know all the ways of adding two numbers to make 20 using a number line
		Friday	Make word stories to solve addition problems
9	Make number sentences and stories to estimate and solve subtraction problems 0-50 or more  Use mental arithmetic to solve simple addition and subtraction sums 0-50 or more	Monday	Use mental arithmetic to answer simple subtraction problems 1-20
		Tuesday	Explain how they did their mental calculations
		Wednesday	Use mental arithmetic to answer simple subtraction problems 1-50
		Thursday	Explain how they did their mental calculations
		Friday	Make up and solve subtraction stories using mental arithmetic
10	Assessment and reporting week		Report to parents on the children's assessment for this term





# DAILY LESSON PLANS

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**LESSON TOPIC:** Count from 0 to 30

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count from 0 to 30 and count objects in both the children's home language and English, forwards and backwards.

## 2 STARTER

Revise counting objects from 0 to 20. Show a number of different objects (1 to 20) on flashcards, with a different number of objects on each flashcard. Ask the children to count them quickly and give the number of objects in both their home language and English.

Ask the children to count from 0 to 20 on their fingers and toes and then backwards, from 20 to 0, in both the children's home language and English.

Sing a number song together, e.g. 'Ten green bottles hanging on the wall'.

## 3 INTRODUCTION

Teach the numbers 21 to 30 in both English and the children's home language.

Use a number line on the board.

Use flashcards so that children can see the shape of the numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Group the children into pairs to count from 0 to 30 both forwards and backwards, using different objects, e.g. bottle caps.

Tell children to count objects first in their home language then in English.



## 5 CONCLUSION AND ASSESSMENT

Assess the children on their ability to work on their own by grouping and counting any group of objects from 0 to 30 and 30 to 0 in their home language and English.

You call out the number and they make the collection of objects, e.g. Ask 'Make a pile of 25 stones – go!'

**LESSON TOPIC:** Count from 0 to 30

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count from 0 to 35 and count objects in both the children's home language and English, forwards and backwards.

## 2 STARTER

Give each child a number card from 0 to 30 and ask them to sort themselves into the correct order.

Ask the children to chant the numbers in order, from 0 to 30 and then 30 to 0.

Mix up the cards and play twice more.

Ask the children to write the new numbers on the backs of their friends using their fingers.

## 3 INTRODUCTION

Teach 0 to 35 in the children's home language, then in English.

Use a number line on the board.

Count chanting up and back down, from 0 to 35 and then 35 to 0.

Ask the children to write the numbers on their boards.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children how to count from 0 to 35. Then ask them to count backwards using objects in the children's home language and English.

Group the children into pairs to count from 0 to 35 using different objects, counting both forwards and backwards. Tell children to count objects first in their home language then in English.

Set the children challenges, e.g. making a pile of 32 stones.

Make a pile of objects and ask the children to come and count them.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to group and count any group of objects, from 0 to 35 and 35 to 0, in their home language and English.

Ask the children to group on the floor 31, 32, 33, 34 and 35 objects picked from a box. Check the piles to ensure all children have grouped 35 objects together on the floor.

Assess that the children can write the numbers 31, 32, 33, 34 and 35 in the sand, on their boards or in the air.



**LESSON TOPIC:** Count from 0 to 40

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count from 0 to 40 and count objects in both the children's home language and English, forwards and backwards.

## 2 STARTER

Revise counting objects from 0 to 35 and from 35 to 0.

Show the children a number of different objects from 0 to 35 on flashcards, with a different number of objects on each flashcard.

Ask the children to count them quickly and give the number of objects either in their home language or English.

Show the 'number' flashcards and the 'word' flashcards and ask children to call out the correct numbers.

## 3 INTRODUCTION

Teach counting from 0 to 40 first in the children's home language, then in English.

Use a number line on the board.

Teach the children the shapes and names of the new numbers.

Show the children objects and ask them to count them correctly.

## 4 TEACHER AND STUDENT ACTIVITY

Group the children into pairs to count from 0 to 40, both forwards and backwards, using different objects.

Ask the children to count objects first in their home language, then in English. Each child needs to have 40 objects each, e.g. bottle caps.

Prepare addition pictures that add up to 40 objects, e.g. 10 fish + 10 fish + 10 fish + 10 fish = 40 fish.

Group the children into pairs and ask them to make three addition pictures of their own.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to group and count any group of objects, from 0 to 40 and from 40 to 0, in their home language and English.

Ask the children to group on the floor 36, 37, 38, 39 and 40 objects picked from a box. Check the piles to ensure all the children have grouped the objects correctly.

Ask the children to practise writing the numbers 36, 37, 38, 39 and 40 in the sand, on their board or in the air.



**LESSON TOPIC:** Count from 0 to 40

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count from 0 to 45 and count objects in both the children's home language and English, forwards and backwards.

## 2 STARTER

Give each child a number card from 10 to 40 and ask them to sort themselves into the correct order.

Ask the children to chant the numbers in order from 10 to 40 and then from 40 to 10.

Mix up the number cards and play two more times.

Ask the children to write the new numbers on the backs of their friends using their fingers.

## 3 INTRODUCTION

Teach counting from 41 to 45, first in the children's home language, then in English.

Use a number line on the board.

Teach the shapes and names of the new numbers.

Show the children objects and ask them to count them correctly.

## 4 TEACHER AND STUDENT ACTIVITY

Group the children into pairs to count from 0 to 45 using different objects, counting forwards and backwards. Tell the children to count the objects first in their home language then in English.

Present the children with addition pictures that add up to 45 objects, e.g. 20 fish + 15 fish + 10 fish = 45 fish.

Ask the children to work in pairs and make three pictures of their own that add up to 41, 42, 43, 44 or 45.



## 5 CONCLUSION AND ASSESSMENT

Ask the children to group and count any group of objects, from 0 to 45 and from 45 to 0, in their home language and in English.

Ask the children to group on the floor 41, 42, 43, 44 or 45 objects picked from a box. Check the piles to ensure all children have grouped the objects correctly.

Ask the children to practise writing the numbers 41, 42, 43, 44 or 45 in the sand, on their board or in the air.

**LESSON TOPIC:** Count from 0 to 50

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count from 0 to 50 and count objects in both the children's home language and English, forwards and backwards.

## 2 STARTER

Revise counting objects from 0 to 45.

Show the children a number of different objects from 0 to 45 on flashcards, with a different number of objects on each flashcard. Ask the children to count them quickly and give the number of objects either in their home language or in English.

Count from 0 to 45 objects and backwards from 45 to 0 in both the children's home language and in English.

## 3 INTRODUCTION

Teach the numbers 46 to 50 in English and the children's home language.

Use a number line on the board.

Teach the children the shapes and names of the new numbers.

Show the children objects and ask them to count them correctly.

## 4 TEACHER AND STUDENT ACTIVITY

Group the children into pairs to count from 0 to 50 using different objects, counting both forwards and backwards.

Ask the children to count the objects first in their home language and then in English, e.g. a pile of 50 coins.

Prepare addition pictures that add up to 50 objects, e.g. 20 fish + 15 fish + 15 fish = 50 fish.

Children can use objects to help them count.

Group the children into pairs and ask them to make three addition pictures of their own.

## 5 CONCLUSION AND ASSESSMENT

Assess that the children can count from 21 to 50 and back down from 50 to 21.

Ask the children, 'Can you recognise the numbers from 21 to 50? Can put the number cards in order from 21 to 50?'. Then ask the children, 'Can you write the numbers on your board or in the sand?'





**LESSON TOPIC:** Even & Odd number

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Recognise even and odd numbers from 0 to 30.

## 2 STARTER

Revise counting objects from 0 to 30.

Play a 'loud and whisper' game with the children. Say odd numbers softly and even numbers loudly, e.g. 1 **2** 3 **4** 5 **6** 7 **8** 9 **10** and so on, in both the children's home language and English.

Sing a number song like 'Ten green bottles hanging on the wall'. Sing the verses with even numbers loudly and verses with odd numbers softly.

## 3 INTRODUCTION

Tell the children to hold up all of their fingers. Partner the fingers on the left hand with the fingers on the right hand.

Tell the children that if every finger has a partner then the number is even.

Therefore 2, 4, 6, 8 and 10 are even numbers.

If one finger does not have a partner then it is an odd number.

Therefore, 1, 3, 5, 7 and 9 are odd numbers.

Explain to the children that for larger numbers, those numbers that have 2, 4, 6, 8 & 0 at the end of them are even numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Using objects and working on their own, tell the children to make a collection of even objects (2, 4, 6, 8, 10 up to 30) and odd objects (1, 3, 5, 7, 9 up to 29).

They should chant the odd and even numbers from 1 to 30 and from 30 to 1.

Teach the children a number rhyme. For example, sing '2, 4, 6, 8 and 10 - even numbers, let's say it again!' and '1, 3, 5, 7, 9 - odd numbers, oh my!'

Prepare even and odd number addition pictures, e.g. 2 cars + 2 cars = 4 cars, 4 balls + 6 balls = 10 balls, 3 bananas + 2 bananas = 5 bananas, 11 trees + 12 trees = 23 trees, etc.

Ask, 'What do you notice when they add even numbers to even numbers?'

Ask, 'What do you notice when you add odd numbers to odd numbers?'

Ask, 'What do you notice when you add an even number to an odd number?'

## 5 CONCLUSION AND ASSESSMENT

Call out numbers from 1 to 30 and ask children to stand up if they think it is odd and sit down if they think it is even. If they get it wrong then they are out of the game.



**LESSON TOPIC:** Even & Odd numbers

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Recognise even and odd numbers from 0 to 40.

## 2 STARTER

Revise counting objects from 0 to 40.

Play a 'loud and whisper' game with the children. Say odd numbers softly and even numbers loudly, e.g. 1 **2** 3 **4** 5 **6** 7 **8** 9 **10**... up to 40 in both the children's home language and in English.

Ask the children to say the number rhyme from the last lesson.

For example, sing '2,4,6,8,10 - even numbers let's say it again!' and '1,3,5,7,9 - odd numbers, oh my!'

## 3 INTRODUCTION

Teach the children the odd and even numbers from 31 to 40.

Use the number flashcards to test whether the children can spot the odds and evens, e.g. 'I say 34, you say...EVEN!'

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to colour in even numbers in a 1 to 40 number square. Ask them what they notice.

Ask the children to colour in odd numbers in a 1 to 40 number square. Ask them what they notice.

Show the children two groups of objects which they can count from 20 to 50.

If they add up to an even number the children must say the number loudly and if they add up to an odd number then they must say the number softly, in their home language and in English.

Ask the children to do the same activity with a partner.

Choose 3 children to do it with the whole class.

## 5 CONCLUSION AND ASSESSMENT

Ask, 'Can you name an even number from between 30 to 40?'

Ask, 'Can you name an odd number that is more than 25?'

Ask, 'Can you name three even numbers that are more than 20?'



**LESSON TOPIC:** Even & Odd numbers

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Recognise even and odd numbers from 0 to 50.

## 2 STARTER

Revise counting objects from 0 to 50.

Play a 'loud and whisper' game with the children. Say odd numbers softly and even numbers loudly, e.g. 1 **2** 3 **4** 5 **6** 7 **8** 9 **10**... up to 50, in both the children's home language and English.

Tell the children to say a number rhyme. For example, sing '2, 4, 6, 8, 10 - even numbers let's say it again!' and '1, 3, 5, 7, 9 - odd numbers, oh my!'

## 5 CONCLUSION AND ASSESSMENT

Show the children 2 flashcards of numbers, e.g. 24 and 4.

If they add up to an even number, ask the children to say the number loudly and if they add up to an odd number they should say the number softly, in their home language and in English.

The children can count using their fingers or objects.

Ask, 'Can you name an even number between 40 and 50?'

Ask, 'Can you name an odd number more than 40?'

Ask, 'Can you name three even numbers more than 30?'

## 3 INTRODUCTION

Teach the children the odd and even numbers from 41 to 50.

Use the number flashcards to test whether the children can spot the odds and evens, e.g. 'I say 45, you say...ODD!'

## 4 TEACHER AND STUDENT ACTIVITY

Give out scrap paper divided into small pieces to the children. Ask them to work in pairs to write all the numbers from 1 to 50 on the pieces of paper.

In pairs, children need to sort the numbers into odd and even piles. The teacher should check their understanding.



**LESSON TOPIC:** Counting in tables

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count forwards in twos from any number from 1 to 50.

## 2 STARTER

Play a 'loud and whisper' game with the children. Say odd numbers softly and even numbers loudly, e.g. 1 **2** 3 **4** 5 **6** 7 **8** 9 **10**... up to 50, in both the children's home language and English.

Ask the children to say a number rhyme. For example, sing '2, 4, 6, 8 and 10 - even numbers, let's say it again!' and '1, 3, 5, 7, 9 - odd numbers, oh my!'

## 3 INTRODUCTION

Remind the children that for larger numbers, those numbers that have 2, 4, 6, 8 and 0 at the end of them are even numbers.

Show the children flashcards of numbers between 0 to 50 and ask the children to stand up if the number is even and sit down if the number is odd.

## 4 TEACHER AND STUDENT ACTIVITY

Write a number on the board, e.g. 17.

Ask, 'Is it odd or even?' and 'How do you know?'

On their boards, ask the children to write the next 10 numbers counting forwards in twos, e.g. 17, 19, 21, 23, etc.

Do this activity again with different numbers.



## 5 CONCLUSION AND ASSESSMENT

Play 'I Say, You Say', adding two each time, e.g. 'I say 22, you say...?' [24], 'I say 31, you say...?' [33]

**LESSON TOPIC:** Counting in twos

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Count backwards in twos from any number between 2 and 50.

## 2 STARTER

Play 'I Say, You Say', adding two each time, e.g. 'I say 16, you say...?' [18], 'I say 43, you say...?' [45]

Ask 3 children to be the teacher and test the class with this game.

## 3 INTRODUCTION

Practise counting backwards in ones from 50, e.g. 50, 49, 48, 47 etc.

Next, start from any number and count backwards in ones, e.g. 15, 14, 13, 12 etc.

## 4 TEACHER AND STUDENT ACTIVITY

Teach children to count back in twos, e.g. 20, 18, 16, 14 etc.

Ask, 'What do you notice about the numbers?'

In pairs, tell the children to give a different start number to their friend who will count back five numbers. The children should repeat this activity in their pairs.

Ask the children to chant numbers in twos between 2 to 20 and then 20 to 2, e.g. 2, 4, 6, 8, 10 etc.

If any children find this hard, allow them to write a number line in their book or to use a 50 square number square.



## 5 CONCLUSION AND ASSESSMENT

Play 'I Say, You Say', counting backwards in twos each time, e.g. 'I say 16, you say...?' [14]

Assess the children, by picking a number, e.g. 34.

Ask, 'Is it odd or even?' and 'How do you know?'

Ask them to count backwards from 34 in ones.

Ask them to count backwards from 34 in twos.

Ask them to count forwards from 34 in ones.

Ask them to count forwards from 34 in twos.

**LESSON TOPIC:** Counting in 50,

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Group and count the number of objects in a set from 0 to 50.

## 2 STARTER

Ask the children to count forwards and backwards from numbers picked by the teacher, e.g. say, 'Count up from 23' [24, 25, 26, 27 etc] and say, 'Count backwards from 47' [46, 45, 44, 43 etc].

Choose at least 5 different starting numbers.

## 3 INTRODUCTION

Teach the children to count equal sets of objects.

Give out a set of 50 objects to each child, e.g. sticks or bottle caps.

Tell the children to make a set of 30 objects. Ask them to break the set into 4 equal piles.

Ask, 'Are there any left over?', 'Can you break it into 3 equal piles?', 'Can you break it into 5 equal piles?' and 'How many are in each pile?'

Do this for four different numbers, e.g. 28, 50, 40 and 18.

If the children find this difficult then give them smaller numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to do the same activity with a partner. The partner checks the sets by counting the objects.

Then they will swap and do it again.

Pairs should practise breaking at least five different numbers into sets.



## 5 CONCLUSION AND ASSESSMENT

Test that the children can group the objects.

Ask, 'Make six piles of three. How many objects are there in total?'

Ask, 'Make two piles of ten. How many objects are there in total?'

Ask, 'Break 15 objects into three sets. How many objects are in each set?'

**LESSON TOPIC:** Estimate & Count

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Estimate and count the number of objects in a set from 1 to 20.

## 2 STARTER

Put a number of objects, between 1 and 20, on a tray and cover them with a laplap.

Ask the children to sit close so they can see the tray and take off the laplap for just a few seconds.

Cover the tray again then ask, 'How many objects are there?'

Change the number of objects on the tray and do it again.

## 3 INTRODUCTION

Teach the children the word 'estimate'. If you estimate then you make a guess about something, e.g. estimate how many seeds are in the bag.

Hold 1 to 10 small stones in your hand. Show the children the stones for a few seconds. Close your hand again and ask, 'How many stones do you estimate I have?'

Then let one child count them to see who estimated correctly.

Keep playing the game until the children know how to estimate more quickly.

## 4 TEACHER AND STUDENT ACTIVITY

In pairs ask the children to play the 'estimation game'.

Give each child 20 small stones. Their partner has to estimate how many stones are in the set that they keep in their hand. Their partner can then count them to see if they were right.

Play the game for 10 minutes. Then ask the children to swap their roles and play again.

## 5 CONCLUSION AND ASSESSMENT

Show a set of objects on a flashcard, e.g. 11 bananas.

Show the class for a few seconds and ask them to write down their estimate on their boards.

Ask them to show their boards and see who is estimating well.

Then ask one child to count the objects on the flashcard to check the answer.

Play this game several times.





**LESSON TOPIC:** Estimate and Count

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Estimate and count the number of objects in a set from 1 to 30.

## 2 STARTER

Put a number of objects, between 1 and 30, on a tray and cover them with a laplap.

Ask the children to sit close so they can see the tray and take off the laplap for just a few seconds.

Cover the tray again then ask, 'How many objects are there?'

Ask a child to check the number of objects on the tray to see who estimated the closest.

Change the number of objects on the tray and do the activity again.

## 3 INTRODUCTION

Hold a bundle of 1 to 30 small sticks in your hand.

Show the children the number of sticks for a few seconds.

Ask, 'How many do you estimate?'

Then let one child count them to see who estimated the closest.

Keep playing the game until the children know how to estimate more quickly.

## 4 TEACHER AND STUDENT ACTIVITY

In pairs ask the children to play the 'estimation game'.

Give each child 30 small sticks. Their partner has to estimate how many sticks are in their hand without counting.

After they have estimated, they can count them to see if they were right.

Play the game for 10 minutes. Then ask the children to swap their roles and play again.



## 5 CONCLUSION AND ASSESSMENT

Ask the children to put all 30 of their sticks on the table in front of them.

You will tell them a number and they will have to grab a bundle which is roughly that amount, without counting them out. They need to estimate.

For example, say, 'Grab roughly 20 sticks from the pile. Then count them. Was your estimation correct?'



**LESSON TOPIC:** Estimate/Count

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Estimate and count the number of objects in a set from 1 to 50.

## 2 STARTER

Put a number of objects, between 1 and 50, on a tray and cover them with a laplap.

Ask the children to sit close so they can see the tray and take off the laplap for just a few seconds.

Cover the tray again then ask, 'How many objects are there?'

Ask a child to check the number of objects on the tray to see who estimated the closest.

Change the number of objects on the tray and do the activity again.

## 3 INTRODUCTION

Hold a handful of 1 to 50 small beads or coins in your hand.

Show the children the handful for a few seconds.

Ask, 'How many do you estimate I have?'

Then let one child count them to see who estimated the closest.

Keep playing the game until the children know how to estimate more quickly.

## 4 TEACHER AND STUDENT ACTIVITY

In pairs ask the children to play the 'estimation game'.

Give each child 50 small coins or beads. They should show their partner what is in their hands for a few seconds. Their partner has to estimate how many beads or coins are in their hand without counting.

After they have estimated, they can count them to see if they were right.

Play the game for 10 minutes. Then ask the children to swap their roles and play again.



## 5 CONCLUSION AND ASSESSMENT

Ask the children to put all 50 of their beads or coins on the table in front of them.

You will tell them a number and they will have to grab a handful which is roughly that amount, without counting them out. They need to estimate.

For example, say, 'Grab roughly 42 beads/coins from the pile. Then count them. Was your estimation correct?'

**LESSON TOPIC:** Estimate and Count

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Estimate and count the number of different objects in a set from 1 to 50.

## 2 STARTER

Put a number of different coloured beads or different types of coin, between 5 and 30, on a tray and cover them with a laplap.

Ask the children to look at the uncovered tray and estimate how many red beads there are.

Cover the tray again then ask, 'How many red beads are there?' Then ask them to estimate how many blue beads there are.

Ask a child to check the number of red then blue beads on the tray. Ask, 'Who estimated the closest?'

## 3 INTRODUCTION

In this lesson children will estimate the number of different objects in a mixed set, e.g. how many red beads are in a mixed set.

Show a bilum containing mixed fruit and vegetables. Ask, 'How many of each kind of fruit do you estimate are in here?'

Ask them to discuss their estimates with a partner.

Then count the fruit out. Ask, 'Who was closest?' and 'How did you estimate?'

## 4 TEACHER AND STUDENT ACTIVITY

In pairs give the children mixed sets of objects, e.g. 50 beads, 50 shells or 50 sticks.

Ask one child in each pair to make a mixed collection of the objects on their board.

The other child must not look. Then they can look for a few seconds and try and estimate the numbers of each object.

Then they can count the objects. Ask, 'Were the estimates close?' and 'How did you estimate?'

Ask the children to swap roles in their pairs and play again. Play this game at least 5 times.

## 5 CONCLUSION AND ASSESSMENT

Assess the children's estimation skills by using piles of stones.

Ask the children to estimate how many stones are in each pile.

Then ask them to estimate how many stones there are in total.

Then ask the children to estimate the number of:

- children in the next classroom
- pencils in the classroom
- books in the library etc.



**LESSON TOPIC:** compare and order

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Group, compare and order sets of objects containing 1 to 10 objects.

## 2 STARTER

Revise odd and even numbers by playing 'The loud and whisper game'.

Say odd numbers softly and even numbers loudly, e.g. 1 2 3 4 5 6 7 8 9 10 etc, up to 30.

Sing a number song, e.g. '1 little, 2 little, 3 little Indians' or '10 green bottles standing on the wall'.

Sing the verses with even numbers loudly and the verses with odd numbers softly.

## 3 INTRODUCTION

Show the children how to group objects into sets using objects such as bottle caps.

Tell the children to guess which set of bottle caps has more or less in.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children groups of different sized piles of objects on the floor and ask them which pile has more or less.

Ask them to explain why they said the pile has less or more than the others.

Give the children worksheets with different piles/number of objects set out in a row and tell them to colour in the piles/groups that have more than the others in each row.

Show the children different objects and strings cut up into different lengths and ask them to put them in order based on whether there are more or less, they are shorter or longer and smaller or bigger and then create a display that shows the comparisons.



## 5 CONCLUSION AND ASSESSMENT

Show the children flashcards with different piles of objects on them.

Ask the children to show you which pile has the most and the least.

Allow the children to explain in their home language or in English.

Make a note of those children not able to compare or order sets of objects and those finding it too easy. Use this information when you plan tomorrow's lesson.

**LESSON TOPIC:** compare and order

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Group, compare and order sets of objects and numbers from 1 to 20.

## 2 STARTER

Revise how to compare piles that have more and less objects in them, smaller or bigger piles, longer or shorter strings of beads or other objects.

Sing a number song, e.g. '1 little, 2 little, 3 little Indians' or '10 green bottles standing on the wall'.

Sing the verses with even numbers loudly and the verses with odd numbers softly.

## 3 INTRODUCTION

Show the children how to group objects into sets containing between 2 and 10 objects.

Show the children a range of sets containing between 2 and 10 objects.

Ask the children which of these sets have more in them and which ones have less in them.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children all kinds of objects that can be used to group objects from 2 up to 10 into a set, e.g. plastic bottle tops, seeds, stones, cubes, wooden shapes, shells, etc.

Put children into pairs to group objects into sets of 2, 3, 4, 5, 6, 7, 8, 9 and 10 and discuss which sets have more and which ones have fewer and which sets are bigger and which sets are smaller.

Give the children worksheets with different sets of objects set out into rows and tell them to colour in the sets that have the most objects in each row.

Show the children different objects and strings cut up into different lengths and ask them to put them in order based on whether there are more or less, they are shorter or longer and smaller or bigger and then create a display that shows the comparisons.

## 5 CONCLUSION AND ASSESSMENT

Show the children flashcards with different piles of objects on them.

Ask the children to show you which pile has the most and the least.

Allow the children to explain in their home language or in English.

Make a note of those children not able to compare or order sets of objects and those finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** compare and order

**STRAND:** Number and Operation

**CONTENT STANDARD:** 1.1.1

## 1 OBJECTIVE

Compare and order numbers using number cards between 0 and 50.

## 2 STARTER

Sing the children's favourite number songs with them, e.g. '1 little, 2 little, 3 little Indians' or '10 green bottles standing on the wall'.

Sing the verses with even numbers loudly and the verses with odd numbers softly.

## 3 INTRODUCTION

Show the children how to group objects into sets of 2, 3, 4 and 5 up to 10 objects per set.

Ask the children which of these sets have more in them and which ones have fewer.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs to group objects into sets of 2, 3, 4, 5, 6, 7, 8, 9 and 10.

Discuss which sets have more in them and which ones have fewer in them. Also discuss which sets are bigger and which sets are smaller.

Give the children worksheets with different sets of objects set out into rows and tell them to colour in the sets that have the most objects in each row.

Show the children how to group sets of twos so that they add up to 50, then sets of fives that add up to 50 and finally sets of tens that add up to 50.

Put the children into pairs again to make groups of twos that add up to 50, fives that add up to 50 and tens that add up to 50.

## 5 CONCLUSION AND ASSESSMENT

Show the children flashcards with different piles of objects on them.

Ask the children to show you which pile has the most and the least.

Allow the children to explain in their home language or in English.

Make a note of those children not able to compare or order sets of objects and those finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Position and Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

### 1 OBJECTIVE

Identify the position and value of numbers between 1 and 50.

### 2 STARTER

Sing the children's favourite number songs with them, e.g. '1 little, 2 little, 3 little Indians' or '10 green bottles standing on the wall'.

Sing the verses with even numbers loudly and the verses with odd numbers softly.

Show the children 2 flashcards that have different number of objects in each set.

Ask the children to sing more loudly when the card with more objects is waved and to sing more softly when the card with fewer objects is waved.

### 3 INTRODUCTION

Remind the children of how to group objects into sets of 2, 5 and 10.

Ask the children how many sets of 2 make 10, 20, 30, 40 and 50.

Ask the children how many sets of 5 make 10, 20, 30, 40 and 50.

Ask the children how many sets of 10 make 10, 20, 30, 40 and 50.

Ask which sets have more objects and which ones have fewer as you go through each question.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children all kinds of objects that can be used to group objects from 2 up to 10 into a set, e.g. plastic bottle tops, seeds, stones, cubes, wooden shapes, shells, etc.

Put children into pairs to group objects into sets of 2, 3, 4, 5, 6, 7, 8, 9 and 10 and discuss which sets have more and which ones have fewer and which sets are bigger and which sets are smaller.

Give the children worksheets with different sets of objects set out into rows and tell them to colour in the rows that contain sets of 2, 5 and 10 objects.

Prepare coloured 3D shapes and show the children how to make patterns by stringing together different sets of coloured shapes on a piece of string, e.g. 2 reds, 3 yellows, 2 reds, 3 yellows, 2 reds, 3 yellows, etc.

Allow the children in groups to string together different sets of coloured shapes and deepen their understanding of grouping objects together.

### 5 CONCLUSION AND ASSESSMENT

Show the children flashcards with different piles of objects on them.

Ask the children to show you which pile has the most and the least.

Allow the children to explain in their home language or in English.

Make a note of those children not able to compare or order sets of objects and those finding it too easy. Use this information when you plan tomorrow's lesson.





**LESSON TOPIC:** Order and positions of numbers

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Order numbers between 0 and 50 and place them in their correct positions using a number line.

## 2 STARTER

Sing the children's favourite number songs with them, e.g. '1 little, 2 little, 3 little Indians' or '10 green bottles standing on the wall'.

Sing the verses with even numbers loudly and the verses with odd numbers softly.

Show the children 2 flashcards that have different number of objects in each set.

Ask the children to wave more strongly when the card with more objects is held up and to wave more softly when the card with fewer objects is held up.

## 3 INTRODUCTION

Remind the children of how to group objects into sets of 2, 5 and 10.

Ask the children how many sets of 2 make 10, 20, 30, 40 and 50.

Ask the children how many sets of 5 make 10, 20, 30, 40 and 50.

Ask the children how many sets of 10 make 10, 20, 30, 40 and 50.

Ask which sets have more objects and which ones have fewer as you go through each question.

## 4 TEACHER AND STUDENT ACTIVITY

Tell the children they are going to create things and make patterns on them using different colours and number of blocks and different coloured plastic bottle tops.

Give the children worksheets that have different number patterns on them and tell the children to colour in the number patterns that appear the most.

Prepare coloured 3D shapes and show the children how to make patterns by stringing together different sets of coloured shapes, e.g. 2 reds, 3 yellows, 2 reds, 3 yellows, 2 reds, 3 yellows etc.

In groups, allow the children to explore making different coloured patterns using different sets of numbers and shapes.

## 5 CONCLUSION AND ASSESSMENT

Show the children flashcards with different piles of objects on them.

Ask the children to show you which pile has the most and the least.

Allow the children to explain in their home language or in English.

Make a note of those children who are not able to order groups of objects and those who are finding it too easy. Write this information in the class assessment folder.



## LESSON TOPIC: Position and Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use base 10 materials to show numbers from 0 to 20.

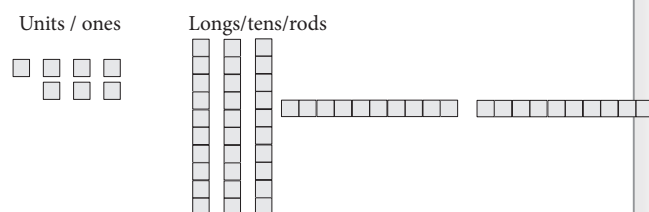
### 2 STARTER

Sing '1 little, 2 little, 3 little Indians' with the children.

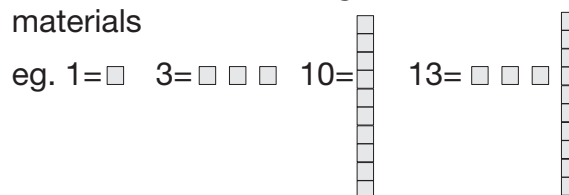
### 3 INTRODUCTION

Show the children some base 10 materials.

Explain that base 10 materials represent units which are called 'ones' and tens are called 'longs' or 'rods'.



Tell the children you can make numbers between 1 and 20 using these base 10 materials



Explain this idea of representing numbers by base materials by drawing these diagrams on the board.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples.

In pairs, ask the children to make the following numbers using base 10 materials:

- 1) 2
- 2) 6
- 3) 11
- 4) 15
- 5) 20

Check that the children understand the task and help any of those that are finding it difficult.

### 5 CONCLUSION AND ASSESSMENT

Assess how well the children can recognise units (ones), tens (longs/rods) and make numbers between 1 and 20 using base 10 materials by checking their answers to the last activity.

Make a note of those children who are not able to do this and those who find the activity easy. Use the information when planning tomorrow's lesson.





**LESSON TOPIC:** Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

## 1 OBJECTIVE

Draw pictures of the base 10 materials showing numbers from 0 to 20.

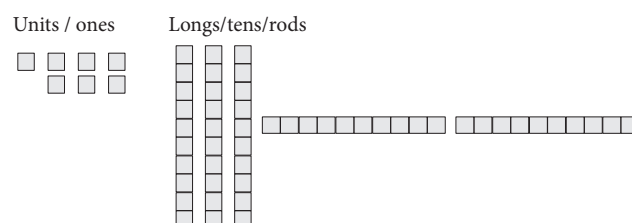
## 2 STARTER

Sing '1 little, 2 little, 3 little Indians' with the children.

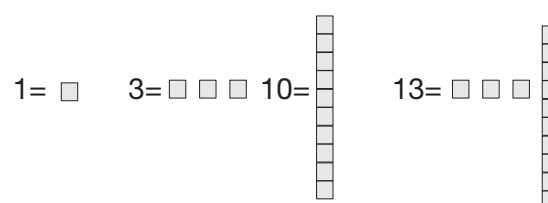
## 3 INTRODUCTION

Show the children some base 10 materials.

Explain that base 10 materials represent units which are called 'ones' and tens are called 'longs' or 'rods'.



Tell the children you can make numbers between 1 and 20 using these base 10 materials



## 5 CONCLUSION AND ASSESSMENT

Assess how well the children can recognise units (ones), tens (longs/rods) and make numbers between 1 and 20 using base 10 materials by checking their answers to the last activity.

Make a note of those children who are not able to do this and those who find the activity easy. Use the information when planning tomorrow's lesson.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples.

In pairs, ask the children to make the following numbers by drawing the base 10 materials:

- 1) 2
- 2) 6
- 3) 11
- 4) 15
- 5) 20



## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

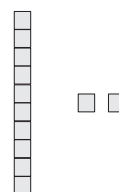
Use base 10 materials to show numbers from 0 to 20.

### 2 STARTER

Sing '1 little, 2 little, 3 little Indians' with the children.

### 3 INTRODUCTION

Show the children some base 10 materials, e.g. 1 ten and 2 units.



Ask them what number this shows [12].

Ask one of the children to explain how they worked it out.

Tell the children you can make numbers from 1 to 20 using these base 10 materials.

e.g,  $\square \square \square = 3$ ,



$\square \square \square \square = 14$

### 5 CONCLUSION AND ASSESSMENT

Assess how well the children can recognise units (ones), tens (longs/rods) and make numbers between 1 and 20 using base 10 materials by checking their answers to the last activity.

Make a note of those children who are not able to do this and those who find the activity easy. Use the information when planning tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples.

Ask the children to make the following numbers by drawing the base 10 materials:

- 1) 5
- 2) 9
- 3) 11
- 4) 16
- 5) 19

Check that the children understand the task and help any of those that are finding it difficult.



## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Draw pictures of the base 10 materials showing numbers from 0 to 20.

### 2 STARTER

With the children, sing and do the finger play for the song, '3 fat piggies'.

### 3 INTRODUCTION

Write a number the board, e.g. 5 or 13.

Tell the children to draw a picture using base 10 materials to show it.

$$5 = \begin{array}{|c|c|c|c|c|} \hline \square & \square & \square & \square & \square \\ \hline \end{array}$$

$$13 = \begin{array}{|c|c|c|c|c|c|c|c|c|c|} \hline \square & \square & \square & \square & \square & \square & \square & \square & \square & \square \\ \hline \end{array} \begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array}$$

Explain to them how to do it if any of them struggle with this.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 2 more examples.

Ask the children to make the following numbers by drawing the base 10 materials:

- 1) 2
- 2) 6
- 3) 11
- 4) 18
- 5) 20

Check that the children understand the task and help any of those that are finding it difficult.



### 5 CONCLUSION AND ASSESSMENT

Assess how well the children can recognise units (ones), tens (longs/rods) and make numbers between 1 and 20 using base 10 materials by checking their answers to the last activity.

Make a note of those children who are not able to do this and those who find the activity easy too easy. Use the information when planning tomorrow's lesson.

## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Draw pictures of the base 10 materials showing numbers from 0 to 50.

### 2 STARTER

Sing, '3 baby birds sitting on the tree' with the children.

### 3 INTRODUCTION

Show the children a number using base 10 materials, e.g.

□ □ □ □

□ □ □ □

Ask the children what the number is [8].

### 4 TEACHER AND STUDENT ACTIVITY

Ask the children to make the following numbers by drawing the base 10 materials:

- 1) 13
- 2) 25
- 3) 31
- 4) 42
- 5) 47
- 6) 50

Check that the children understand the task and help any of those that are finding it difficult.



### 5 CONCLUSION AND ASSESSMENT

Assess how well the children can recognise units (ones), tens (longs/rods) and make numbers between 1 and 50 using base 10 materials by checking their answers to the last activity.

Make note of those children who are not able to do this and those who find the activity easy. Write the information in the class assessment folder

## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write 2 digit numbers between 10 and 30 in tens and units.

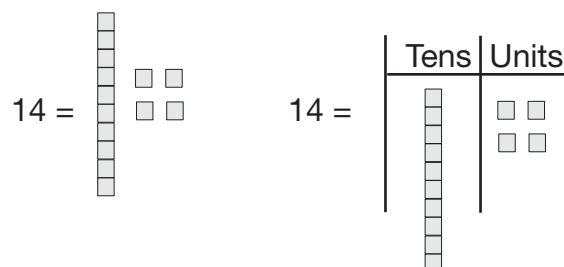
### 2 STARTER

Sing 'On the way to school today' with the children.

### 3 INTRODUCTION

Write a number on the board, e.g. 14.

Tell the children to draw pictures using base 10 materials to show that number.



Tell them that  $14 = 10 + 4$

Explain that you can show this on a place value table using base 10 materials, as above. Show them how to do this together on the board.

### 5 CONCLUSION AND ASSESSMENT

Assess the children on their ability to recognise units, recognise tens and being able to write 2 digit numbers between 10 and 20 by asking for their answers from the previous activity.

Make a note of those children who are not able to do this and those who find it easy. Use the information when planning tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples of 2 digit numbers.

Put the children into pairs and ask them to write these 2 digit numbers and show them using base 10 materials on a place value table:

- 1) 12
- 2) 17
- 3) 10
- 4) 18
- 5) 20



## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write 2 digit numbers between 10 and 30 in tens and units.

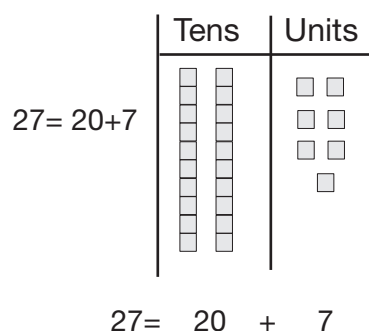
### 2 STARTER

Sing 'On the way to school today' with the children.

### 3 INTRODUCTION

Write a 2 digit number on the board, e.g. 27.

Tell the children to draw the base 10 materials to show it.



Explain to them how to fill in the columns on the place value table to show the answer by using base 10 materials.

### 5 CONCLUSION AND ASSESSMENT

Assess the children on their ability to recognise units, recognise tens and being able to write 2 digit numbers between 10 and 30 by asking for their answers from the previous activity.

Make a note of those children who are not able to do this and those who find the activity easy Use the information when planning tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples of 2 digit numbers.

Tell the children to write these 2 digit numbers and show them using base 10 materials on a place value table:

- 1) 13
- 2) 17
- 3) 22
- 4) 25
- 5) 30



## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write a 2 digit number between 10 and 40 in tens and units.

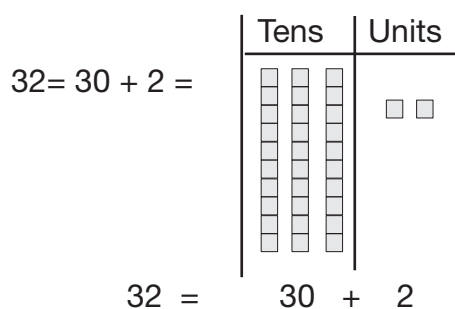
### 2 STARTER

Sing '1 little, 2 little, 3 little Indians' with the children.

### 3 INTRODUCTION

Write a 2 digit number on the board, e.g. 32.

Tell the children to draw the base 10 materials to show it.



Explain to them how to fill in the columns on the place value table to show the answer by using base 10 materials.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples of 2 digit numbers.

Tell the children to write these 2 digit numbers and show them using base 10 materials on a place value table:

- 1) 13
- 2) 30
- 3) 22
- 4) 36
- 5) 40

### 5 CONCLUSION AND ASSESSMENT

Assess the children on their ability to recognise units, recognise tens and being able to write 2 digit numbers between 10 and 40 by asking for their answers from the previous activity.

Make a note of those children who are not able to do this and those who find the activity easy. Use the information when planning tomorrow's lesson.



## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write a 2 digit number between 0 and 50 in tens and units.

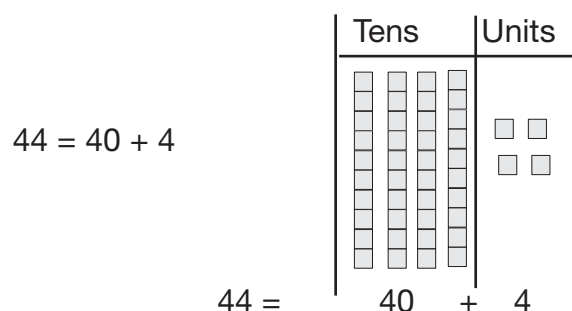
### 2 STARTER

Sing '1 little, 2 little, 3 little Indians' with the children.

### 3 INTRODUCTION

Write a number on the board, e.g. 44.

Tell the children to draw it using base 10 materials to show it.



Explain to them how to fill in the columns on the place value table to show the answer by using base 10 materials.

### 5 CONCLUSION AND ASSESSMENT

Assess the children on their ability to recognise units, recognise tens and being able to write 2 digit numbers between 10 and 50 by asking for their answers from the previous activity.

Make a note of those children who are not able to do this and those who find the activity easy. Use the information when planning tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples of 2 digit numbers.

Tell the children to write these 2 digit numbers and show them using base 10 materials on a place value table:

- 1) 19
- 2) 21
- 3) 33
- 4) 48
- 5) 50





## LESSON TOPIC: Place Value

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Order 2 digit numbers from the smallest to the biggest, e.g. 17, 24, 27, 35 and 42.

### 2 STARTER

Sing '3 baby birds sitting on the tree' with the children.

### 3 INTRODUCTION

Write a set of numbers on the chalkboard, e.g. 13, 17, 22, 38, 20, 47 and 34.

Ask them which of these is the smallest number [13].

Ask them which of these is the biggest number [47].

Ask them to order the rest in between, from smallest to biggest [13, 17, 20, 22, 34, 38, 47].

Explain to them how you can look at the tens and the units of each number to see which is bigger or smaller.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 3 more examples and then tell the children to order these set of numbers from the smallest to the biggest:

- 1) 12, 17, 10, 25, 21, 33
- 2) 42, 27, 14, 32, 46, 24
- 3) 44, 37, 26, 23, 20, 19
- 4) 30, 10, 20, 40, 49, 28
- 5) 29, 19, 41, 38, 50, 10

### 5 CONCLUSION AND ASSESSMENT

Assess the children on how well they can recognise the smallest 2 digit number and the biggest 2 digit number and whether they were able to order the 2 digit numbers from smallest to biggest in the last activity.

Make note of those children who are not able to do this and those who find it easy too easy. Write the information in the class assessment folder



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Make and add together 2 sets of objects between 0 and 10.

### 2 STARTER

Write a number between 1 and 25 on the board. Ask the children to say the number.

Then ask them to say the number that comes before and after the number.

Repeat this activity with different numbers.

### 3 INTRODUCTION

On the board draw a circle that has 5 bananas in it. Ask the children to count them.

Draw another circle that has 2 bananas in it. Ask, 'Which circle has more bananas and which has less?' Then ask, 'How many bananas are there altogether?'

Count them with the children starting with the biggest number and adding the extra 2. Then say, '5 add 2 equals 7'.

Repeat this with other pairs of numbers, always starting the addition with the biggest number.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair number cards from 0 to 5 and 10 stones.

The first child will pick a card and put that number of stones on the card. The second child will do the same with a new card and stones.

Ask the children to add the stones on both cards together.

Move around the classroom assessing the children by listening to them and giving help where needed. If some children are finding it too easy, encourage them to use bigger number cards.

### 5 CONCLUSION AND ASSESSMENT

On the board draw 2 circles. Draw 4 tomatoes in the first circle and 1 tomato in the other. Ask the children, 'What addition could you write?' and 'How else could you split the tomatoes between the 2 circles?'

Together find all the combinations and make a list of the additions.

[ $4 + 1 = 5$ ,  $3 + 2 = 5$ ,  $2 + 3 = 5$ ,  $1 + 4 = 5$ ].

Cover up one of the numbers in one of the additions. Ask the children to guess what it is then repeat the activity with a new number.

Help the children to see the pattern in the list of additions. Make a note of those children who are not able to do the additions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use mental arithmetic to add together 2 sets of objects from 1 to 10.

### 2 STARTER

Hang the number cards, from 0 to 25, on the string line using the pegs. Point to the cards as the children count the numbers from 0 to 25 and then backwards from 25 to 0.

Now remove 3 cards and ask the children to work out which ones you have removed. Put these cards back and remove 3 different cards. Repeat this activity again. Finish by putting all the cards back and counting from 0 to 25 and from 25 to 0.

### 5 CONCLUSION AND ASSESSMENT

Show 5 spots on a large dice, and roll a second dice. Ask the children to use their fingers to show you how many spots they can see altogether. Write the addition on the board.

Keep the first dice showing 5 spots and roll the second dice. Ask children to show you how many spots they can see using their fingers. Remind them that the first dice always shows 5 spots and there is no need to keep counting them.

Make a note of those children who are not able to do the additions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 3 INTRODUCTION

Count 5 stones into a tin. Ask, 'How many stones are in the tin?' Tell the children to remember that number. Drop another stone in and ask, 'How many now?' Ask the children to show the amount using their fingers. Tip the stones out and check the number. Write the sum on the board.

Explain that to add 2 numbers they should remember the bigger number and add the smaller one to it. This is called counting on. Repeat this activity using different numbers of stones that will add up to 10 or less. Each time, empty the tin to check the number of stones.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. The first child will show up to 5 fingers. The second child will do the same. They should decide which hand shows the biggest number and add the smaller number to that one.

Repeat using different numbers of fingers.

Move around the classroom listening to the children and giving help if needed. If some children are finding it too easy, ask them to show more fingers.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Add together 2 sets of objects, from 0 to 25, with no renaming.

### 2 STARTER

Put 5 pegs on a coat hanger. Ask the children, 'How many pegs are there?'

Split the pegs into 4 and 1. Write  $4 + 1 = 5$  on the board.

Turn the coat hanger around so that it shows  $1 + 4$ . Write  $1 + 4 = 5$  on the board.

Split the 5 pegs into other pair combinations, e.g.  $2 + 3 = 5$  and repeat the above activity.

Repeat the activity again with 6 pegs on the coat hanger.

### 3 INTRODUCTION

Draw a simple picture of a bus then draw 6 faces on it to represent 6 people that are on the bus.

1 more person gets on at the next stop. Ask, 'How many are on the bus now?'

Children work in pairs to work out the answer.

Draw another face on the bus. Write  $6 + 1 = 7$ , saying, '6 add 1 equals 7'.

Draw a bus with 16 people and do the same.

Show the sums  $6 + 1 = 7$  and  $16 + 1 = 17$ . Ask the children if they can see a pattern.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. The first child will draw some people on a bus and together both children will count them.

The second child will decide how many people will get on at the next stop. Together they will add the numbers to work out how many will now be on the bus and say it aloud, e.g. '8 add 6 equals 14'. Repeat using different numbers.

Move around the classroom assessing the children by listening to them and giving help where needed. If some children are finding it too easy, encourage them to use bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Tell the children to close their eyes and imagine 7 frogs sitting on a log.

Count them: '1, 2, 3, 4, 5, 6, 7'.

2 more frogs jump on the log. Ask, 'How many frogs altogether?' Repeat for other numbers up to 20.

Make a note of those children who are not able to do the additions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use mental arithmetic to add together 2 sets of objects from 0 to 15.

### 2 STARTER

Show the children 2 numbers from 0 to 15. Ask, 'Which number is bigger and which number is smaller?' Repeat this using different numbers.

Show them 2 numbers, one number from 0 to 9 and one from 11 to 15. Ask, 'Which number is more than 10 and which is less than 10?'

### 3 INTRODUCTION

Count 10 stones into a tin. Tell the children to remember the number of stones in the tin.

Drop 3 more stones in and ask, 'How many stones are there now?'

Explain that to add together 2 numbers they should remember the biggest number and add the smaller number to it. Tell them, 'This is called counting on'.

Write the sum on the board:  $10 + 3 = 13$ . Say, '10 add 3 equals 13'. Count the stones in the tin.

Repeat this using different numbers of stones that will add up to 15 or less. Each time, empty the tin to check the number.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a set of number cards.

Both children will pick a card and count the correct number of stones on to it. They will then decide which is the biggest number.

They will then add the 2 numbers together by remembering the biggest number and adding the smaller number to it. Repeat this using different numbers. Ask the children to count the stones to check the answer.

Move around the classroom, listening to the children. Give help where needed. If some children are finding it too easy, ask them to use bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Bring 2 groups of children to the front of the class. Ask the class to count each group.

Ask them, 'How many children are there altogether?' Remind them to remember the bigger number and to count on the smaller number. Repeat this using different sized groups of children.

Make a note of those children who are not able to do the additions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Make up, tell and solve number stories for addition problems from 0 to 20.

### 2 STARTER

Put your hands behind your back. Bring them out again holding up 6 fingers and show this to the children. Quickly put them back again.

Ask the children to show you the same number of fingers. Repeat with other numbers up to 10.

Encourage the children to recognise the number without counting.

### 3 INTRODUCTION

Tell the children a short number story, e.g. 'There were 8 children playing under the tree. 2 more of their friends arrived. How many children were there altogether?'

Tell the children to work out the answer by thinking about the important words '8' and '2 more'.

Because it says '2 more' they need to add 8 and 2 to find the answer. Use fingers, stones, or counting on in their heads. Write the number sentence:  $8 + 2 = 10$  and say, '8 add 2 equals 10'.

Tell another short story using the numbers 15 and 6 [21]. Help the children to work out the answer.

### 5 CONCLUSION AND ASSESSMENT

Tell another short number story, e.g. 'There were 6 birds sitting in the tree. 4 more birds arrived. How many birds were there altogether?' Ask, 'Which words are important?' and 'Will you need to add or subtract?' See which children can answer correctly.

Repeat but change the numbers in the story to 16 and 3 [19]. See which children can answer correctly.

Make a note of those children not able to do the additions and those finding it too easy. Record the week's work in your class assessment folders.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Ask them to make up a number story of their own.

Together they need to work out the answer, write the number sentence down and read it out loud.

Move around the classroom, listening and giving help where needed. If children are finding it too easy, encourage them to use bigger numbers.





## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write and solve number sentences for simple subtraction problems from 0 to 20.

### 2 STARTER

Show the children a 1 to 100 number square.

Use it to count forwards from 1 to 50 and backwards from 50 to 1.

Start at different numbers to count forwards and backwards from.

### 3 INTRODUCTION

Draw a circle on the board then draw 5 bananas in it. Ask the children to count them.

Take away 1 banana. Ask, 'Are there now more or less bananas?' Then ask, 'How many are left?'

Show the children how to use their fingers to answer the question. Together, count how many are left.

On the board write the number sentence  $5 - 1 = 4$  saying, '5 take away 1 equals 4'.

Repeat the activity starting with 20 bananas, 16 bananas and 14 bananas taking away 1, 2 or 3 bananas each time.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Tell them to count out a set of up to 20 stones. Then tell them to take away 1, 2 or 3 stones.

Tell them to count the stones to find the answer, e.g. '20 stones take away 2 stones equals 18 stones'.

Tell them to write the answer down as a number sentence and read it out loud.

Repeat this using other numbers.

Move around the classroom assessing the children by listening to them. Give help where needed. If some children are finding it too easy, ask them to use bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Showing the children, count 10 stones into a tin. Take out 2 stones and ask the children how many are left. Remind the children to use their fingers if it helps them.

Ask them to say the number sentence together, e.g. '10 stones take away 2 stones equals 8 stones.' Ask one of the children to write it on the board. Repeat this activity using bigger numbers.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write and solve number sentences for simple subtraction problems from 0 to 50.

### 2 STARTER

Write a number between 1 and 50 on the board. Ask the children to say the number.

Then ask them to say the number that comes before and the number after. Repeat this with different numbers.

Use a 100 number square if the children need support to do this.

### 3 INTRODUCTION

Draw a picture of a bus and draw 7 faces on it. Tell the children that 7 people are on the bus. 1 gets off at the next stop. Cross out 1 face. Ask, 'How many people are on the bus now?' [6]

Show them how to find the answer by counting the faces left or by counting backwards on a number line. Explain how there were 7 but now there are 6.

Write a number sentence on the board, e.g.  $7 - 1 = 6$  saying, '7 take away 1 equals 6'.

Now draw a bus with 17 people and do the same activity. Write the new answers next to the first set of answers to show the pattern, e.g.  $7 - 1 = 6$  and  $17 - 1 = 16$ .

Repeat the activity with different numbers.

### 5 CONCLUSION AND ASSESSMENT

Tell the children to close their eyes and imagine 7 frogs sitting on a log. Count them out loud together: 1, 2, 3, 4, 5, 6, 7.

Explain that 2 frogs jump into the water. Ask, 'How many frogs are left?' Tell the children to use their fingers if they need to. Together say, '7 take away 2 equals 5'.

Repeat the activity for other numbers up to 50.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Ask them to draw their own bus.

Ask the children to decide how many people are on it (up to 20) and how many get off at the next stop. Each time they have to say the answer, e.g. '8 take away 2 equals 6'.

Move around the classroom assessing the children by listening to them. Give help where needed. If some children are finding it too easy, encourage them to use bigger numbers.





## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write and solve number stories for subtractions between 0 and 20.

### 2 STARTER

Play 'I am...you are?'

Tell the children the rules, e.g. 'You are 1 more'.

Say, 'I am 8,' then point to a child and say, 'You are?'

The child has to answer, 'I am 9,' because 9 is 1 more than 8.

Repeat this with different numbers asking different children each time.

Change the rule to '1 less' or '2 more' and so on.

### 3 INTRODUCTION

Peg 12 drawings of shirts onto a string line.

Tell the children that when you first put your washing out it was not windy but then the wind blew very hard and 2 shirts flew away. Ask, 'How many shirts are left now?'

Ask if they will need to add or subtract to find the answer. Take 2 shirts off the line. Ask if there are more or less than 12 shirts.

Find how many are left by counting the shirts on the line or show them a number line, point to the number 12 and count backwards by 2.

Write  $12 - 2 = 10$  and say, '12 take away 2 equals 10'.

Repeat this with different numbers of shirts.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Ask them to make up their own number stories and to work out the answers. Tell them to write down and say the number sentence out loud.

Watch the children and listen carefully to what they are saying to see who needs help. If some are finding it too easy, ask them to tell a more difficult story.

### 5 CONCLUSION AND ASSESSMENT

Ask one pair of children to tell their number story and to explain how they worked out the answer.

Ask the other children if they agree with the answer. Repeat this with 2 more pairs.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use number lines to solve simple subtraction problems from 0 to 25.

### 2 STARTER

Sing '10 green bottles' or other counting backwards songs.

Use fingers to help count backwards if needed.

### 3 INTRODUCTION

Show the children a number line from 0 to 25 and tell them you are going to use it to help do take away or subtraction problems.

Write on the board  $9 - 3 =$

Ask the children if the answer will be more or less than 9.

Show them 9 on the number line. Put a drawing of a frog on the number 9. Show the frog hopping backwards 3. Ask, 'What number does he land on?'

Write  $9 - 3 = 6$ . Say, '9 take away 3 equals 6'.

Write on the board  $19 - 3 =$

Use the number line to find the answer. Write the answer  $19 - 3 = 16$  next to  $9 - 3 = 6$ . Ask the children if they can see a pattern. Repeat the activity with other numbers.

### 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, draw some numbers lines from 0 to 25 in the playground.

Take the children into the playground and put them into small groups.

Tell them that one child will choose a number from 0 to 25 and they will stand next to the number on their number line. The second child then chooses a number from 0 to 10. They will hop back this number on their number line to find the answer, saying the subtraction each time, e.g. '16 take away 4 equals 12'.

Repeat this, using different numbers.

Watch the children and listen carefully to what they are saying to see who needs help. If some are finding it too easy, ask them to use bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Back in the classroom, write on the board  $24 - 6 =$

Use the frog and the number line to find the answer. Remind the children that the answer is the number the frog lands on.

Ask one group to show how they used their number lines to answer the question.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use mental arithmetic to solve simple subtraction problems from 0 to 25.

### 2 STARTER

Show children a 1 to 100 number square.

Say, 'I'm thinking of a number on this square. It is before 29 and after 27. What's my number?' [28]

Repeat with other numbers up to 50.

### 3 INTRODUCTION

Together, count on from 0 to 25 and count backwards from 25 to 0. Repeat this starting at different numbers.

Tell children that they are going to learn to do take away problems by counting backwards in their heads.

Write on the board  $18 - 3 =$

Ask if the answer will be more or less than 18.

Tell the children to remember 18 and hold up 3 fingers. Count backwards together to 17 and put down 1 finger, 16 and put down the second finger, 15 and put down third finger.

The last number you say is the answer, so  $18 - 3 = 15$ . Say, '18 take away 3 equals 15'.

Repeat this starting with different numbers up to 25.

### 5 CONCLUSION AND ASSESSMENT

Count on from 1 to 25 and count backwards from 25 to 1. Ask one pair to tell you the answers to the first 2 questions on the board and to explain how they did it. Check to see if the class agrees.

Repeat for 2 more of the problems, asking different pairs.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Record this information in the class assessment folder.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Write 10 subtraction problems on the board, e.g.  $18 - 5 =$ ,  $21 - 7 =$

Tell children to find the answer to the problems by counting backwards using their fingers.

Move around the classroom assessing the children by listening to them. Give help where needed. If some children are finding it too easy encourage them to use bigger numbers.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use a 100 number square to do repeated additions of 2 from 0 to 20.

### 2 STARTER

Put your hands behind your back. Bring them out again holding up 7 fingers and show this to the children. Quickly put them back again.

Ask the children how many fingers you showed. Show them again to see if they were correct.

Now ask the children to show how many more fingers will be needed to make 10 [3].

Repeat the activity using different numbers of fingers.

### 3 INTRODUCTION

Show a 1 to 100 number square. With the children, count on in twos starting at 2. Point to the numbers on the square as you count.

Repeat this activity and colour each square as the children say the number. Ask to see if the children can see the pattern this makes.

On the board write  $2 + 2 = 4$ . As you write, say, '2 add 2 equals 4'. Ask the children to repeat it.

Do the same for  $4 + 2 = 6$ ,  $6 + 2 = 8$  and continue until you get to  $18 + 2 = 20$ .

Remind the children that when you count on, the numbers get bigger and when you count backwards the numbers get smaller.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and give each pair a pile of stones to count on in twos.

Tell them to start with 2 stones and add 2 each time. Tell them to say the sum each time they add 2.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, encourage them to count backwards in twos from 20.

### 5 CONCLUSION AND ASSESSMENT

Use a 100 square to count up to 20 in twos starting from 2.

Ask the children if they can see the pattern this makes.

Make a note of those children who are not able to count in twos or see the pattern and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use a 100 number square to do repeated subtractions of 2 from 20 to 0.

### 2 STARTER

Play 'I am...you are?'

Tell the children, 'The rule is you are 2 more'.

Say, 'I am 8,' then point to a child and say, 'You are?'

The child has to answer, 'I am 10,' because 10 is 2 more than 8.

Repeat the game with different even numbers from 2 to 18, asking different children each time.

### 3 INTRODUCTION

Show a 1 to 100 number square. With the children, count on from 2 to 20 in twos.

Tell the children to count backwards from 20 to 2 in twos.

Point to each number as the children say it. Practise doing this until they are confident. Ask the children whether the number gets more or less when you count backwards.

On the board write  $20 - 2 = 18$ . As you write this, say, '20 take away 2 equals 18.' Ask the children to repeat it.

Do the same for  $18 - 2 = 16$ ,  $16 - 2 = 14$  and continue until you get back to  $4 - 2 = 2$ .

Remind the children that when you count on the numbers get bigger and when you count backwards the numbers get smaller.

### 4 TEACHER AND STUDENT ACTIVITY

Take the children outside and put 20 of them into pairs in a straight line.

Count them in twos, from 2 to 20 then backwards from 20 to 2.

Put all of the children into pairs. Give each pair 20 stones. Tell them to arrange them in twos and use them to count on and backwards in twos.

Move around the pairs, assessing the children by listening to them and giving help where needed. If some children are finding it too easy, tell them to count to 30.

### 5 CONCLUSION AND ASSESSMENT

Back in the classroom, count on from 2 to 20 in twos then count backwards from 20 to 2 in twos.

Ask the children if the numbers get bigger or smaller when they count backwards.

Write  $16 - 2 = 14$  on the board and ask a child to tell you what it says. Repeat with other numbers.

Make a note of those children not able to do the repeated subtraction and those finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use a 100 number square to do repeated additions of 5 from 0 to 50.

### 2 STARTER

Show the children a 1 to 100 number square. Count from 1 to 50, pointing to the numbers as the children say them. Repeat this again more slowly, then repeat it more quickly.

Say, 'I'm thinking of a number on this square. It is before 29 and after 27. What's my number?'

Repeat this activity with other numbers up to 50.

### 3 INTRODUCTION

Show a 1 to 100 number square. With the children, count on in fives starting at 5 and pointing to each number on the square as you count.

Repeat this activity and colour each square as the children say the number. Ask to see if the children can see the pattern this makes. Show them that the numbers always end in 5 or 0.

On the board, write  $5 + 5 = 10$  and say, '5 add 5 equals 10'. Then repeat with  $10 + 5 = 15$ . Continue this activity, repeating up to  $45 + 5 = 50$ .

Take away the 100 square and count from 5 to 50 in fives.

### 5 CONCLUSION AND ASSESSMENT

Use a 100 number square to count on in fives from 5 to 50. Check that the children can tell you that all the numbers end in 5 or 0.

Cover the number square. With the children, count from 5 to 50 in fives.

Write  $30 + 5 =$  on the board. Ask the children for the answer. Repeat this problem, starting with 15, 20 and 25.

Make a note of those children who are not able to do the repeated additions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 100 number square to practise counting on in fives.

Tell them to colour 5, 10 and so on up to 50. Remind them that as they count on in fives, the number gets bigger.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, encourage them to count up to 60 on their number square.





## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use a 100 number square to do repeated subtractions of 5 from 50 to 5.

### 2 STARTER

On a 100 number square, count on from 1 to 50 and count backwards from 50 to 1.

Cover up 3 numbers on the square. Point to each in turn. Ask the children to tell you the missing numbers.

Uncover the numbers to check the answers.

### 3 INTRODUCTION

Show a 1 to 100 number square again. With the children, count from 5 to 50 in fives. Then count backwards from 50 to 5 in fives. Point to each number as they say it.

Practise counting backwards in fives until the children are confident.

On the board, write  $50 - 5 = 45$  and say, '50 take away 5 equals 45'. Ask the children to repeat it.

Do the same for  $45 - 5 = 40$ ,  $40 - 5 = 35$  and continue until you get back to  $10 - 5 = 5$ .

Remind the children that as you count on the numbers get bigger and when you count backwards the numbers get smaller.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and give each pair a 100 number square to practise counting backwards in 5s from 50.

Tell them to colour 50, 45, 40 etc as they count backwards. Ask them if a number gets smaller or bigger when they count backwards.

Ask if they can count backwards without the number square.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, tell them to start at 60 and count backwards in fives.

### 5 CONCLUSION AND ASSESSMENT

Count on from 5 to 50 in fives and count backwards from 50 to 5 in fives. Ask the children if the numbers get bigger or smaller when they count backwards.

Write  $50 - 5 = 45$  on the board and ask a child to tell you what it says. Repeat with other numbers, e.g.  $45 - 5 = 40$ .

Make a note of those children who are not able to do repeated subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Do repeated additions of 2 starting from different numbers.

### 2 STARTER

Ask the children, 'How many do I add together to get 10?' Tell the children to put their hands behind their backs.

Show them 3 fingers then ask, 'How many more to make 10?'

Tell the children to bring their hands from behind their backs and show 7 fingers.

Repeat this activity with other numbers.

### 3 INTRODUCTION

Using a 100 number square, count on in twos, from 2 up to 20.

Repeat this activity, still counting on in twos, but starting at 1.

Write the sums on the board, e.g.  $1 + 2 = 3$  and say out loud, '1 add 2 equals 3'.

Repeat with  $3 + 2 = 5$  and so on. Ask the children if the number is getting bigger or smaller.

Repeat this activity starting at 3 and then at 5.

### 5 CONCLUSION AND ASSESSMENT

Bring one child to the front of the class then 2 more. Ask the children what 1 add 2 equals [3].

Bring 2 more children to the front of the class. Ask what 3 add 2 equals [5]. Continue adding 2 more until there are 21 children at the front of the class.

Ask one pair to show you their number squares and to tell you what they have done. Ask if the class agrees they have done it correctly.

Make a note of those children who are not able to count on in twos or see the patterns and those who are finding it too easy. Record this information in the class assessment folder.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 100 number square and ask them to count on in twos starting at 1.

Ask them to colour each number as they say it and to say the sum for each number.

Move around the classroom, assessing the children by listening to them and looking at their squares. Give help where needed. For those finding it too easy, tell them to count on to 30.





## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Do simple subtraction problems, from 0 to 20, using a 100 square.

### 2 STARTER

Put your hands behind your back. Quickly show the children 3 fingers and hide your hands behind your back again.

Ask how many fingers you showed. Show them your hands again to see if they were correct.

Ask how many more fingers are needed to make 7. Repeat the activity starting with different numbers of fingers.

### 3 INTRODUCTION

Count from 1 to 50 and backwards from 50 to 1 using a 100 number square.

Tell the children you are going to do take away, or subtraction, problems. Ask them to say the words 'take away' and 'subtraction'.

Show how to take away by counting backwards on the number square, e.g.  $20 - 5 = [15]$ .

Ask if the number will be more or less when you subtract 5 from it. Ask them to guess the answer.

Put your finger on 20 and count backwards by 5. The answer to the problem is the number you land on. Ask if the children's guesses were correct.

Write the number sentence on the board  $20 - 5 = 15$  and read it aloud.

Repeat this activity subtracting different numbers.

### 5 CONCLUSION AND ASSESSMENT

Write = on the board and ask the children how to say it.

Show a 1 to 100 number square. Choose a child to tell you how to use it to do subtraction problems. Ask if the answer will be more or less than the number that they started with.

Ask different children to show you how they worked out the answers to the problems you gave them earlier.

Make a note of those children who are not able to do the subtractions and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 1 to 100 number square and write 10 problems on the board starting with the numbers 10 or 20, e.g.  $10 - 4 = [6]$ ,  $20 - 3 = [17]$ .

Tell them to find the answers to the problems using their number squares.

Move around the classroom, assessing the student by listening to them. Give help where needed. If some student are finding it too easy, ask them to start from 30.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write number sentences for subtraction problems from 0 to 20.

### 2 STARTER

Put your hands behind your back. Quickly show the children 3 fingers and hide your hands behind your back again.

Ask how many fingers you showed. Show them your hands again to see if they were correct.

Ask how many more fingers are needed to make 8 and ask the student to show the answer on their fingers.

Repeat the activity starting with different numbers of fingers.

### 3 INTRODUCTION

On the board write  $1 + 7 = 8$ . Read out this number sentence together as a class, e.g. '1 add 7 equals 8'.

Show 8 pegs on a coat hanger. Ask, 'How many will be left if I take off 1 peg?' Ask them to guess the answer. Take off 1 peg, then count the pegs to check the answer.

Ask the student what number sentence you should write to show this.

Next to  $1 + 7 = 8$ , write  $8 - 1 = 7$  and say, '8 take away 1 equals 7'.

Repeat this activity showing  $8 - 2$ ,  $8 - 3$ ,  $8 - 4$ ,  $8 - 5$ ,  $8 - 6$  and  $8 - 7$ .

### 5 CONCLUSION AND ASSESSMENT

Show the student a coat hanger with 9 pegs. Take away 1 peg.

Ask a child to write the number sentence on the board and to read it out loud.

Check that the class agrees with the answer. Repeat this activity, taking another peg off the coat hanger.

Make a note of those student who are not able to do the subtractions or write the number sentences and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the student into pairs. Give each pair 10 stones.

Tell them to take away 1 stone. Write the number sentence and say it out loud, e.g. '10 take away 1 equals 9.'

Repeat, but now take away 2 and so on.

Move around the classroom, assessing the student by listening to them. Give help where needed. If some student are finding it too easy, encourage them to use bigger numbers.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Do simple subtraction problems, from 0 to 50, using a 100 square.

### 2 STARTER

Show the children 10 pegs on a coat hanger.

Tell the children to shut their eyes then cover 3 pegs.

Ask the children to open their eyes again and tell you how many you have covered.

Tell them to count the pegs that they can see now and say how many more are needed to make 10.

Repeat the activity covering different numbers of pegs.

### 3 INTRODUCTION

Show the children a 1 to 100 number square.

Together, count from 1 to 50 and backwards from 50 to 1.

Tell the children you are going to do take away or subtraction problems. Ask them to say the words 'take away' and 'subtraction'.

Show the children how to take away by counting backwards on the number square, e.g.  $30 - 5$

Ask them to guess the answer. Start with your finger on 30 and count backwards by 5. The answer to the problem is the number you land on [25]. Check to see if their guess was correct.

Repeat this activity starting on 40 and then on 50, subtracting different numbers.

### 5 CONCLUSION AND ASSESSMENT

Remind the children of the words 'take away' and 'subtraction' and say them together.

Show a 1 to 100 number square. Ask a child to show you how to use it to do subtraction problems.

Ask different student to show you how they worked out the answers to the problems you gave them earlier. Check to see if the class agree with them.

Make a note of those student not able to do the subtractions or write the number sentences and those finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 1 to 100 number square.

Write 10 problems, without the answers, on the board, starting with 30, 40, or 50,

e.g. ' $30 - 6 = [24]$ '.

Tell them to find the answers to the problems using their number squares.

Tell them to write down each number sentence and say it out loud.

Move around the classroom, assessing the student by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.



## LESSON TOPIC: Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Write number sentences for simple subtraction problems from 0 to 50.

### 2 STARTER

Show 9 pegs on a coat hanger.

Tell the children to shut their eyes and then cover 1 peg.

Tell the children to open their eyes again and ask them how many you have covered.

Tell them to count the pegs they can see.

Ask how many more are needed to make 9.

Repeat this activity covering different numbers of pegs.

### 3 INTRODUCTION

Show the children a 1 to 100 number square. Together, count from 1 to 50 and then backwards from 50 to 1.

Tell them you are going to do take away or subtraction problems. Ask them to say the words 'take away' and 'subtraction'.

Remind them how to take away by counting backwards on the number square, e.g.  $30 - 5 =$

Ask them to guess the answer. Start with your finger on 30 and count backwards by 5. The answer to the problem is the number you land on.

Write the number sentence on the board and read it out loud, e.g. '30 take away 5 equals 25'. Check to see if their guess was correct.

Repeat this activity starting on 40 and 50 and subtracting different numbers.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 1 to 100 number square.

On the board write 10 subtraction problems, without the answers:

$45 - 3 = [42]$ ,  $35 - 3 = [32]$ ,  $25 - 3 = [22]$ ,  $49 - 5 = [44]$ ,  $39 - 5 = [34]$ ,  $29 - 5 = [24]$ ,  $48 - 7 = [41]$ ,  $38 - 7 = [31]$ ,  $28 - 7 = [21]$ ,  $50 - 20 = [30]$ .

Tell the children to count backwards on their number squares to find the answers. Tell them to write the number sentences for each one and say them out loud.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.

### 5 CONCLUSION AND ASSESSMENT

Remind the children of the words 'take away', 'subtract' and 'subtraction'. Ask them to say the words.

Ask different children to show you how they worked out the answers to the first 3 problems.

Write the number sentences on the board. Check to see if they can see the pattern in the answers.

Make a note of those children who are not able to do the subtractions or write the number sentences and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Subtraction Stories

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Make up number stories for subtraction problems from 0 to 50.

### 2 STARTER

Hold up 10 fingers and ask the children how many more are needed to make 15.

Tell them they can use their fingers and toes to help find the answer.

Repeat this activity asking how many more fingers and toes are needed to make 13, 17 and the rest of the numbers up to 20.

### 3 INTRODUCTION

Tell the children a number story, e.g. 'There were 40 children in the class. 6 went home because they were ill. How many children were left?'

Help them to pick out the important words that they will need to solve the problem, e.g. '40 children', '6 went home' and 'how many left'. Also tell them that 'solve' means to find the answer.

Ask them what they need to do to find out how many were left. Will they add, e.g.  $40 + 6$  or subtract, e.g.  $40 - 6$ ? Ask them if the answer will be more or less than 40. Ask them to guess the answer.

Use a 100 number square to find the answer.

Write the number sentence on the board, e.g.  $40 - 6 = 34$ .

Check with the children if their guess was correct.

Repeat the story activity using different numbers up to 50.

### 5 CONCLUSION AND ASSESSMENT

Practise saying the words 'subtract', 'take away', 'number story' and 'solve' with the children.

Ask one pair to tell a number story. Ask the rest of the class solve it. Repeat with other pairs.

Make a note of those children who are not able to do the subtractions and write number stories and those who are finding it too easy. Record this information in the class assessment folder.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Tell them to make up their own number stories, solve them and write down the number sentences for each story. Tell them to use a 1 to 100 number square to help them.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, encourage them to use bigger numbers.



## LESSON TOPIC: Addition & Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Use mental arithmetic to solve simple addition and subtraction problems from 0 to 20.

### 2 STARTER

Shuffle a set of number cards from 1 to 20.  
Show the children one of the cards.

Ask them to say the number that is one more,  
then the number that is one less.

Repeat this activity with other cards.

### 3 INTRODUCTION

Using a 1 to 100 number square, count together from 1 to 50 and backwards from 50 to 1.

Count the numbers in the 10s column, e.g. 10, 20, 30, 40, 50.

Show the children that every time you add 10 you go down one line. Write  $1 + 10 = 11$ .

Show on the number square how you go down one line. Repeat for all numbers up to 20.

Write  $20 - 10 = 10$ . Show that when you take away, you move up a line on the number square. Repeat this activity for  $19 - 10 = [9]$ ,  $18 - 10 = [8]$  and so on.

Cover the number square and ask, 'What is  $3 + 10$ ?'. Then ask what is  $17 - 10$  and so on with some other examples.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. One the board, write 5 problems which add 10, e.g.  $3 + 10$ .

Then write 5 problems which subtract 10, e.g.  $16 - 10$ .

Tell the children to work together to solve the problems.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.

### 5 CONCLUSION AND ASSESSMENT

Show a 1 to 100 number square and ask the children what happens when you add 10 and what happens when you take away 10.

Ask the children to give you the answers to the previous problems on the board and check them using the number square.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.





## LESSON TOPIC: Addition & Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Explain the mental strategies that the children have used to solve addition and subtraction problems from 0 to 20.

### 2 STARTER

Tell the children you are thinking of a number that is more than 33 and less than 35.

Ask, 'What is the number?'

They can use a 1 to 100 number square if they need to.

Repeat the activity with numbers from 0 to 50.

### 3 INTRODUCTION

Put a 100 number square on the board.

Write  $4 + 9 = [13]$

Ask one child what the answer is and ask how they worked it out.

Ask if anybody knows a different way to do it.

Repeat this activity with different problems, e.g.  $15 - 3 = [12]$

Remind the children that they can use the number square, fingers or objects to help them solve the problems.

### 5 CONCLUSION AND ASSESSMENT

On the board write  $6 + 9 = [15]$

Ask one of the children to show you how to find the answer.

Ask the others if they agree and if anyone knows a different way.

Repeat with another addition problem and 2 subtraction problems.

Make a note of those children who are not able to do the subtractions or write the number sentences and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 1 to 100 number square and a pile of objects.

Write 5 addition problems and 5 subtraction problems on the board.

Tell the children to find the answers to the problems using their number square, objects or fingers.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy give them more difficult problems.



## LESSON TOPIC: Addition & Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Explain the mental strategies that the children have used to solve addition and subtraction problems from 0 to 20.

### 2 STARTER

Tell the children you are thinking of a number that is more than 33 and less than 35.

Ask, 'What is the number?'

They can use a 1 to 100 number square if they need to.

Repeat the activity with numbers from 0 to 50.

### 3 INTRODUCTION

Put a 100 number square on the board.

Write  $4 + 9 = [13]$

Ask one child what the answer is and ask how they worked it out.

Ask if anybody knows a different way to do it.

Repeat this activity with different problems, e.g.  $15 - 3 = [12]$

Remind the children that they can use the number square, fingers or objects to help them solve the problems.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give each pair a 1 to 100 number square and a pile of objects.

Write 5 addition problems and 5 subtraction problems on the board.

Tell the children to find the answers to the problems using their number square, objects or fingers.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy give them more difficult problems.

### 5 CONCLUSION AND ASSESSMENT

On the board write  $6 + 9 = [15]$

Ask one of the children to show you how to find the answer.

Ask the others if they agree and if anyone knows a different way.

Repeat with another addition problem and 2 subtraction problems.

Make a note of those children who are not able to do the subtractions or write the number sentences and those who are finding it too easy. Use this information when you plan tomorrow's lesson.





## LESSON TOPIC: Addition & Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Explain the mental strategies that the children have used to solve addition and subtraction problems from 0 to 50.

### 2 STARTER

Divide the class into two groups. Count from 1 to 50 so that the first group says 1, the second says 2, the first says 3 and alternatingly all the way up to 50.

Now ask the children to count backwards from 50 to 1 in the same way.

Repeat this activity.

### 3 INTRODUCTION

On the board write  $33 + 9 = [42]$

Ask one child what the answer is and ask how they worked it out.

Remind the children how to do this using a 100 number square. Tell them another way is to remember 39 and use their fingers or small objects to count on another 9.

On the board write  $33 - 9 = [24]$

Remind the children how to do this using a 100 number square. Tell them another way is to remember 39 and use their fingers or small objects to count backwards 9.

### 5 CONCLUSION AND ASSESSMENT

On the board write  $36 + 9 =$

Ask one pair to show you how to find the answer. Ask the others if they agree.

Ask if anyone know a different way to solve it.

Repeat with another addition problem and 2 subtraction problems with other numbers up to 50.

Make a note of those children who are not able to do the subtractions or write the number sentences and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give them a 1 to 100 number square and a pile of objects.

Write 5 addition problems and 5 subtraction problems on the board.

Tell the children to find the answers to the problems using their number square, objects or fingers.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.



## LESSON TOPIC: Addition & Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.2

### 1 OBJECTIVE

Play number games involving mental arithmetic.

### 2 STARTER

Using the 1 to 100 number square, count forwards and backwards from 1 to 50 and 50 to 1 together.

Cover 5 numbers between 1 and 50. Ask the children to tell you the covered numbers.

Uncover the numbers to check the answers.

Repeat this activity covering different numbers.

### 3 INTRODUCTION

Remind the children of how to add and subtract numbers using their fingers.

Tell them they are going to play a number game.

Arrange the children into teams of 5 or 6. Give each team a set of number cards from 1 to 50.

Do a quiz of 10 addition and subtraction problems.

After each question the team should hold up the number card that they think shows the correct answer.

Give one point to each team that is correct. At the end find out which team scored the most.

### 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, hide 10 addition and subtraction problems in the playground.

Take the teams outside.

Tell the children to find the questions and to write down the correct answers.

The first team to bring back all of the correct answers to you is the winning team.

### 5 CONCLUSION AND ASSESSMENT

Ask the children which team won then ask them to explain how they worked out their answers so quickly.

Make a note of those children not able to do the problems those finding it too easy. Record this information in the class assessment folder.



## LESSON TOPIC: Fractions words

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.3

### 1 OBJECTIVE

Use the word 'half' correctly.

### 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians' with the class. Ask the children to sing even numbers loudly and odd numbers softly.

Chant the following with the class:

'Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say mine! Show 5 fingers, I say fine.'

### 3 INTRODUCTION

Ask the children what you get when you cut something down the middle. Show children that you have 5 fingers on one hand and 5 on the other hand. Tell them the 2 fives are equal and that they make two halves. Hold up one hand and say, 'Half'. Hold up the other hand and say, 'Half'. Grip two hands together and say, 'Whole'.

Draw a circle on the board. Draw a line to cut it in half equally. Point to the left side and say, 'Half'. Point to the right side and say, 'Half'. Moving your hand around the full circle say, 'Whole'. Say, 'Half add half makes a whole. But both halves must be the same.'

Repeat the activity with 6 dots, where half = 3 dots. Show 6 dots on the board. Draw a line to split them into 5 dots and 1 dot. Point to the 5 dots. Ask, 'Is this half?' Point to the single dot. Ask, 'Is this half?' Explain that it is not half as the split is not the same. Repeat by drawing a new circle, with a quarter of it split off.



### 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, prepare worksheets with shapes and groups of items on. Some of the shapes should be cut or split in half, whilst others are cut but not in half.

Put the children into pairs. Ask them to colour the shapes which are in halves. Tell the children to draw different shapes that they know, e.g. circles, triangles and squares. Tell them to swap their shapes with each other. The other child should try to colour in half. Then they should swap back and check each other's work. Ask if they agree on what half looks like. Tell the children to draw different numbers of dots. Then tell them to swap their paper with their partner again. The other child should try to draw a line to split the number of dots in half. Swap back again and ask the children to check their partner's work. Check to see if they agreed.



### 5 CONCLUSION AND ASSESSMENT

Ask the class, 'Were there any difficult bits when splitting shapes in half? What were they?'

Show them how to split shapes in half on the board.

## LESSON TOPIC: Shape in half

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.3

### 1 OBJECTIVE

Show how to divide everyday shapes in half.

### 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians' with the class. Ask the children to sing even numbers loudly and odd numbers softly.

Chant the following with the class:

'Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say mine! Show 5 fingers, I say fine.'

### 5 CONCLUSION AND ASSESSMENT

Ask an even number of children, 8, to come and stand at the front of the class.

Ask the children how many there are in one half of the group at the front.

Split them into 2 equal groups and ask again.

Ask an odd number of children, 7, to stand at the front of the class.

Ask the children how many there are in one half of the group at the front.

Ask the class to try to split them into 2 equal groups. Ask, 'What can we do with the last child?'

Say, 'Can we cut him in half?' Draw a picture of the child on the board and draw a line down the middle. Say 'No, we cannot cut him in half.'

Repeat this activity with some fruit. Cut one of the pieces of fruit in half and give it to the child.

Note which children made mistakes with the activity and put them into different pairs for the next days lesson.

### 3 INTRODUCTION

Bring hard paper shapes (circles and squares) that can be folded in half for the lesson.

Fold the shapes to show half.

Hold up one of the shapes and say, '1 whole'.

Fold the shape and say, '2 halves'.

Open the shape again and say, '1 whole'.

Fold it again and say '2 halves'.

### 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, prepare paper shapes that the children can fold in half, e.g. fruit shapes.

Put the children into pairs and give each child a shape.

Tell the children to fold their shape in half, ask their partner to check it, then colour the shape, e.g. one half red and the other half blue.

Tell the children to hold up their shapes and check each other's work. Give praise and correction based on their results.

Before the lesson, prepare some more shapes and cut them in half. Give a few of these to each pair.

Ask them to find and put together the halves which make a whole.

Tell the children to hold up their answers and check each other's work. Ask the children to glue the shapes together to make one whole and colour in the different halves.



**LESSON TOPIC:** Sets of 10 in  $\frac{1}{2}$

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.3

## 1 OBJECTIVE

Divide sets of up to 10 objects into 2 halves.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians' with the class. Ask the children to sing even numbers loudly and odd numbers softly.

Chant the following with the class:

'Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say mine! Show 5 fingers, I say fine.'

## 5 CONCLUSION AND ASSESSMENT

Draw 10 dots on the board. Ask how many dots there are and how many would make half.

whole



(10)

half half



5 + 5

Show how you get 2 lots of 5 dots and that they can be lined up to make 5 pairs.

Get out 1, 3, 5, 7 and 9 pieces of fruit.

Ask the children how you can split them in half and make sure that the two halves are equal.

Put the fruit in a line. Cut each piece of fruit in half and show that they match up in pairs.

Give the fruit out to children.

Note the children who did not manage to group objects into halves and put them into different pairs tomorrow.

## 3 INTRODUCTION

Hold up your hand with 2 fingers. Ask the children how many fingers there are.

Hold up your other hand with 2 fingers. Ask if they are the same and how many there are now [4].

Ask, 'How many are in each half?' [2 and 2].

Hold up 3 fingers on each hand. Ask the children how many fingers there are and how many are in each half.

Repeat this activity with other even numbers.

Write on the board, 'Half of ... is ...' for 2, 4, 6, 8 and 10. Chant these with the class, showing the amount of fingers on 2 hands.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give out coloured objects to each pair.

Tell the children to gather groups of 2, 4, 6, 8 and 10 objects. Ask them to then divide each group into halves.

Tell them to check their work with another pair and see if they agree.

Walk around the classroom checking their work.



**LESSON TOPIC:** Sets of 20 in half

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.3

## 1 OBJECTIVE

Divide sets of up to 20 objects into 2 halves.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians' with the class. Ask the children to sing even numbers loudly and odd numbers softly.

Chant the following with the class:

'Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say mine! Show 5 fingers, I say fine.'

## 3 INTRODUCTION

Set up the washing line so that it goes past the board twice.

Show the children 8 blank cards pegged onto the top washing line.

Ask a child to split the cards into 2 halves, with the second half on the bottom washing line.

Ask the class if they did it right.

Show the class that each card on the top can pair up with a card on the bottom.

Write on the board, 'Half of 8 = 4'.

Repeat the activity with 12, 16 and 20 cards. Ask the children what the answer will be, then show them how it works.

## 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, prepare worksheets showing 'Half of 2 = ... , Half of 4 = ... , Half of 6 = ...' up to 20, using even numbers only.

Put children into pairs. Give out the worksheets and sets of 20 objects.

Tell the children to work together to fill in the gaps, using the objects to check their answers.

Make sure that they make pairs of objects and count how many pairs there are.

Tell them to check their work with another pair. Check to see if they agreed.

## 5 CONCLUSION AND ASSESSMENT

Ask the children if they found the work easy and what was difficult. Check to see if they all agreed. Ask, 'How did you get to an agreement? Did you use the objects?'

Ask children what is half of 20, 4, 8 and 14? Ask the children to hold up their fingers to show their answers.

Make note of any children who are slow at getting the answers or are just copying their partners. Put them into different pairs in tomorrow's lesson.





**LESSON TOPIC:** Sets of 20 in half

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.3

## 1 OBJECTIVE

Draw the second half of a 2 dimensional shape.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians' with the class. Ask the children to sing even numbers loudly and odd numbers softly.

Chant the following with the class:

'Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say 10. Show 5 fingers, I say half. Show all fingers, I say mine! Show 5 fingers, I say fine.'

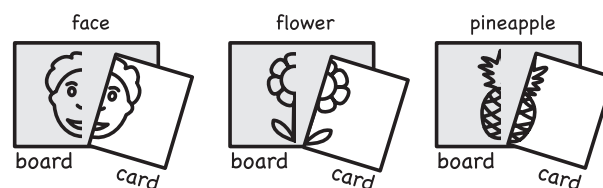
## 3 INTRODUCTION

Hold up a piece of card to cover half of your face. Ask the children, 'How much of my face can you see?' [Half]. Then ask, 'How much is hidden?' [Half].

Draw half a face on the board. Draw the other half of the face on a sheet of card. Ask the children, 'What is on the board?' [Half a face]. Then ask, 'What is on the card?' [The other half of the face]. Move the card to match up the 2 halves. Ask, 'Have we made a whole face?'

Draw half a flower on the board. Give out paper to the children. Ask them to draw the other half of the flower.

Check out several drawings from the children. Ask, 'Which drawings work well?' and, 'Can you make them better?' They should try to make their drawings look like the other half.



## 5 CONCLUSION AND ASSESSMENT

Tell the children to stand up and walk around, looking at each other's pictures.

Pick out some good work and show the children.

Record how the children have done this week in the class assessment folders.

## 4 TEACHER AND STUDENT ACTIVITY

Before the lesson, prepare a worksheet of other symmetrical objects, which are only half drawn, but with space for the children to fill in the other half. Include circles, triangles, rectangles and pictures of objects, e.g. pineapples, faces and flowers.

Tell the children to draw the other half and to colour in both halves of the pictures.



## LESSON TOPIC: Length- hand spans

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Know that the hand spans of different people are different sizes.

### 2 STARTER

Tell the children to open their hands out and compare their hand size with their class mates.

Tell the children to say sentences using the following words: bigger than, smaller than, wider, longer, etc.

Tell the children try and find someone with the same size hands. They will work with that person in pairs today.

### 3 INTRODUCTION

Spread your hand out and show the students what a hand span measurement is. This is the end of the little finger to the end of the thumb whilst your hand is spread out wide.

Point out that all span hand measurements will be different as hand spans come in many different sizes.

### 4 TEACHER AND STUDENT ACTIVITY

Use your hand span to measure out the length of the classroom. Then measure out the width of the classroom using your hand span.

Tell the children to count along as you measure.

Then hand span measure one of the desks in the classroom, both the length and width.

Note your results on the board.

Tell the children you want them to do what you just did, but use their own hand spans.

Tell the children to work in pairs (working with a child who has the same hand size).

Each pair will hand span measure a desk and a door in the classroom, noting down both the height and width of both. Early finishers should then find the height of their partner using hand span measurements.

### 5 CONCLUSION AND ASSESSMENT

Ask the children for their results.

Ask the children if their results are the same as yours. Ask them why they think they are different. Ask, 'Does this mean you are wrong?'

Clarify that different answers are normal. Note that the hand span measurements are different as hand spans are all different.

Explain that this means you could not tell someone living a long way away how big something is in hand spans, unless you sent them your hand span measurement as well.

Make a note of any children who lost count or could not measure well.





## LESSON TOPIC: Length -Meter

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Know why it is important to use standard units for measurements.

### 2 STARTER

Take the children outside. Show them a metre ruler and also a tape measure marked in metres.

Ask a child if they can make a step 1 metre long.

Tell the child to try walking around in a circle, using steps about 1 metre long.

Quickly tell the child to freeze and check that their last step was 1 metre long.

Ask all the other children to all try walking around using a metre step and freeze them occasionally to check.

### 3 INTRODUCTION

Hold a metre ruler up and tell students that this stick is now the standard of measure for the world.

Explain that everyone all round the world knows what a metre is, no matter how long your legs are.

Explain that all measures of height, length and width, or breadth, are based on metres. In other words, anyone talking on the phone to someone on the other side of the world can talk to them about metres and be understood.

### 4 TEACHER AND STUDENT ACTIVITY

Measure out the length of the classroom building with your metre-long footsteps.

Explain that this is an estimate measure of the building in metres.

Tell the children to try to pace the length of the classroom using the same number of paces as you did. Count them as they go.

### 5 CONCLUSION AND ASSESSMENT

Return back inside the class room and ask the children to hold their hands in front of them, about 1 metre apart.

Check their estimates with the metre ruler.

Ask them to hold their hands up, about half a metre apart. Check their estimates again with the metre ruler.

Make note of any children who could not count or who could not estimate 1 metre closely.



**LESSON TOPIC:** Length- hand spans

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

## 1 OBJECTIVE

Estimate and measure the height, width and length of a desk using a metre stick.

## 2 STARTER

Show the children a metre ruler, a metre stick and a metre measuring tape.

Ask the children to hold their hands up, about a metre apart. Check their estimates with the metre ruler.

Ask them to hold their hands up, about half a meter apart. Check their estimates again with the metre ruler. Tell them to try and remember the measurements.

## 3 INTRODUCTION

Remind the children again that the metre stick is now the standard for all measurements of height, length and width.

Ask, 'How big do you think our classroom is?' Listen to their estimates, noting some down on the board.

Check the real answer with a metre stick with the children counting each metre.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children, 'How big do you think your desk is?'

Tell them to make a guess about the height, width and length of the desk, showing them with your hands what you mean for each of these terms.

Tell them to discuss their estimates with their friends.

Move the children around the room and ask them to share answers again with a new group of children. Ask if they all agree.

Ask some groups how high they think the desk is. Write the answer on the board. Ask if other people agree with the estimate. Check the actual measurement with the metre ruler.

Repeat this activity for length and width.

## 5 CONCLUSION AND ASSESSMENT

Tell the children to estimate the height and width of the door to the classroom.

Check the actual measurement with the metre ruler.

Make a note of any children who could not give good estimates or did not work well in groups.



## LESSON TOPIC: Length- Words

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Use the words height, length and width, or breadth, correctly.

### 2 STARTER

Tell the children that height is how tall the item is, length is how long the item is and the width, or breadth, is how wide the item is. Mime the three dimensions as you explain them.

Pick an item in the room. Do not tell the children what it is. Tell them roughly how tall the object is, how wide the object is, how long the object is and, if possible, the shape.

Ask the children to guess what the object is.

### 3 INTRODUCTION

Explain that in the world we live in, measurements are always done to see how big things really are.

When we say, 'How big?', we really want to know the height, length and width of the item.

Tell the children to put their hands straight up in the air when you say 'height', out wide to their sides when you say 'width' and out in front when you say 'length'.

Say 'height', 'width' and 'length' several times, mixing up the order.

### 4 TEACHER AND STUDENT ACTIVITY

Explain that to measure the height of the classroom building you must measure how tall the building is. Measuring the width of the building means measuring how wide the building is.

Measuring the length of the building means measuring how long the building is.

Take the children outside and put the children into pairs. Ask, 'Where do you measure height when you are lying down?'

Make a decision with the class. Give each pair a metre stick. Tell one of them to lie down.

Tell the other one to measure the height, length and width of the child lying down.

Tell the children to swap roles and repeat.

### 5 CONCLUSION AND ASSESSMENT

Tell the children to measure the length, width and height of a box in the classroom. Ask the children to come to the front of the class room to measure a range of boxes.

Tell the children to put their hands straight up when you say 'height', out wide when you say 'width' and out in front when you say 'length'.

Say 'height', 'width' and 'length' several times, mixing up the order.

Make note of those children who had difficulty measuring or remembering height, width and length and put them with different partners in tomorrow's lesson.



**LESSON TOPIC:** Length- Estimate

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

## 1 OBJECTIVE

Estimate whether objects are more than 1 metre or less than 1 metre.

## 2 STARTER

Show children a 1 metre ruler or 1 metre stick.

Ask the children to hold their hands up, about 1 metre apart.

Check their estimates with the metre ruler. Tell them to try and remember the measurement.

## 3 INTRODUCTION

Ask the children if they think the classroom door is taller than 1 metre or less than one metre. Ask the same question for the length and the width of the door.

Repeat with the board, the teacher's desk, etc.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to find some objects in the classroom they think are smaller than 1 metre.

Check the objects with a ruler. Draw some of them on the board under the title, 'Less than 1 metre'. Repeat this for objects under the title 'More than 1 metre' as well.

Tell the children to draw other objects on paper, putting them in the right groups.

Give quick workers a metre stick and ask them to find more objects to draw.

## 5 CONCLUSION AND ASSESSMENT

With the children sat down, select a child and ask the class whether they are more than 1 metre or less than 1 metre tall.

Tell the child to stand up. Ask the class to guess again. Check the answer with a ruler.

Repeat this activity for several children.

Make a note of those children who could not guess sensibly or had trouble with the activity and record the week's work in the class assessment folders.



**LESSON TOPIC:** Length - Comparing

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

## 1 OBJECTIVE

Measure and compare the heights of classroom furniture and put them in order from the shortest to the tallest.

## 2 STARTER

Show the children a metre ruler, a metre stick and a metre measuring tape.

Ask the children to hold their hands up, about 1 metre apart.

Check their estimates with the metre ruler.

## 3 INTRODUCTION

Explain that the heights of all things are measured from the ground level up to the top of the thing being measured.

Explain that if we are measuring the height of a person, we take the measurement from the floor where the student is standing right up to the top of the person's head.

Explain that when we measure the height of furniture, we measure from the floor up to the top of the object.

## 4 TEACHER AND STUDENT ACTIVITY

The children are going to measure the height of one of the pieces of furniture in the classroom with a metre stick, rope or measuring tape.

Put the children into pairs and tell them to measure:

1. the height of a desk
2. the height of the board (from the bottom of the board to the top)
3. the height of the classroom door
4. the height from the floor to the bottom of the board.

Tell them to arrange these measurements in a list from the shortest to the tallest.

## 5 CONCLUSION AND ASSESSMENT

Draw pictures of three items of classroom furniture, arranged from the shortest to the tallest.

Use words like 'shorter' and 'taller' to make sentences comparing the furniture measurements.



## LESSON TOPIC: Length - Measure and Draw

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Measure and draw objects that are less than 1 metre and more than 1 metre.

### 2 STARTER

Tell the children that we use a metre ruler as the standard for length measurements.

Show the children a metre ruler, a metre stick and a metre measuring tape.

Ask the children to hold their hands up, about half a meter apart. Check their estimates with the metre ruler.

### 3 INTRODUCTION

Explain that all measurements are done with standard measuring tools such as the metre ruler or the tape measure. When we measure we can then talk of things being less than or more than 1 metre.

Remind the children about the words 'height', 'width' and 'length'.

Tell the children to put their hands straight up when you say 'height', out wide when you say 'width' and out in front when you say 'length'.

Say 'height', 'width' and 'length' several times, mixing up the order.

### 4 TEACHER AND STUDENT ACTIVITY

Measure the height of one of the walls of the classroom with a metre rope or measuring tape while the children watch and count the metres out loud as you measure. Then, measure the width of a child in the class, fingertip to fingertip, with their arms spread out wide.

Put the children into pairs. Children will measure:

1. the width of a desk
2. the width of the board
3. the width of the classroom door
4. the width from the floor to the bottom of the board.

For all of the above, the children should say whether each measurement is more or less than 1 metre.

### 5 CONCLUSION AND ASSESSMENT

Ask the children to draw something from the classroom and say whether its height is less or more than 1 metre.

Check which children did not manage to measure correctly or got confused and put them into different pairs in tomorrow's lesson.



## LESSON TOPIC: Length - Estimate height

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Know when it is better to use a 1 metre stick and when to use a 1 metre rope

### 2 STARTER

Show the children a metre ruler, a metre stick and a metre measuring tape.

Show them how to fold the metre rope in half to make a half metre.

Ask them to hold their hands up, about half a metre apart.

Tell them to compare their estimates of 1 metre with a neighbor. Ask them if they agree.

Check their estimates with the metre ruler.

### 5 CONCLUSION AND ASSESSMENT

Take a measurement of the size of a child's head.

Measure a piece of paper which is the same size to wrap around their head.

Cut out the piece of paper. Now try to fit the paper around their head, like a crown. Ask, 'Did it fit nicely?'

Tell the children to draw pictures of things which are less than half a metre or more than half a metre and less than 1 metre or more than 1 metre.

Take Note any children who could not measure using the rope or got confused. Think about changing their group for tomorrow's lesson.

### 3 INTRODUCTION

Tell the children to look at a metre stick and a metre rope. Ask, 'What is the difference?' and 'Which is easier to carry around and put neatly out of sight when travelling long distances?'

Explain that most of the time a metre ruler is used only in the classroom for students and that in the workplace, it will often be a metre measuring tape which is really like a metre rope.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children how silly it is to carry the metre stick around. Explain that it is only good to have around in an open space like in the classroom where everything is in order and there is no danger of things falling. The stick is very annoying to carry around a crowded place where lots of people are walking around.

Show the children how suitable the metre rope is. A person can put in their pocket and it is nicely hidden away. It does not disturb anyone. Show them again how to fold the rope to make a half metre.

Put the children into pairs. Using the 1 metre rope, tell the children to measure:

1. the height of a desk
2. the circumference of their head
3. from the floor to the bottom of the board
4. their waist.

They should then say if the measurements are more or less than half a metre, or 1 whole metre.





## LESSON TOPIC: Length -

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Estimate the heights of trees in the playground by comparing them with a 1 metre stick.

### 2 STARTER

Show the children a 1 metre stick. Focus their attention on how long it is.

Ask them to hold their hands up, about a full metre apart.

Tell them to compare their estimates with a neighbor. Ask if they all agree.

Check their estimates with the metre ruler.

### 3 INTRODUCTION

Remind children that a 1 metre stick is the standard that we use for measurements all over the world.

Tell them we are going to try to measure things which are very tall.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and give each pair a 1 metre stick. Take the children outside and tell one child to rest a metre stick straight up against a tree.

Take the rest of the class a little way away. Ask the children to look at the stick and guess how many sticks tall the tree is. Give them your answer.

Show them how to count by holding your fingers a little way apart, wide enough so that the top and bottom of the stick are between your fingers as you look at it, then seeing how many 'finger gaps' high the tree is. Repeat this for 2 more trees.

Let the pairs work together to estimate the height of a different tree and then the school building.

### 5 CONCLUSION AND ASSESSMENT

Gather the children together. Pick some trees near the school and ask the children to discuss, in their pairs, the heights of the trees.

Point to a tree and tell the children to hold up their fingers to show the height in metres.

Check which pairs do not give correct answers and put them in different pairs for tomorrow's lesson.





## LESSON TOPIC: Length -

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.1

### 1 OBJECTIVE

Know that some adults, such as a carpenter, need to measure accurately in their work.

### 2 STARTER

Before the lesson, try to get a carpenter/engineer or similar from the local community to come and talk to the children and show how they do measurements and what they use their measurements for.

Explain that measurements are very important, but that accurate measurements are still more important and must be done at all times in these types of job.

### 3 INTRODUCTION

Explain that it is necessary and important to make very accurate measurements at all times in certain jobs. A carpenter cutting up timber for a house roof must fit in accurately.

A road engineer working on the road must measure the road width accurately to fit the traffic of the town.

### 4 TEACHER AND STUDENT ACTIVITY

Give children the chance to ask the guest some questions. If there is no guest, then ask them to think about other jobs which might need measurements, perhaps any family members they have who might need to do this in their job.

Show the children how to use the centimetre markings on the metre ruler.

Explain that first we count on in whole metres, then we count the number of centimetres.

Show them how to measure, with metres and centimetres, the height of the board and the height of a child.

Put the children into pairs and ask them to measure accurately:

1. the length of a desk
2. the height of some children who are of a similar height
3. the width of the classroom door.

Either you or the guest should measure as accurately as possible and check the children's measurements.

### 5 CONCLUSION AND ASSESSMENT

Thank the guest, or, ask children what they would like to be when they grow up. Ask them to think about whether the jobs will use measuring. Ask, 'Will you need to be accurate?'

Note down any children who struggled to measure this week and record it in the class assessment folders.



**LESSON TOPIC:** Length -addition of length

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.2

## 1 OBJECTIVE

Know that in addition sums, numbers can be added together in any order.

## 2 STARTER

On the board write the numbers 1 to 10 and an extra number 5.

Tell the children to find 2 numbers that add up to 10. Give them 1 minute to write as many number pairs that make 10.

Check their answers.

## 3 INTRODUCTION

On the board write the sum  $4 + 7 =$

Ask the children to work out the answer to the sum [11]. Write it on the board.

Now write  $7 + 4 =$

Ask them to work out the answer to the sum [11]. Write it on the board.

Show the children that in addition sums it doesn't matter in which order you add the numbers together.

Repeat this activity with other numbers. Use a 100 number square if needed.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show the class one of their sums.

Check to see if the class agrees with their answer.

Check to see if they can tell you that in addition sums, it does not matter in which order you add the numbers together.

Repeat with 2 more pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give them number cards from 1 to 20.

Tell them to pick 2 cards, e.g. 12 and 3.

Show them how to write the 2 number sentences with the numbers, e.g.  $3 + 12 =$  and  $12 + 3 =$

Tell them to find the answers and write them down.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.



**LESSON TOPIC:** Length -addition of length

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.2

## 1 OBJECTIVE

Know that putting the biggest number first makes addition sums easier.

## 2 STARTER

Put the children into pairs.

Ask the first child to hold up 3 fingers.

Ask the second child to show how many more fingers make 8. Ask if they can they find different ways of doing the sum.

Write down the sums for all of the different ways of adding numbers together, e.g.

$3 + 5 = 8$ ,  $4 + 4 = 8$ .

Repeat for sums with totals of 6, 7, and 9 fingers.

## 3 INTRODUCTION

Pick one number between 1 and 40. Then pick another between 1 and 10. Tell the children you are going to add them together.

Write a sum using the numbers on the board, e.g.  $3 + 25 =$

Ask the children to add 25 to 3. Tell them they can use a number square to help. Write the answer [28].

Change the order of the sum, writing  $25 + 3 =$

Ask the children to add 3 to 25. Write down the answer.

Show them that the answers are the same. Ask, 'Which sum was easier to do and why?' Tell them it is usually easier to add a small number to a big number.

Repeat this activity using different numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs again. Give them number cards from 1 to 20.

Tell them that the rule is to 'add 4'. They must add 4 to the number on the card.

Show them how to write down the 2 number sentences, e.g.  $4 + 12 = 16$  and  $12 + 4 = 16$ .

Tell them that they have to say which was easier to work out.

Give them number cards to repeat this activity with.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show the class one of their sums. Check to see if the class agrees with their answer.

Ask them which sum they found easier, whether it was adding the big number to the small number or the small number to the big number.

Repeat with other pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Addition problems(Length)

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.2

## 1 OBJECTIVE

Write number sentences for simple additions.

## 2 STARTER

Play the game 'More than or less than'.

Tell the children that you are thinking of a number that is more than 5 and less than 8.

Tell them that to find out your number they can only ask 'more than' and 'less than' questions, e.g. 'Is it more than 6?' and 'Is it less than 7?'.

Repeat the game with other numbers.

## 3 INTRODUCTION

Ask a child to pick a number from 1 and 30.  
Ask another to pick a number from 1 and 10.

Tell them that you are going to add the numbers together and write a number sentence.

Remind them that it does not matter which number comes first in the addition.

Write the number sentence on the board, e.g.  $25 + 2 = 27$  and say '25 add 2 equals 27 or 25 plus 2 equals 27'.

They can use the number square or fingers to count on.

Repeat the activity with other numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Tell the first child to pick a number from 1 to 35 and the other child to pick a number from 1 to 10.

Tell them to add the numbers together and write the number sentence down. Say the number sentences out loud.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, tell them to use bigger numbers.

## 5 CONCLUSION AND ASSESSMENT

Ask one pair to show one of their number sentences and to say it out loud. Check to see if the class agrees that it is correct.

Repeat with other pairs.

Make a note of those children not able to write and say number sentences and those finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC:

## STRAND:

## CONTENT STANDARDS:

### 1 OBJECTIVE

Make and solve number stories for numbers between 0 and 20.

### 2 STARTER

Shuffle a set of 20 to 50 cards. Show the children a card.

Tell the children to say the number that is one more, then the number that is one less.

Repeat the activity with other cards.

Now show the children a new card and ask them to say the number that is 10 more and 10 less.

Repeat the activity with other cards.

### 3 INTRODUCTION

Tell the children a number story, e.g. 'My mother bought 12 bananas in the market. 3 bananas were bad and had to be thrown away. How many bananas were left?'

Help the children to decide on the important words to solve the problem, e.g. '12 bananas', '3 bananas thrown away' and 'how many were left?'

Ask the children how they can work out the answer. Ask, 'Will there be more bananas or less?' and 'Should we add or subtract?'

On the board write  $12 - 3 = 9$  and read it out loud.

Repeat the activity using different numbers.

### 5 CONCLUSION AND ASSESSMENT

Ask one pair of children to read out one of their number stories.

Ask the other children to decide which are the important words and to work out the answer.

Repeat the activity with other pairs.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Using numbers up to 20, tell them to make up their own number stories and to work out the answers. Then write down the number sentence and read it out loud.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.



**LESSON TOPIC:** Addition problems(Length)

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.2

## 1 OBJECTIVE

Make and solve number stories for numbers between 0 and 50.

## 2 STARTER

Peg number card from 0 to 30 onto a line.

Point to the numbers as the children count forwards and backwards.

Tell the children to close their eyes, then take away 2 numbers.

Opening their eyes, ask them to tell you which numbers you have taken away.

Repeat this activity, taking away different numbers.

## 3 INTRODUCTION

Tell the children a number story, e.g. '30 people were waiting to get on a plane. 8 more people arrived. How many people got on the plane in total?'

Help the children to decide on the important words to solve the problem, e.g. '30 people', '8 more' and 'how many'. Ask them if you should add or subtract and whether the answer will be more than 30 or less.

Write the number sentence on the board and work out the answer, saying '30 plus 8 equals 38'.

Then tell a subtraction number story.

Repeat the activity using different numbers.

Allow children to use a 1 to 100 number square or fingers to find the answer if it helps them.

## 5 CONCLUSION AND ASSESSMENT

Ask one pair of children to read out one of their number stories.

Ask which words are important to help to work out the answer. Check if their answer is correct.

Repeat the activity with other pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Record this information in the class assessment folder.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Using numbers up to 50, tell them to make up a number story and to work out the answer. Then write down the number sentence and read it out loud.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.



## LESSON TOPIC: Compare weight

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** NIL

### 1 OBJECTIVE

Compare the weights of objects that are heavier than yesterday using a beam balance and using the words 'heavier than' and 'lighter than'.

### 2 STARTER

Tell the children to look around the classroom for objects that are heavier than yesterday's objects in weight and to feel the weight with their hands.

Tell the children to pick up the objects to test the weight of the objects.

### 3 INTRODUCTION

Remind the children that the weight of objects play an important role in our lives every day.

Explain that we need to know the weight of certain goods for example when we sell gold, coffee, cocoa and copra.

Explain that we need to know these because the heavier the object is, the bigger the money we will get for our goods when we sell them at the market.

### 4 TEACHER AND STUDENT ACTIVITY

Put a packet of rice and a can of tinned fish on a beam balance to find out their weights.

When the results are known, tell the children to either say, 'the tinned fish is heavier than the bottle of water' or 'The bottle of water is lighter than the tinned fish.'

Tell the children to select 2 other objects and compare their weights on the beam balance.

Ask the children to use the words 'lighter than' and 'heavier than' to compare the weight.



### 5 CONCLUSION AND ASSESSMENT

Tell the children to weigh on the beam balance a can of corned beef and a can of tinned fish.

Ask the children to use the words 'lighter than' and 'heavier than' to compare the weight.

Make note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.



## LESSON TOPIC: Compare- Weight

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** NiL

### 1 OBJECTIVE

Compare the weights of light objects using a beam balance using the words 'heavier than' and 'lighter than'.

### 2 STARTER

Tell the children to look around the classroom for objects that are light in weight and to feel the weight with their hands.

Explain that how heavy or light something is is known as 'the weight' of the object, and they can guess this by picking things up with their hands.

### 5 CONCLUSION AND ASSESSMENT

Ask the children to weigh the classroom keys and two small stones on the beam balance.

Ask them to compare the weights of the objects using the words 'lighter than' and 'heavier than'.

Make note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.

### 3 INTRODUCTION

Tell the children that the weight of objects play an important role in our everyday lives.

Explain that we need to know the weight of objects so that we can do the right thing.

For example, we need to know the weight of cargo before we can travel by Air Niugini as the plane can only carry a certain weight of cargo.

### 4 TEACHER AND STUDENT ACTIVITY

Put a tin and an empty bottle of water on a beam balance to demonstrate how to compare their different weights.

Tell the children to put a marble and a small stone on a beam balance to compare their weights.

When the results are known, tell the children to say that the stone is 'heavier than' the marble and the marble is 'lighter than' the stone.

Select two other objects and compare their weights on the beam balance using the words 'lighter than' and 'heavier than'.





**LESSON TOPIC:** a Ordering of weight of objects

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** Nil

## 1 OBJECTIVE

Put objects in order of weight from the lightest to the heaviest.

## 2 STARTER

Tell the children to look at a packet of Cheese Pops, a packet of lollies and a packet of Twisties.

Ask them to guess which are 'lighter than' or 'heavier than' the others.

## 3 INTRODUCTION

Explain that in business, we order goods according to their weights.

This usually means that we buy the heaviest items with more money and the lighter ones with less money.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children a range of items to be weighed:

1. A packet of rice
2. A can of corned beef
3. A can of tinned fish
4. A full 600 ml bottle of water or similar.

Tell the children to weigh the items on the beam balance and then arrange their known weights from the lightest to the heaviest.

## 5 CONCLUSION AND ASSESSMENT

Explain to the children that you will weigh on the beam balance a small can of tinned fish, a small packet of rice and a small corned beef.

When the weights of these are known, arrange them from heaviest, lighter and lightest.

Ask the children to explain what is meant by the 'heaviest' and the 'lightest'.

Take note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.



## LESSON TOPIC: Weights -Words

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** NiL

### 1 OBJECTIVE

Group objects according to their weight using the words 'light', 'lighter', 'lightest', 'heavy', 'heavier' and 'heaviest'.

### 2 STARTER

Tell the children to look at a packet of Cheese Pops, a packet of lollies and a packet of Twisties.

Ask them to describe the items based on which are 'lighter than' or 'heavier than' the others.

### 3 INTRODUCTION

Explain to the children that there are 3 types of phrase that can be used to describe the weight of the object.

Refer to the objects from the Starter again. Explain that the phrases to describe weights are: 'light' for an object which is not heavy, 'lighter' for an object that is even less heavy than the 'light' object and 'lightest' for an object that is the most light compared to the others.

Explain that we can also use the opposite to describe heavy objects, e.g. 'heavy', 'heavier' and 'heaviest'.

### 5 CONCLUSION AND ASSESSMENT

Explain to the children that you will weigh on the beam balance a small can of tinned fish, a small packet of rice and a small can of corned beef.

When the weights of these are known, arrange them from heaviest, lighter and lightest.

Ask the children comparison questions about the weight of the objects, e.g. 'Which item is the heaviest?' and 'Which item is lighter than the can of fish?', using the words from the lesson objective.

Take note of those children who were not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children a range of items to be weighed:

1. A packet of rice
2. A can of corned beef
3. A can of tinned fish
4. A full 600 ml bottle of water or similar.

Tell the children to weigh the items on the beam balance and then describe their known weights using the words 'light', 'lighter', 'lightest', 'heavy', 'heavier' and 'heaviest'.



## LESSON TOPIC: Beam balance

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** NiL

### 1 OBJECTIVE

Understand why beam balances are more accurate than weighing things with hands.

### 2 STARTER

Explain to the children that the measuring equipment humans build is much more reliable than humans themselves when making measurements.

Tell the children that a good example is the topic for this lesson: why a beam balance is more accurate in weighing objects than human hands.

### 3 INTRODUCTION

Discuss the problems with weighing objects by hand. If a person was happy and ate a good meal and was full of energy, an object might very light even though it may be heavy.

On the other hand, if person was upset and hungry and tired, the same object may feel heavy on the hands. Humans have feelings that can affect how we feel the weight of the object.

Equipment that have no feelings, like the beam balances, are best at measurements as they aren't influenced by other things. The weight always seems the same to the beam balance.

### 4 TEACHER AND STUDENT ACTIVITY

Tell the children to weigh the weight of corned beef with their hands.

Do the same with a can of tinned fish.

Then weigh both of this each time on the beam balance.

Tell the children to explain how the weights differ from the two different methods used. Try to get them to describe the feelings that they felt when they weighed the heavier objects, such as whether their hands became tired.

### 5 CONCLUSION AND ASSESSMENT

Put the children into pairs and give them a small packet of rice to weigh with their hands.

Then tell them to compare by weighing the rice for a second time on a beam balance.

Ask them why it is useful to measure things on a beam balance instead of just by hand.

Take note of those children who were not able to do this and those who found it easy too easy. Make a note of these results in the class assessment folder.



## LESSON TOPIC: Using Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

### 1 OBJECTIVE

Use addition by counting forwards on a number line from 0 to 20.

### 2 STARTER

Say, 'I'm thinking of a number between 1 and 10.'

Tell the children to ask 'more than' and 'less than' questions to find out your number, e.g. 'Is it more than 5?'

If it is, say, 'Yes' and remind the children the only number it can now be is 6, 7, 8, 9 or 10.

They should then ask other 'more than' or 'less than' question until they find your number.

Repeat this activity with other numbers.

### 3 INTRODUCTION

Draw a 0 to 20 number line on the board.

Write  $3 + 6 =$  on the board.

Show the frog to the children. Show them how the frog starts on 3 and hops forwards by 6 on the number line. Remind them that the number it lands on is the answer. Write the answer [9].

Write  $13 + 6 =$  on the board.

Tell the children to count the frog hops along the number line to find the answer. Write the answer [19].

Show them the pattern in the two answers:  
 $3 + 6 = 9$ ,  $13 + 6 = 19$ .

Write  $4 + 4 =$  and use number line to find the answer [8].

Ask the children to guess the answer to  $14 + 4 =$  [18]

Check their answers using the number line. Repeat this activity with other numbers.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give them a number line.

On the board write 5 pairs of sums, e.g.  $4 + 2 =$  and  $14 + 2 =$

Tell the children to use the number line to solve the first sum and then guess the answer to the second sum. Use the number line to check their answer. Tell them to write down the number sentences and say them out loud.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their answers. Ask them to explain to the class how they solved it. Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Using Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

### 1 OBJECTIVE

Use addition by counting forwards on a number line from 0 to 50.

### 2 STARTER

Show the children 1 finger. Ask them how many more you need to make 7.

Repeat this activity showing 2, 3, 4, 5 and 6 fingers.

Repeat by changing the order of the number of fingers you show.

### 3 INTRODUCTION

Draw a 0 to 50 number line on the board.

Write  $23 + 6 + 4 =$

Using the frog, start at 23. Count forwards by 6 frog hops along the number line and then another 4.

Write in the answer and say it out loud [33].

Write another sum on the board and do the same activity, e.g.  $28 + 9 + 4 =$

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and give them a number line.

On the board write 10 sums, e.g.  $31 + 8 + 9 =$

Tell the children to use the number line to find the answers. Write down the number sentences and say them out loud.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their answers. Ask them to explain to the class how they did it. Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Take note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Using Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

### 1 OBJECTIVE

Confidently count forwards and backwards in twos and fives.

### 2 STARTER

Show the children 1 finger. Ask them how many more you need to make 7.

Repeat this activity showing 2, 3, 4, 5 and 6 fingers.

Repeat by changing the order of the number of fingers you show.

### 3 INTRODUCTION

Starting at 2, count forwards and backwards in twos from 2 to 50 together.

Repeat slowly then repeat quickly.

Start at 5 and count forwards and backwards in fives from 5 to 50.

Repeat slowly then repeat quickly.

Use a 1 to 100 number square if needed.

### 4 TEACHER AND STUDENT ACTIVITY

On the board write: 4, 6, \_\_, 10, 12.

Put the children into pairs to work out which number is missing between 6 and 10.

On the board, write 8 more sequences of numbers with one number missing for the children to solve, e.g. 20, 25, 30, \_\_, 40.

Move around the classroom, assessing the children by listening to them. Give them help where needed. If some children are finding it too easy, give them bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their answers. Ask them to explain to the class how they worked out the missing number. Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Using Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Know that addition is the opposite of subtraction.

## 2 STARTER

Show the children 1 finger. Ask them how many more you need to make 9.

Repeat this activity showing 2, 3, 4, 5, 6, 7 and 8 fingers.

Repeat by changing the order of the number of fingers you show.

## 3 INTRODUCTION

Write on the board  $4 + 5 =$

Ask the children the answer and write it on the board [9].

Next to this, write  $9 - 5 =$

Ask the children the answer and write it on the board [4].

Say, ' $4 + 5 = 9$ ' and ' $9 - 5 = 4$ '.

Explain that subtraction cancels out the addition. When you take away 5 you get back to 4, the number you started with. This means that subtraction is the opposite of addition.

Repeat with  $5 + 4 =$  and  $9 - 4 =$

Then repeat with other numbers, e.g.  $22 + 7 =$

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their addition and subtraction answers.

Ask them to explain to the class how they worked out the answers.

Check to see if the class agrees with their answers and the way they did it.

Check to see if they tell you that subtraction is the opposite of addition?

Repeat this with 2 more pairs.

Take note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Write 3 more problems on the board, e.g.  $12 + 6 =$ ,  $23 + 4 =$  and  $31 + 8 =$

Tell the children to do the addition and then undo the addition with a subtraction.

Write down the number sentences and read them out loud.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them bigger numbers.





**LESSON TOPIC:** Addition Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Check answers to addition problems by doing subtractions, e.g.  $5 + 4 = 9$ ,  $9 - 4 = 5$  and  $9 - 5 = 4$ .

## 2 STARTER

Show the children 1 finger. Ask them how many more you need to make 10.

Repeat this activity showing 2, 3, 4, 5, 6, 7, 8 and 9 fingers.

Repeat by changing the order of the number of fingers you show.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their addition and subtraction answers. Ask them to explain to the class how they did it. Check with the class to see if they agree with their answer and the way they did it.

Remind them that the subtraction undoes the addition and that subtraction is a way of checking your addition.

Repeat this activity with 2 more pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Record this information in the class assessment folder.

## 3 INTRODUCTION

Write on the board  $12 + 3 =$

Ask the children for the answer and write it in [15].

Next to this, write  $15 - 3 =$

Ask the children the answer and write it in [12].

Say, ' $12 + 3 = 15$ ' and ' $15 - 3 = 12$ '.

Explain that the subtraction undoes the addition, so when you take away 3 you get back to 12, the number you started with.

Explain how this is a way of checking that your addition sum is correct.

Repeat with  $11 + 3 =$  and  $14 - 3 =$ .

Then repeat with other numbers, e.g.  $33 + 5 =$

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Write 3 more problems on the board, e.g.  $22 + 6 =$ ,  $33 + 4 =$  and  $41 + 5 =$

Tell children to do the additions. Then tell them to undo the additions with a subtraction to check their answer. Tell them to write down the number sentences and read them out loud as they do this.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them bigger numbers.



**LESSON TOPIC:** Subtraction simple case

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Use flashcards to do subtractions with single digit numbers and with double digit numbers.

## 2 STARTER

Write a number between 1 and 50 on the board.

Ask the children to say the number.

Ask them to say the number that is 2 less and the number that is 2 more than the number you wrote.

Repeat this activity with different numbers.

## 3 INTRODUCTION

Tell the children that your rule is to 'take away 5'.

Show the children a flashcard which is a multiple of 5. Tell them to start at that number and to use their fingers or the 100 square to count backwards.

Repeat the activity with other multiples of 5.

Change your rule to 'take away 10' and repeat.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their subtractions.

Ask them to explain to the class how they did it.

Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.

## 4 TEACHER AND STUDENT ACTIVITY

Give the children flashcards for 10, 20, 30, 40, 50. Tell them a new rule, e.g. to 'take away 4' or 'take away 15'.

Tell them to use the flashcards and follow your rule.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.



**LESSON TOPIC:** Addition Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Use objects to show that the meaning of sums like ' $6 - 2$ ' and ' $2 - 6$ ' are not the same.

## 2 STARTER

Write a number between 1 and 50 on the board.

Ask the children to say the number.

Ask them to say the number that is 2 less and the number that is 2 more than the number you wrote.

Repeat this activity with different numbers.

## 3 INTRODUCTION

Tell the children that your rule is 'take away 5'. Show them a flash card which is a multiple of 5.

Tell them to start at the number and use their fingers or the 100 square to count back.

Repeat with other multiples of 5.

Change your rule to 'take away 10' and repeat.

## 4 TEACHER AND STUDENT ACTIVITY

Give the children flashcards for 10, 20, 30, 40, 50 and give them a new rule e.g. subtract 4 or take away 15.

Tell them to use the flash cards and follow your rule.

Move around the class assessing the children by listening to them. Give help if needed. If some children are finding it too easy give them bigger numbers.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their subtractions. Ask them to explain to the class how they did it. Does the class agree with their answer and the way they did it? Repeat with 2 more pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Use flashcards to do subtraction problems that do not involve carrying over.

## 2 STARTER

Show the children 10 pegs on a coat hanger. Ask them how many pegs there are.

Split the pegs into 6 and 4. Write  $6 + 4 = 10$ .

Ask the children to tell you a subtraction problem with these numbers, e.g.  $6 - 4 = 2$ .

Write it on the board.

Split the 10 pegs into other pairs on the coat hanger, e.g.  $3 + 7$ , and repeat the activity.

Remind the children that in addition problems you can add the numbers in any order but in subtraction problems the bigger number should come first.

## 3 INTRODUCTION

Tell the children that your rule is to 'take away 6'.

Show them a flashcard between 10 and 50.

Tell them to start at that number and use their fingers to count backwards by 6.

Write down the number sentence and repeat the activity with other numbers.

Change your rule to 'take away 9' and repeat this activity with other numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give them flashcards from 10 to 50. Give them a new rule, e.g. 'take away 7' or 'take away 8'. Tell them to write down their number sentences.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show the class one of their number sentences.

Check to see if the class agrees with their answer. Ask someone to explain that in subtraction the bigger number must come first.

Repeat this activity with 2 more pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



## LESSON TOPIC: Subtraction Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

### 1 OBJECTIVE

Do subtractions by counting backwards on a number line.

### 2 STARTER

Show the children 2 numbers between 1 and 50.

Ask them which number is bigger and which number is smaller.

Ask if the numbers are more than 25 or less than 25.

Repeat this using different numbers.

### 3 INTRODUCTION

Write  $27 - 6 =$  on the board.

Draw a number line from 0 to 30 on the board. Show them how to use it to solve the problem.

Introduce the frog picture. Use it on the number line, showing how it starts on 27 and hops backwards by 6 places.

Count the number of hops together. Show how the number it lands on is the answer.

Write  $27 - 6 = 21$  and remind them to put the big number first in subtraction problems.

Show the children how to check their answer by hopping forwards 6 numbers.

Show how the number it lands on is the number you started with.

Repeat this with other numbers.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Give them a number line from 0 to 30.

Write 10 subtraction problems on the board.

Tell the children to use their number lines to solve them and write down the number sentences for each problem.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.

### 5 CONCLUSION AND ASSESSMENT

Pick one pair to show the class one of their subtraction problems.

Ask them to explain how they used the number line.

Check to see if the class agrees with their answer.

Repeat with 2 more pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction with Numbers

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.4

## 1 OBJECTIVE

Do subtractions by counting backwards on a number line.

## 2 STARTER

Put your hands behind your back.

Bring them out holding up 6 fingers before quickly hiding them again.

Tell the children to show you the same number of fingers.

Ask how many more you need to make 20.

Repeat this activity with other numbers.

## 3 INTRODUCTION

Write  $36 - 4 =$  on the board.

Draw a number line from 1 - 50.

Show the frog starting on 36 and hopping backwards by 4 places.

Tell the children to count the number of hops with you. Remind them that the number it lands on is the answer.

Write  $36 - 4 = 32$ . Remind the children that you put the biggest number first in subtraction.

Show them how to check their answer by hopping forward by 8 numbers. Show how the number it lands on is the number you started with.

Repeat this activity with other numbers.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show the class one of their subtraction problems.

Ask them to explain how they used the number line. Check to see if the class agrees with their answer.

Repeat this activity with 2 more pairs.

Take note of those children who are not able to solve the problems and those who are finding it too easy. Record this information in the class assessment folder.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Write 10 subtraction problems on the board. Give the children a number line and tell them to use it to solve the problems in their pairs.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them bigger numbers.



**LESSON TOPIC: Capacity**

**STRAND: Quantities and Measurement**

**CONTENT STANDARDS:**

**1 OBJECTIVE**

Know the meaning of the words 'capacity', 'full', 'empty', 'nearly full' and 'nearly empty'.

**2 STARTER**

Look at different sized containers in the classroom like different sized cups, bottles, and jars.

Compare 4 containers of different sizes.

Ask the children, 'Which is the biggest?', 'Which is bigger?', 'Which is the smallest?' and 'Which is smaller?'

Arrange the containers in size order based on the children's answers.

Explain that 'capacity' is how much will fit inside the bottles.

Ask, 'Which has the biggest capacity?' and 'Which has the smallest capacity?'

**3 INTRODUCTION**

You may want to take the children outside whilst they will be working with water.

Get 5 bottles of equal size.

Show the children a plastic water bottle that is completely filled with water. Then show them another equal sized water bottle only half filled with water, a bottle nearly full, another that is nearly empty and another bottle which is completely empty.

Ask what words do the class know to describe them? Introduce the words: 'full', 'half full', 'empty' and 'nearly empty'. Point to the appropriate bottle as you say the key words, then point to different bottles and ask the class to say the words back to you.

**4 TEACHER AND STUDENT ACTIVITY**

Put the children into pairs. Give each pair a large, empty jug and several smaller containers, full of water. Ask the pairs to pour out only a little bit of water from the containers, into the jug. They should see the containers are still nearly full of water. They should see that the jug is still nearly empty.

Ask them to pour out about half of the water from each smaller container into the jug. Ask them to check with their neighbour groups to see if they got to half way with the smaller containers. Check that the class has managed to do this before continuing. Ask, 'How full is the jug now?' It should be about half full. Ask the children to pour out nearly all of the water from the containers into the jug.

Check that they got this right. The next time round, the children will pour all of the water out of the containers into the jug. Now the students will note the bottle has no more water in it. It is therefore empty.

If there is time, ask them to fill up the containers again with the jug, in reverse order, to show empty, nearly empty, half full, nearly full and full. Keep using the language with the children repeating after you.



**5 CONCLUSION AND ASSESSMENT**

Show the children bottles of water, filled to different levels.

Ask them how full they are.

Make a note of any children who could not complete the task and consider putting them with a different partner for tomorrow's lesson.



**LESSON TOPIC: Capacity - Measurement**

**STRAND: Quantities and Measurement**

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Estimate and count how many spoonfuls of water will fill different cups and jugs.

## 2 STARTER

Sing a counting song with the children.

## 3 INTRODUCTION

Show the children a large spoon and a small cup.

Ask them to think for a moment then guess how many spoonfuls of water will be needed to fill up the cup.

Show them a spoonful of water measured out.

Ask the children to count along as you fill up the cup with the spoonfuls of water.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a jug of water, a spoon and a small cup or container.

Tell the children that they should first estimate how many spoonfuls will fill up the cup.

Then the pairs will fill up the cup with water using a spoonful each time.

As they do so, they should count the number of spoonfuls they have poured.

If any children finish early, swap around the cups with another pair so that they have something of a different size to test and repeat the activity with.

## 5 CONCLUSION AND ASSESSMENT

Gather the children together.

Show them 3 cups of different sizes.

Ask 3 children to fill a cup each, all putting in 1 spoonful of water at the same time.

Ask them, 'Which will fill first?'

Encourage them to say sentences such as, 'The smallest cup fills first/quickly' and 'The biggest cup fills last/slowest'.

Take Note which children had trouble counting or performing the task and put them with different partners for tomorrow's lesson.



## LESSON TOPIC: Capacity

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

### 1 OBJECTIVE

Know how to use 1 litre measurements.

### 2 STARTER

Sing a counting song with the children.

### 3 INTRODUCTION

You may want to take the children outside whilst they will be working with water.

Show the children a 1 litre jug and a 1 litre plastic bottle.

Ask them if one is bigger than the other.

Explain that although the containers may have different shapes, e.g. one may be taller, the other wider, the 2 different containers can hold exactly the same amount of water each.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a 1 litre jug full of water and an empty 1 litre bottle.

Ask them to try to pour all the water from the jug into the bottle.

The water should fill up the bottle.

Then they should pour it back into the jug.

Ask them, 'How much did you spill?' Try and encourage them to use words like 'most', 'some', 'none' and 'all'.

Remind the children that they will see that the 2 different shaped containers hold exactly 1 litre of water each.

### 5 CONCLUSION AND ASSESSMENT

Show the children a third container.

Ask them if they think it holds more or less than a litre.

Check by pouring water into it from the jug.

Ask, 'Did it fill up?' and 'Was there any water left in the jug?' and 'Is the new container bigger than a litre or smaller?'

Check which children had difficulty pouring water and consider putting them with a different partner for tomorrow's lesson.



**LESSON TOPIC:** Capacity - Estimate

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Estimate and measure how many cups of water can be poured from a 1 litre bottle of water.

## 2 STARTER

Sing a counting song with the children.

## 3 INTRODUCTION

You may want to take the children outside whilst they will be working with water.

Show the children a cup. Then show them a 1 litre bottle full of water.

Explain that they will count how many cups it will take to empty the bottle.

Ask them to make some guesses before they begin.

Demonstrate how they should begin the main activity below first.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a 1 litre bottle filled with water and an empty cup.

Ask them to fill the cup from the bottle, empty it and count each full cup.

Repeat until the bottle is completely empty.

Ask them to check their result by filling the cups of water, then pouring them into the jug until it is full, counting each cup as they go.

Ask if they got the same number. Ask, 'If not, why not?'

## 5 CONCLUSION AND ASSESSMENT

Line up a set up cups.

Using a 1 litre jug, start filling them up with water, starting with the cup on the left.

When the first cup is full, fill the second and so on until the litre is empty.

Ask the children to estimate how many more litres it will take to fill all the cups.

Fill all the cups and keep count of how many litres it took.

Make a note of which children could not count well or pour carefully. Put them with different partners for tomorrow's lesson.



**LESSON TOPIC:** Capacity - Units

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Understand why we use standard units to measure capacity.

## 2 STARTER

Sing a counting song with the children.

## 3 INTRODUCTION

Show the children a 1 litre jug and a 1 litre bottle.

Explain to them that they are the same size.

Explain that a litre is the standard unit for all liquid measurement.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children a big dish or bowl full of water and an empty 1 litre jug.

Fill up the 1 litre jug using the big dish of water.

Empty the jug and repeat the activity, counting each time, until the big dish of water is completely empty.

Ask the children how many litres there were in the bowl. Check the answer by using the litre jug to fill the bowl up again, with the whole class counting along.

Put the children into pairs, giving each pair a big dish or bowl full of water, and an empty 1 litre jug.

Ask the children to count how many 1 litre jugs it takes to empty the bowl, and then count how many it takes to fill it again.

Ask if they got the same number. Ask, 'If not, why not?'

## 5 CONCLUSION AND ASSESSMENT

Show the children three different sized large bowls and ask them which is bigger or smaller.

Put the bowls in size order and then check it, using a 1 litre jug to fill them, with the children counting along.

Point out that all litres are the same, so we can compare sizes easily.

Make a note of which children could not count well or follow the concept of filling a container and note it down in the class assessment folder.



## LESSON TOPIC: Calender

**STRAND: Quantities and Meausurement**

**CONTENT STANDARDS: 1.2.3**

### 1 OBJECTIVE

Know that a calendar tells us the date of every day in the year and when important things happen.

### 2 STARTER

Sing a number song with the children.

### 3 INTRODUCTION

Ask the children what day it is. Check to see if they know the date.

Ask if they know the names of the months of the year.

Ask them what things they do which help them to keep track of time. They should identify things like clocks, watches and phones.

Introduce the word 'calendar'.

Bring out 12 cards, with the names of the months written at the top.

Put the cards along the top of the board, in order, and read through them, with the children repeating them after you.

### 4 TEACHER AND STUDENT ACTIVITY

List, on the right hand side of the board, several important events in the year, with their dates, mixed up.

Include in the list: today, school holidays, Independence Day and Christmas.

Ask the children if they know when their birthday is.

Tell them you are going to make a big calendar for the classroom and you want to put their birthdays on.

Demonstrate how to write the example dates you have on the board onto the month cards.

Ask the children to write out their names, decorated colourfully, to fit the cards for each month of the year.

You may get several children on one card, so try to make sure there is enough space for them.

As some children may not know their birthdays, use the school records to find them out before the lesson.

### 5 CONCLUSION AND ASSESSMENT

Ask the children to come up to the front with their names and put them on the correct month card, with a number for the day of the month next to their name.

Arrange the names in number order, with the children helping you.

Put the calendar up as a permanent display and use it as a reminder of your children's birthdays.

Check whose birthday is coming up soon. Ask, 'Do they have any plans for it?'

Check who had a birthday recently. Ask, 'Did you do anything special for it?'

Note down any children who did not know their birthday or could not put their name on the correct month.



## LESSON TOPIC: Calender

**STRAND: Quantities and Meausurement**

**CONTENT STANDARDS: 1.2.3**

### 1 OBJECTIVE

Read the dates on the calendar for today and yesterday.

### 2 STARTER

Sing a number song with the children.

### 3 INTRODUCTION

Draw a calendar page for the current month on the board.

Ask the children if they know what day it is.

Ask them if they know the month and the date.

Choose a child to point to the correct date on the board.

Then explain how a calendar page is organized.

Count through the days of the month, with the children telling you what day of the week each date is.

Ask, 'What day was yesterday?' and 'What date was yesterday?'

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Tell children to think of things they did over the last week. They should discuss this in their pairs.

Tell them to write down what day they did these things on.

Tell the children to write out a table with the last few days and their dates on and ask them to fill in their little calendars with the things that they did or happened to them.

### 5 CONCLUSION AND ASSESSMENT

Read through the children's calendars, asking them questions such as, 'Did that happen yesterday? Or the day before yesterday?' Keep repeating the day and date.

Put the children into new pairs. Tell them to talk about their activities.

Make a note of any children having trouble identifying which day they did things or relating the dates to the days and the calendars.



**LESSON TOPIC:** Time -Calendar

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.3

## 1 OBJECTIVE

Read the dates on the calendar for today and tomorrow.

## 2 STARTER

Sing a number song with the children.

## 3 INTRODUCTION

Draw a calendar page for the current month on the board.

Ask the children if they know what day it is 'today' and remind them this is different from 'yesterday'. Ask the children if they know the month and date.

Choose a child to point to the correct date on the board and remind them how a calendar page is organized.

Count through the days of the month with children telling you what day of the week each date is. Ask, 'What day will tomorrow be?' and 'What date will tomorrow be?'

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Tell the children to think of things they would like to do in the next week.

Encourage them to be imaginative. Give examples such as a trip to somewhere special or a day with someone they love.

Tell them to discuss the answers in their pairs.

Explain that they should write down what day they would like to do their activities on. Tell the children to write out a table with the next few days and their dates on and ask them to fill in their little calendars with the things that they would like to do on the days they want to do them.

## 5 CONCLUSION AND ASSESSMENT

Read through the children's calendars, asking them questions like, 'Would you like to do that tomorrow? Or the day after tomorrow?' Keep repeating the day and date.

Put the children into new pairs. Tell them to talk about their activities.

Take note of which children who had trouble identifying which day they did things or relating the dates to the days on the calendars.





**LESSON TOPIC:** Clock face

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.3

## 1 OBJECTIVE

Read the time on a clock face to the hour.

## 2 STARTER

Sing a counting song with the children which goes up to the number 12.

## 3 INTRODUCTION

Show the children 2 big clock faces, without numbers. Use 1 for the morning and 1 for the afternoon.

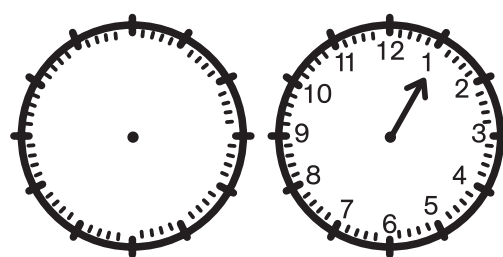
Ask the children if they know where the numbers go.

Write the numbers on the clocks, with their help.

Start with a 12 at the top and a 6 at the bottom.

Ask, 'What time is it when the sun comes up?' and 'What time is it when does the sun go down?'

Ask the children about activities they do during the day and draw them outside the clock faces.



## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and ask them to choose some activities they enjoy and draw them.

Underneath each activity they should draw a clock face showing the time that they do them.

Using the clocks on the board, draw on the hand showing 1 o'clock in the morning.

Ask the children if anyone has anything they like doing at this time. Ask them what they are doing, e.g. 'Are you sleeping or dreaming?'

Change the time to 2 o'clock in the morning and ask again.

Continue this until you get to midnight.

## 5 CONCLUSION AND ASSESSMENT

Put a random time on the board and ask the children to read it and stand up holding their picture if it is the time of one of their activities that they drew earlier.

Ask all children to read the time, looking carefully at the clock hands.

Repeat with other times that children chose to do different things at.

Note down the names of any children who had trouble reading the time.



**LESSON TOPIC:** Clock face

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:** 1.2.3

## 1 OBJECTIVE

Read the time on a clock face to the closest half hour.

## 2 STARTER

Sing a counting song with the children which goes up to the number 12.

## 3 INTRODUCTION

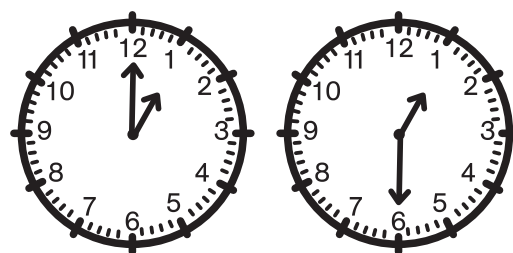
Show the children a clock face.

Ask them if they know what a clock face looks like when it is in between hours.

Show them how the minute hand moves around the clock, and how the hour hand follows it more slowly as it moves to the next number.

Show the children some examples of clocks which are on the hour or at half past the hour.

Ask them which ones are on the hour and which ones are at half past.



## 5 CONCLUSION AND ASSESSMENT

Read through some of the children's activities, noting the times.

Ask questions about the activities, such as, 'At what time will you eat?', 'When do you listen to a story? Then what will you do?' and 'What time will that be?' Point out the clock hands to the class as you go through their answers.

Note down the names of any children who could not draw a clock or answer questions about the time in the class assessment records.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and ask them to choose some daily activities they enjoy and draw them.

Ask, 'If you start at 12 o'clock, and the activity takes half an hour, at what time will you start the next activity?'

Tell them to draw clock faces beneath their activities and arrange them in time order.



## LESSON TOPIC: Monies

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

### 1 OBJECTIVE

Recognise 5t, 10t, 20t, 50t, and K1 coins.

### 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children to stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

### 3 INTRODUCTION

Ask if the children have ever seen any money.

Ask them what types of coin they know.

Using real or paper copies of coins, show the class 5t, 10t, 20t, 50t and K1 coins.

Ask them to identify what animal they see on each coin. Ask, 'What type of shapes are they?', 'How big are they?', 'Do any have holes in?' and 'What are they made of?'

### 4 TEACHER AND STUDENT ACTIVITY

Put large pictures of the coins on the board.

Ask the children to draw the coins on separate pieces of paper and write how much they are worth underneath.

Tell them to try and put them in the correct order according to their value.

Get them to check their answers with their neighbours.

Check for mistakes. Ask, 'Did you all agree?'

### 5 CONCLUSION AND ASSESSMENT

Ask children if they know which coin is worth the most.

Ask, 'Which has the smallest value?' and 'How many 5t coins do you need to make 20t?'

Make a note of any children who had trouble ordering the coins.



## LESSON TOPIC: Money

**STRAND: Quantities and Measurement**

**CONTENT STANDARDS:**

### 1 OBJECTIVE

Exchange 5t, 10t, 20t, 50t and K1 coins up to the value of K1.

### 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

### 3 INTRODUCTION

Display large pictures of the coins from yesterday's lesson (5t, 10t, 20t, 50t and K1).

Ask the children to name the different coins and arrange them from the smallest value to the largest.

Demonstrate how you can add coins by putting together 2 10t coins to make 20t, 3 10t coins to make 30t and all the way up to 10 10t coins to make K1.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of example coins.

Ask the children to draw a K1 coin on one side of the paper and then draw enough 5t coins (or 10t coins, or 20t coins) on the other side of the paper to make it equal to K1.

Ask them to check their work with another pair.

Check to see if they all agree and check for mistakes.

For less confident children, start them with a 20t (or 50t) coin and tell them to draw enough 5t to make 20t (or 50t).

### 5 CONCLUSION AND ASSESSMENT

Check their work for mistakes.

Ask them if any of the tasks were hard and ask them which were easier to do.

Hold up a big 50t coin and ask them to show on their fingers how many 10t coins make the value of 50t.

Repeat the activity with similar questions.

Make a note of any children who could not answer or made mistakes on the written work. Put them into different pairs for tomorrow's lesson.



## LESSON TOPIC: Monies

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

### 1 OBJECTIVE

Recognise K2, K5, K10, K20 and K50 notes.

### 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

### 3 INTRODUCTION

Ask if the children have ever seen any plastic money (notes).

Ask them what types of note they know and if they know the colours of the different notes.

Ask, 'What pictures are on the notes?'

Use paper copies of the notes. Show the class K2, K5, K10, K20 and K50 notes and ask them what picture they see on each. Ask what colour they are.

### 4 TEACHER AND STUDENT ACTIVITY

Put large pictures of the notes on the board.

Tell the children to draw them, then colour them in, on separate pieces of paper and write how much they are worth underneath.

Tell them to try and put them in order of value.

Get them to check their work with their neighbours.

Check for and mistakes and to see if they all agree.

### 5 CONCLUSION AND ASSESSMENT

Ask the children if they know which note is worth the most.

Ask, 'Which has the smallest value?' and 'How many K2 do you need to make K10?'

Take note of any children who had trouble with ordering the notes.



## LESSON TOPIC: Exchanging Monies

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

### 1 OBJECTIVE

Know how to exchange K2, K5, K10, K20 and K50 notes.

### 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

### 3 INTRODUCTION

Display the pictures of the notes from yesterday's lesson (K2, K5, K10, K20 and K50) and ask the children to name them and then arrange them from the smallest value to the largest value.

Demonstrate how to add notes together by putting 2 K10 notes to make K20, 3 K10 notes make to K30, all the way up to 5 K10 notes to make K50.

### 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of example notes.

Tell the children to draw a K50 note on one side of the paper, then to draw enough K10 notes on the other side of the paper (or K5 notes) to make it equal to K50.

Ask them to check their work with another pair.

Check for mistakes and to see if they all agree.

For less confident children, start them with a K10 (or K20) note.

### 5 CONCLUSION AND ASSESSMENT

Check their work for mistakes.

Ask if any were hard and which were easy to exchange.

Hold up a K50 note and ask them to show on their fingers how many K10 notes make a K50 note.

Repeat, with similar questions.

Take note of any children who could not answer or made mistakes on the written work. Put them into different pairs for tomorrow's lesson.



**LESSON TOPIC:** Money -Add and Subtract

**STRAND:** Number and Operation

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Solve addition and subtraction problems involving money.

## 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children to stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

## 3 INTRODUCTION

Bring out the play money.

Show the children the coins and notes.

Ask them about the pictures, numbers and colours.

Ask which ones they know and which they have seen before.

Ask them if they have ever gone shopping.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair some picture cards showing items with prices less than K10.

Tell them to put the cards into pairs and find out how much each pair would cost, using whatever method of addition they have had most experience with, e.g. columns, decompositions, etc.

Tell the children to draw their items on paper, with the addition sum written underneath them.

Ask pairs to swap their work with another pair and check it for each other. Check to see if they agree.

Show the children how to check their answers by doing a subtraction.

Tell the children to swap sheets again and check the answers by doing a subtraction on another pair's work.

## 5 CONCLUSION AND ASSESSMENT

Check the calculations are correct and help any children who are struggling.

Discuss shopping.

Ask, 'Which of these items have you seen bought before?' and 'Do the prices seem right?'

Make a note of any children who could not complete the additions or subtractions in the class assessment folder.





**LESSON TOPIC:** Money Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate how many small objects can be bought with 50t.

## 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children to stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

## 3 INTRODUCTION

Ask the children, 'How many fives make 50?' [10] Tell them to show you on their fingers.

Ask, 'How many tens make 50?' [5]

Show children a coloured bead. Tell them it costs 5t.

Ask, 'How many can you buy for 50t?' [10]

Tell them that they are going to work out how many things they can buy with 50t.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of items with different prices, e.g. 1 pebble for 1t, 1 stick for 2t, 1 leaf for 5t and 1 button for 10t. Make sure the prices will go exactly into 50t.

Ask the children to draw a big 50t coin on the left side of their paper.

Then they will draw enough of each of the items to make 50t on the right side of their paper and write the number of items they can buy underneath.

Tell them to check their answers with another pair. Check to see if they all agree.

## 5 CONCLUSION AND ASSESSMENT

Ask some of the children to show their work to the class and check them for mistakes.

Check to see if everyone agrees.

Make a note of any children who struggled with this activity and put them into different pairs for tomorrow's lesson.



## LESSON TOPIC: Money Problem

### STRAND: Number and Operation

#### CONTENT STANDARDS:

## 1 OBJECTIVE

Calculate how many small objects can be bought for K1.

## 2 STARTER

You should have a 100 square on display for this lesson.

With the children, count in fives up to 100.

Tell the children stand up when you say the tens and sit down when you say the fives, e.g. 5 (sit), 10 (stand), 15 (sit), 20 (stand).

Repeat the activity with other actions instead.

## 3 INTRODUCTION

Ask the children, 'How many twenties make 100?' [5] Tell them to show you on their fingers.

Ask, 'How many tens make 100?' [10]

Show the children a button. Tell them it costs 10t.

Ask, 'How many can I buy for K1?' [10]

Tell them they are going to work out how many things they can buy with 100t, which is the same as K1.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of items with prices, like yesterday, but with values of 10t, 20t and 50t, making sure the prices will go exactly into K1.

Ask the children to draw a big 50t coin on the left side of their paper.

Then they will draw enough of the different items to make K1 on the right side of their paper and write the number of items they can buy underneath.

Tell them to check their answers with another pair. Check to see if they all agree.

## 5 CONCLUSION AND ASSESSMENT

Ask some of the children to show their work to the class and check them for mistakes.

Check to see if everyone agrees.

Take note of any children who struggled with this activity and put them into different pairs for tomorrow's lesson.



**LESSON TOPIC: Money Problem**

**STRAND: Number and Operation**

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate the biggest number of items that can be bought with 50t.

## 2 STARTER

You should have a 100 square on display for this lesson.

With the children, chant through the 6 times table.

Ask the children some quick-fire questions on the 6 times table.

## 3 INTRODUCTION

Ask the children how many sixes will fit into 50 [8].

Tell them to show you on their fingers.

Point out that they can only have 8, because  $9 \times 6$  is too much [54].

Ask, 'How many elevens fit into 50?' [4]

Show children a coloured bead. Tell them it costs 6t.

Ask, 'How many can I buy for 50t?' [8]

Tell them they are going to work out how many things they can buy with 50t, for different things.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of items with prices, like yesterday, but make sure the prices will not go exactly into 50t.

Ask the children to draw a big 50t coin on the left side of their paper.

Then they will draw enough of the items to make 50t on the right side of their paper and write the number of items they can buy underneath.

Tell them to check their answers with another pair. Check to see if they all agree.

## 5 CONCLUSION AND ASSESSMENT

Ask some of the children to show their work to the class and check them for mistakes.

Check to see if everyone agrees.

Make a note of any children who struggled with this activity and put them into different pairs for tomorrow's lesson.



## LESSON TOPIC: Money Problem

### STRAND: Number and Operation

#### CONTENT STANDARDS:

## 1 OBJECTIVE

Calculate the biggest number of items that can be bought with K1

## 2 STARTER

You should have a 100 square on display for this lesson.

With the children, chant through the 11 times table.

Ask the children some quick-fire questions on the 11 times table.

## 3 INTRODUCTION

Ask the children how many elevens will fit into 100? [9]

Tell them to show you on their fingers.

Point out that they can only have 9, because  $10 \times 11$  is too much [110].

Ask, 'How many eights fit into 100?' [12]

Show the children a coloured button. Tell them it costs 11t.

Ask, 'How many can you buy for K1, which is the same as 100t?' [9]

Tell them they are going to work out how many things they can buy with K1, for different things.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair a set of items with prices, like yesterday, again making sure the prices will not go exactly into K1.

Tell the children to draw a big K1 coin on the left side of their paper.

Then they draw enough of the items to make K1 on the right side of their paper and write the number of items they can buy underneath.

Tell them to check their answers with another pair. Check to see if they all agree.

## 5 CONCLUSION AND ASSESSMENT

Ask some of the children to show their work to the class and check them for mistakes.

Check to see if everyone agrees.

Take note of any children who struggled with this activity and put them into different pairs for tomorrow's lesson.



**LESSON TOPIC:** Money Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate how much change they should receive up to a value of K1.

## 2 STARTER

Play 'I say, you say', using subtraction rules, e.g. 'The rule is to subtract 2'.

## 3 INTRODUCTION

Show the children a K1 coin.

Ask the children about shopping. Ask, 'What can we buy with K1?' and 'Is there anything which is cheaper than K1?'

## 4 TEACHER AND STUDENT ACTIVITY

Set up several little shops areas in the classroom with pictures, price cards and some change and give the children K1 each.

Put the children into pairs.

Tell the children to take turns being the shopkeeper or the customers.

Walk around the different shops, making sure they are being careful to add up and give change correctly.

Tell the children to then draw the items they bought and show the calculations to get change from K1 underneath.



## 5 CONCLUSION AND ASSESSMENT

Discuss the pretend shops.

Ask, 'Were they like real shops?', 'What was the same?', 'What was different?', 'Did everyone agree on prices and change?' and 'What happens if there is a disagreement?'

For the last question they should say something like, 'Call the teacher' or, 'Work it out on paper'.

Check the calculations and make a note of any children who could not add or subtract in the class assessment folders.

**LESSON TOPIC:** Representing and Interpreting Data

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.2

## 1 OBJECTIVE

Collect any number of objects less than 50 and group them into their most obvious features, e.g. all green, round, stones, cans, etc.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians.'

Tell the children to sing the even numbers loudly and the odd numbers softly.

## 3 INTRODUCTION

Before the lesson, prepare lots of cards with some numbers, shapes and letters that the children know on them.

Tell the children that you are going to look at sorting things.

Hold up 2 of the cards, a shape and a letter. Ask the children if the 2 things belong together.

Put the shape on the board on the left. Put the letter on the board on the right.

Continue holding up cards, putting them in the right groups, until you are happy the children understand.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs and give out various sets of objects or cards to sort into the following:

1. Sort groups of objects by amounts (between 4 and 10) - 5 stones, 6 stones, 7 stones, 8 stones, 9 stones.
2. Sort objects by colours, e.g. red buttons, black beads, red ribbons, black paper, etc.
3. Sort day cards for all the days of the week, written in different colours.
4. Sort cards with names of children from the class with 3 letters, 4 letters, 5 letters, etc.

The children should work in their pairs to sort the cards and objects into 2 or more groups.

If they finish, ask them what rule they used. Give praise or help them improve. Give them another set of items.

## 5 CONCLUSION AND ASSESSMENT

The children should display their work and let others see them.

Discuss their criteria with your help.

Ask, 'Were there any difficult decisions?', 'Did you have to change the rules at all?' and 'Is there another way to organise the cards?' For example, days of the week (coloured) could be organised by word length or colour.

Note if any children had problems and consider changing their partner in tomorrow's lesson.



**LESSON TOPIC:** Representing and Interpreting Data

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.2

## 1 OBJECTIVE

Describe and write down the common feature of the objects in each group.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians.'

Tell the children to sing the even numbers loudly and the odd numbers softly.

## 3 INTRODUCTION

At the front of the classroom, sort some of the children by height from the tallest to shortest and let the children guess how they have been arranged.

Sort some other children by the length of their hair (or another rule) and ask the children to work out how they have been arranged.

## 4 TEACHER AND STUDENT ACTIVITY

Tell children to sort objects into 2 groups and let others guess the rule.

Put the children into pairs and sit 2 pairs together.

Give each pair a single set of number, shape, colour or name cards.

Let the pairs sort the cards out according to a rule.

Then they should look at the other pairs work and try to guess their rule, e.g.:

1. Even and odd numbers.
2. Shape (e.g. squares and circles).
3. Colours (e.g. reds and blues or favourite colours).
4. Names with 3 letters, 4 letters, 5 letters, etc.
5. Age (e.g. 6 year olds and 7 year olds)

Ask the children to think about whether the cards have anything else in common.

Tell the children to write down the features which the objects share.

## 5 CONCLUSION AND ASSESSMENT

Check to see if all pairs agreed the objects had been sorted according to a rule.

Ask, 'Were there any mistakes?' and 'How did you solve disagreements?'

Discuss the rules for the groups of objects, with the children saying why they chose those rules.





**LESSON TOPIC:** Representing and Interpreting Data

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.2

## 1 OBJECTIVE

Sort and write down the number of things that are in the classroom, e.g. the number of desks, tables and other objects.

## 2 STARTER

Sing the song '10 green bottles standing on a wall.'

Tell the children to sing the even numbers loudly and the odd numbers softly.

## 3 INTRODUCTION

Ask the children, 'What things in the classroom can we sit on?' [Chairs, desks, the floor, cushions, etc].

Put all of these objects on the board in one group.

Ask the children which objects in the classroom are made of wood, which have legs and which are flat.

Put them on the board in their groups.

## 4 TEACHER AND STUDENT ACTIVITY

Ask children to think of a quality which some things in the classroom share.

Tell them to write or draw all the things which share that quality.

Explain that they can use the ideas on the board if they like.

When they finish, they should show their work to another child who will try to guess their rule.

Then they should write the rule on their work.

## 5 CONCLUSION AND ASSESSMENT

Make sure the items follow the rule. Ask the children, 'Were there any mistakes?', 'How did you solve disagreements?', 'Were there any difficult decisions?' and 'Why?'

Discuss the rules for the groups of objects, asking the children to say why they chose those rules.



**LESSON TOPIC:** Representing and Interpreting Data

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.2

## 1 OBJECTIVE

Find out and record the number of children in the class who come from different areas.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians.'

Tell the children to sing the even numbers loudly and the odd numbers softly.

## 3 INTRODUCTION

Before the lesson, put a list of the children's names on the board.

Ask some of the children where they come from, e.g. which village or house or family, and write the places on the board, next to their names.

Ask the class how many children come from the different places mentioned.

Point out that it can be hard to see from a long mixed up list like this.

Write down a list of all the places given.

## 4 TEACHER AND STUDENT ACTIVITY

Tell the children to copy down the list.

They should then count how many children come from the first place and write that number down next to it.

They should do this for each place.

Tell them to check their work with a neighbour.

Ask them to check to see if they got the same numbers.

## 5 CONCLUSION AND ASSESSMENT

Check the work by counting with them and writing their answers on the board.

Show them they can check the answer is right by adding up the total and seeing if it is the same as the number of children.

Note down any children who could not count properly and record this in the class assessment folder.



**LESSON TOPIC:** Representing and Interpreting Data

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.2

## 1 OBJECTIVE

Observe, identify, group and record things in the environment according to their common features.

## 2 STARTER

Sing the song '1 little, 2 little, 3 little Indians.'

Tell the children to sing the even numbers loudly and the odd numbers softly.

## 3 INTRODUCTION

Put the children into pairs.

Take the children outside.

Get children to collect stones, leaves, sticks, beads, etc., and bring them back inside to their tables or desk tops.

## 4 TEACHER AND STUDENT ACTIVITY

Tell them to sort their objects according to a rule that they agree upon.

When they have finished, move the pairs around, but leave the objects.

Tell the children to draw the objects from another pair and try to work out the rule.

Move the pairs back to their objects to check the rule that the other pair guessed.

Ask, 'Did they guess it?'

Look at the drawings and talk about the rules.



## 5 CONCLUSION AND ASSESSMENT

Ask, 'Were there any difficult decisions?', 'What clues did you get about the rule?' and 'How did they figure out the rule?'

Note down any children who had problems and record this in the class assessment folders.

**LESSON TOPIC:** Plane shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Pick out four sided shapes from all the other shapes and draw them correctly.

## 2 STARTER

Draw a variety of four sided shapes on the board: kites, squares, rectangles, arrowheads, etc. Ask the children to think about what they all have in common. Count the sides on the shapes and confirm they all have four sides.

## 3 INTRODUCTION

In this lesson we will look at four sided shapes and we will draw them as they are. Make sure they have four sides and the sides are straight.

## 4 TEACHER AND STUDENT ACTIVITY

Pick out three four sided shapes from the classroom environment and say what shapes you have seen.

Draw the shapes on the board for students to see, e.g. draw a table (table top has four sides)

Tell the children to look around the classroom and pick some four sided shapes from the classroom environment and draw them for all of them to see. Examples may include: door, walls, windows, window glass or books.

Some children may be able to write labels on their drawings.

## 5 CONCLUSION AND ASSESSMENT

Tell children to show their drawings off to the rest of the class. Ask questions such as: how many of you chose the door? How many chose the windows? Check all shapes have four sides. Note any children who are unable to find only four sided shapes.



## TERM 3 WEEK 9 TUESDAY PLANE SHAPES (2D SHAPES)

**LESSON TOPIC:** Plane shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

### 1 OBJECTIVE

Pick out a square and a rectangle and describe what is similar and different about them.

### 2 STARTER

Before the lesson, cut out some paper rectangles and squares of different sizes.

Ask the children if they can see any shapes which are similar. Put all the squares on one side of the board and all the rectangles at the other side. Ask them what the shapes have in common.

### 3 INTRODUCTION

Tell the children: Our everyday living is full of shapes. Shapes can be seen everywhere in buildings and the environment. Squares and rectangles are special shapes which we use a lot. Squares and rectangles have right angles at the corners and similar sides. Squares have four equal sides.

Keep the paper shapes for tomorrow.

### 4 TEACHER AND STUDENT ACTIVITY

Group the children in pairs. Give the pairs paper and scissors, or tell them to tear it carefully, along straight lines drawn with rulers.

Tell them to make squares and rectangles from the paper and group them as you did on the board. Ask how can they be sure that the four sides of a square equal? Tell them to fold the shapes along the diagonals. If the two halves match up, it should be a square. If not, it is a rectangle.

### 5 CONCLUSION AND ASSESSMENT

Ask children to tell you the properties of squares and rectangles. They should say: right angles in the corners, 2 pairs of equal sides for rectangles, all equal sides for squares and, of course, 4 sides for both. Note any children who did not manage to make a good square or rectangle and put them in different pairs for tomorrow.



**LESSON TOPIC:** Plane shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Pick out and describe a square from the other four sided shapes.

## 2 STARTER

Bring out the paper shapes from yesterday. Place them on the board along with some kites, rhombi, arrowheads, parallelograms and irregular quadrilaterals. Tell them: It is quite easy to pick out a square from the other four sided shapes. Squares are nice looking as all four sides are of equal length.

Ask children to come up one at a time and pick out the squares on the board. Check that they are squares by folding them along the lines of symmetry.

## 3 INTRODUCTION

Ask the children to think of places they have seen squares in their community. Ask them if they are sure all four sides are equal. Draw a simple house with trees and a sun, using squares for the windows. Ask them if there are any squares in your picture. Ask them to say where the squares are. Name other shapes in the picture, e.g. rectangle for door, circle for sun. Tell the children they will be drawing their own pictures and must use simple shapes they know, as well as some squares. Draw a car with square wheels. Ask them where the squares are.

## 4 TEACHER AND STUDENT ACTIVITY

Give children paper, rulers and pencils, tell them to draw a simple picture of something, but they must put squares in it somewhere. Remind them their squares should have four equal sides and to check with the ruler. Tell them they can put more shapes in as well if they can. Let them draw and colour in their pictures.



## 5 CONCLUSION AND ASSESSMENT

Let the children walk around and look at each other's work. Ask a few children which picture they liked best and why. Hold up some pictures and see if the class can see the squares or any other shapes. Take note any children who could not draw squares in their pictures.

**LESSON TOPIC:** Plane shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Pick out and describe a rectangle from the other four sided shapes.

## 2 STARTER

Bring out the paper shapes from yesterday. Place them on the board with some kites, rhombi, arrowheads, parallelograms and irregular quadrilaterals. Tell the children that It is quite easy to pick out a rectangle from the other four sided shapes. Rectangles are like squares which have been stretched. They have right angles (90o) at the corners.

Ask the children to come up one by one and pick out the rectangles on the board. Check that they are rectangles by folding them along the lines of symmetry. If they pick out squares, tell them the square is a special type of rectangle.

## 3 INTRODUCTION

Rectangles are everywhere in our life. In the classroom they can be seen in shapes as our classroom door, our classroom walls, our window blades and many more.

## 4 TEACHER AND STUDENT ACTIVITY

Repeat the lesson from yesterday, focusing in rectangles instead of squares. The children who did not finish could continue their work from yesterday. include some excercises on rectangles in their work.



## 5 CONCLUSION AND ASSESSMENT

Let the children walk around and look at each other's work. Ask a few children which picture they liked best and why. Hold up some pictures and see if the class can see the rectangles or any other shapes. Note any children who could not draw rectangles or squares in their pictures. Put the pictures up on display.



**LESSON TOPIC:** Plane shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Correctly identify squares and rectangles from the other four sided shapes.

## 2 STARTER

Tell the children you will be testing them. If they see a square shape, they should link their little fingers, to make a sign language S. If they see a rectangle, they should hold up an index finger, bent over to make a sign language R. Hold up the paper shapes from yesterday, one at a time. Look around the class and see who is responding quickly, who is copying their friends and who is not able to answer.

## 3 INTRODUCTION

Tell the children you would like them to test each other now. Put the quick children together in groups of four and the slower children in other groups of four.

## 4 TEACHER AND STUDENT ACTIVITY

Ask them to draw some shapes in their books and test their friends, using the sign language responses you showed them. Each child should draw 5 shapes, including a square and a rectangle, then take turns showing their friends and testing them.

Let the groups draw their shapes and then test each other. Pay extra attention to the slower groups. Make sure any disagreements are discussed. Remind them of the properties of squares and rectangles.



## 5 CONCLUSION AND ASSESSMENT

Pick out any confusing, interesting or difficult shapes the children drew. Discuss them as a class. Ask the children about any problems they had finding the shapes. Take Note of any children who had trouble with the task and record it in the class assessment record.

**LESSON TOPIC:** Money Problems

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate the cost of 2 items up to the value of K1.

## 2 STARTER

Play 'I say, you say...' with the children.

Use the rule 'add 2', etc.

So, if 'I say 6, you say...' the children will say '8'.

Repeat several times, changing the rule for the game.

## 3 INTRODUCTION

Bring out the play money.

Show the children the coins and notes.

Ask them about the pictures, numbers and colours.

Ask, 'Which do you know?' and 'Which have you seen before?'

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair some picture cards which show items with prices less than 50t.

Tell them to put the cards into pairs then find how much each pair would cost, using whatever method of addition they have had most experience with, e.g. using a column, decomposition, etc.

Tell the children to draw their items on paper, with the addition written underneath them.

Pairs swap work and check the work for each other. Ask, 'Do you all agree?'

## 5 CONCLUSION AND ASSESSMENT

Check that the calculations were correct and help any who struggled.

Discuss shopping.

Ask the children which of these items they have seen bought before and if the prices are right.

Make a note of any children who could not add up and put them into different pairs for tomorrow's lesson.



**LESSON TOPIC:** Money Problems

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate the cost of 3 items up to the value of K2.

## 2 STARTER

Play 'I say, you say...' with the children.

Use the rule 'add 2', etc.

So, if 'I say 6, you say...' the children will say '8'.

Repeat several times, changing the rule for the game.

## 3 INTRODUCTION

Bring out the play money.

Show the children the coins and notes.

Discuss shopping again.

Ask, 'When did they last go to a shop?', 'Who were they with?', 'What did they buy?' and 'How many things did they buy?'

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair some picture cards showing items with prices less than K1.

Tell each pair to put the cards into groups of 3 and work out how much each set would cost, using whatever method of addition they have had most experience with, e.g. using a column, decomposition, etc.

Tell the children to draw their items on paper, with the addition written underneath them.

Pairs swap work and check the work for each other. Ask, 'Do you all agree?'

## 5 CONCLUSION AND ASSESSMENT

Check the calculations are correct and help any who are struggling.

Discuss shopping.

Ask, 'What happens when we get to the till?', 'Who does the adding up?' and 'How would you know if they were wrong?'

Make a note of any children who could not add up and put them into different pairs for tomorrow's lesson.



**LESSON TOPIC:** Money Problems

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate how many small items can be bought with K2.

## 2 STARTER

Play 'I say, you say...' with the children.

Use the rule 'add 2', etc.

So, if 'I say 6, you say...' the children will say '8'.

Repeat several times, changing the rule for the game.

## 3 INTRODUCTION

Bring out a K2 note.

Ask the children what they could buy with K2.

Ask them how many things they could buy with a K2.

Ask, 'What things do you know which cost less than 50t?'

Bring out the picture and price cards.

Put one card on the board and ask the children how much it is.

Put another card on the board and ask if we have gone over K2 yet.

Keep adding cards until you go over K2.

Take the last card away.

Start again and repeat with other cards.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair 10 picture cards showing items with prices less than 50t.

Tell them to try to find groups of cards which will add up to less than K2, using whatever method of addition they have had most experience with to check their grouping.

If they go over K2, they will have to start again.

Tell the children to draw their items on paper, with the addition written underneath them.

Pairs swap work and check the work for each other. Ask, 'Do you all agree?'

## 5 CONCLUSION AND ASSESSMENT

Check that the calculations are correct and help any children who are struggling.

Discuss shopping.

Ask, 'What happens when we get to the till?', 'What happens if you have got too many things for the amount of money you have?' and 'How can you check before you get to the till?'

Make note of any children who could not add up and put them into different pairs for tomorrow's lesson.



**LESSON TOPIC:** Money Problems

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate how much change they should get up to K1.

## 2 STARTER

Play 'I say, you say...' with the children.

Use the rule 'subtract 2', etc.

So, if 'I say 6, you say...' the children will say '4'.

Repeat several times, changing the rule for the game.

## 3 INTRODUCTION

Bring out a K1 coin.

Discuss shopping.

Ask, 'What can we buy with K1?', 'Is there anything which is cheaper than K1?', 'What happens when we get to the till?', 'Do people always pay with the exact number of coins and notes?', 'What happens if they have enough, but not the right money?' and 'How do people make sure they get the right change?'

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give each pair some picture cards showing items with prices less than K1.

Tell them they have K1 to buy each of the cards, but need to work out how much change they should get for each, using whatever method of subtraction they have had most experience with.

Tell the children to draw each of their items on paper, with the subtraction written underneath them.

Pairs swap work and check the work for each other. Ask, 'Do you all agree?'

## 5 CONCLUSION AND ASSESSMENT

Check that calculations are correct and help any children who are struggling.

Discuss shopping.

Ask, 'Have you ever helped run a shop or a stall?', 'Have you ever had to work out change?' and 'How did you do it – in their head or on paper, with a calculator or till?'

Make a note of any children who could not subtract and put them into different groups for tomorrow's lesson.



**LESSON TOPIC:** Money Problems

**STRAND:** Quantities and Measurement

**CONTENT STANDARDS:**

## 1 OBJECTIVE

Calculate how much change they should get up to K2

## 2 STARTER

Play 'I say, you say...' with the children.

Use the rule 'subtract 2', etc.

So, if 'I say 6, you say...' the children will say '4'.

Repeat several times, changing the rule for the game.

## 3 INTRODUCTION

Bring out a K2 note.

Ask the children about shopping.

Ask, 'What can we buy with K2?' and 'Is there anything which is cheaper than K2?'

## 4 TEACHER AND STUDENT ACTIVITY

Set up several little 'shops' with picture and price cards and some change and give the children K2 each. Explain that they can spend the money but must not spend over K2.

Put the children into pairs.

Tell the children to take it in turns to be the shopkeeper or the customers.

Walk around making sure they are being careful to add up and give change correctly.

Ask the children to then draw the items they bought and show the calculations they did to get the change from K2.

## 5 CONCLUSION AND ASSESSMENT

Discuss the play shops.

Ask, 'Were they like real shops?', 'What was the same?', 'What was different?', 'Did everyone agree on prices and change?' and 'What happens if there is a disagreement?' [They can call the teacher, work it out on paper, etc.]

Check the calculations and make a note of any children who could not add or subtract in the class assessment folders.



# TERM 4 WEEK 3 MONDAY PLANE SHAPES (2D SHAPES)

**LESSON TOPIC:** Plane Shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Make drawings of shapes that they recognize for items such as bilums, baskets, mats, and floor mats.

## 2 STARTER

Use flashcards to revise shapes such as circles, rectangles and triangles.

Ask the following key questions for each shape:

What is the shape called?

How many sides does it have?

How many corners does it have?

Which things in the classroom look like these shapes?

## 3 INTRODUCTION





Teach the children about squares.

Explain that a square is a four sided shape with equal sides. Ask, 'What is the same about a square and rectangle?' [They both have 4 sides and the corners are the same]. Ask, 'What is different about a square and rectangle?' [In a square, the opposite sides are the same length and corners are the same, but the sides can be different lengths in rectangles].

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Ask the children to try and think of as many squares, rectangles, triangles and circles as possible in the school and home. They will then sketch these on their boards. Ask if they can find the shapes in patterns in bilums, mats and other crafts. Group the items by shape on the board as below.

			
Top of a Snax biscuit packet	Cover of a book	Bottom of the water tank	Roof beams

Ask if the children can find flat shapes which are not squares, rectangles, circles or triangles. Ask, 'How many sides does the shape have?' and 'How many corners?'

## 5 CONCLUSION AND ASSESSMENT

Draw some different shapes on the board.

Tell the children to say aloud the name of each shape you draw.

Ask children to find at least one of each shape at home.





**LESSON TOPIC:** Plane Shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw and make patterns using squares and rectangles.

## 2 STARTER

Ask the children to list the different things from home that look like squares, rectangles, circles and triangles.

Say the names of shapes and ask the children to tell their friend something that looks like that shape.

## 3 INTRODUCTION

Show the children 2 traditional patterns which use squares and rectangles.

Sketch a pattern on the board.

Ask the children to try and continue making the pattern on their boards.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to work on their own and design their own pattern using only squares and rectangles.

Explain that they can draw or cut the shapes out of scrap paper and glue them down. They can draw around objects too.

The children should draw a pattern with only one rectangle and square.

They should then draw a pattern with 2, 3, 4 and 5 rectangles and squares.

Ask, 'What would you use your pattern for?', 'What do you like about your friend's pattern?' and 'How many squares and rectangles did you use in total?'

## 5 CONCLUSION AND ASSESSMENT

Choose 3 of the children's patterns to show to the class.

Ask, 'How many squares are in the pattern?', 'How many rectangles?' and 'Could you split the squares and rectangles into more squares and rectangles?'

Ask children to make a pattern of rectangles inside a big square.



**LESSON TOPIC:** Plane Shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw and make patterns using circles.

## 2 STARTER

Ask the children to look around the classroom and identify any items whose shape is a circle.

They should also identify items that are not circles.

Ask, 'What is the biggest circle you can find?', 'What is the smallest circle you can find?', 'How many sides does a circle have?' and 'How many corners does it have?'

## 3 INTRODUCTION

Show the children a pattern you have made which uses repeated circles.

Ask, 'Where could I use this pattern?', 'Do you like the pattern?' and 'What can I draw around to make a circle pattern?'

## 4 TEACHER AND STUDENT ACTIVITY

Give out objects which students can use to draw around (such as cups, coins, bowls etc).

On their own children should make patterns which use circles.

Ask the children the following questions:

Whose pattern do you like the most?

How did you make your pattern?

What could you use this pattern for?

How many circles are in your pattern?

How could you improve your pattern?

Are the circles overlapping? Are there any gaps?

Are all the circles the same size?

Choose 3 examples to show the class.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to choose one pattern they liked and use colour to make the pattern more interesting.

Tell them that they can bring their finished circle patterns to the next lesson.

Finish by using shape flashcards, asking:  
Which shape is this?

How many sides does it have?

How many corners does it have?

What objects look like this shape?



**LESSON TOPIC:** Plane Shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw and make patterns using triangles.

## 2 STARTER

Display the triangle colour patterns from the last lesson.

Ask, 'Which are your favourites and why?', 'How many triangles did you use?', 'How many colours?' and 'Can you continue to make the pattern on your board?'

## 3 INTRODUCTION

Show the children 2 patterns which use triangles.

Ask, 'How many triangles are there?', 'How does the pattern work?', 'Which is your favourite?' and 'Have you seen triangles in patterns in your home or school?'

## 4 TEACHER AND STUDENT ACTIVITY

Give out cardboard triangle shapes to draw around.

On their own children should make patterns which use triangles.

Ask the children the following questions:

Whose pattern do you like the most?

How did you make your pattern?

What could you use this pattern for?

How many triangles are in your pattern?

How could you improve your pattern?

Are the triangles overlapping? Are there any gaps?

Are all the triangles the same size?

Can you make a pattern which uses different sized triangles?

Can you make a pattern which uses different shaped triangles?

Choose 3 examples to show the class.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to choose one pattern they liked and use colour to make the pattern more interesting.

Tell them that they can bring their finished triangle patterns to the next lesson.

Finish by using shape flashcards, asking:  
Which shape is this?

How many sides does it have?

How many corners does it have?

What objects look like this shape?



**LESSON TOPIC:** Plane Shapes (2D shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw and make patterns using a combination of different shapes.

## 2 STARTER

Display the triangle colour patterns from the last lesson.

Ask, 'Which are your favourites and why?', 'How many triangles did you use?', 'How many colours?' and 'Can you continue to make the pattern on your board?'

## 3 INTRODUCTION

Show the children a pattern which uses 2 different shapes, e.g. a triangle and a square.

Ask the children to continue the pattern in their books.

Tell them to describe the pattern to a partner. Ask, 'How many triangles did you use?' and 'How many squares?'

Look at the pattern on the board. Ask the children if they can add one more shape into the pattern.

## 4 TEACHER AND STUDENT ACTIVITY

Using the cardboard templates, tell the children to work on their own to make the following different patterns:

1. A pattern using one square and one triangle
2. A pattern using 2 squares and one triangle
3. A pattern using one circle and one square, etc.

Ask the children to design 3 patterns of their own and describe them to their friend.

Ask, 'Can you add colours to make the pattern look better?' and 'How many shapes are in your pattern?'

## 5 CONCLUSION AND ASSESSMENT

Assess the children by telling them to make a pattern with one rectangle and 2 triangles.

Tell the children to choose their favourite shapes and make a coloured pattern at home.

Ask them if they can they make an overlapping pattern as well.



**LESSON TOPIC:** Symmetry

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Collect leaves and fold them lengthways to show the line of symmetry.

## 2 STARTER

Tell the children to look around classroom and outside the classroom to find any shapes where, when folded in the middle, the two halves will lie exactly over each other.

Show them an example first, e.g. when a piece of paper is folded in half, the two halves will lie over each other exactly.

## 3 INTRODUCTION

Using a leaf you have already collected before the start of the lesson, show the children that when it is folded lengthways, the two halves lie exactly over each other.

Tell the children that they will be sent outside the class room to collect leaves.

Take the children outside and put them into pairs to collect leaves which have a symmetrical shape. Help any children who are finding it difficult to find evenly-shaped leaves.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to show you the leaves that they have found.

Select the best leaves collected by the children.

Do a demonstration by folding one leaf lengthways along the length of the leaf to show how the two halves of the leaf lie flat over each other almost exactly.

Ask the children which leaves are the most symmetrical.

Then tell the children that if this happens, we say the leaf has '1 axis of symmetry'.

## 5 CONCLUSION AND ASSESSMENT

In pairs, tell the children to get a leaf then fold it in half lengthways to see for themselves how the two halves of the leaf lay over each other nicely.

Remind them that this means that the leaf then has '1 axis of symmetry'.

Get them to say the expression together.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.



**LESSON TOPIC:** Symmetry

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw shapes, cut them out, fold their edges and open them up to show the lines of symmetry.

## 2 STARTER

Show the children a sheet of A4 sized paper.

Draw attention to the differing length and width of the sheet of paper.

Point out to them the ways that it can be folded lengthways as well as along its width.

## 3 INTRODUCTION

Demonstrate the above by folding an A4 sized sheet of paper in front of class.

Show the children so that they can see how the 2 halves of the folded sheet of paper lay exactly over each other.

Open up the folded paper and show children the folded line that has been left from folding the sheet.

Tell the children that this line is called an 'axis of symmetry'.

## 4 TEACHER AND STUDENT ACTIVITY

Demonstrate how to draw and cut out a circle then show the folding of the circle along the diameter to show how the 2 halves of the circle lay exactly over each other.

Continue to fold the folded circle in half again along the diameter.

Explain to the children that each time the circle is folded there is a new axis of symmetry line formed different from the previous one.

Ask the children, 'How many axes of symmetry will the circle have when it is folded?'

This is a trick question, as the circle actually has infinite axes of symmetry.

Tell the children to draw and cut out a rectangle and a square and try to fold the shapes to show their axis of symmetry.

Guide the children as they do the hands on activity, especially when folding.

Ask the children to find how many axes of symmetry a rectangle and a square have from the folds they have made.

## 5 CONCLUSION AND ASSESSMENT

Tell the children to draw further shapes.

Tell them to cut out and fold the shapes to find their axes of symmetry.

Ask them to fold them first lengthways and then by their width to find the different axes of symmetry.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.



**LESSON TOPIC:** Symmetry

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw squares and rectangles, cut them out, fold their edges and open them up to show the lines of symmetry.

## 2 STARTER

Ask the children to look around the classroom and point out any sheets of paper that are square and rectangular in shape.

## 3 INTRODUCTION

Explain that the children will work with squares and rectangles today to find their lines of symmetry, otherwise known as their axis of symmetry.

Demonstrate how to do this by folding an A4 sized sheet of paper in front of class.

Show the children how the 2 halves of the folded sheet of paper lay exactly over each other and then open up the folded paper and show them the folded line.

Remind the children that this line is called an 'axis of symmetry' or 'line of symmetry'.

## 4 TEACHER AND STUDENT ACTIVITY

Tell the children to draw squares and rectangles which they will cut out.

Then tell them to fold the squares and rectangles in half along the length of the shapes.

Then tell them to fold them again along the width of the shapes.

After they have made the folds, tell the children to open the shapes to see what pattern is made from the folding.

Ask the children to share their findings with the class. Ask them to explain to you what the 2 lines from the folds are.

Consolidate their response with these statements by explaining that the two lines of the fold are the axes of symmetry. We say the square and rectangle have 2 axes of symmetry.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to draw and cut out some more rectangles.

Tell them to fold them along their length and width, and then open them up to show 2 axes of symmetry.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.





**LESSON TOPIC:** Symmetry

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw more 4 sided shapes, cut them out and fold them to find their lines of symmetry.

## 2 STARTER

Draw a picture of a diamond-shaped kite on the board.

Tell the children to draw some other four sided shapes which are any design they like.

Explain that the one rule is that the shape must use straight lines and have 4 sides.

Ask them to look around the class room for inspiration.

## 3 INTRODUCTION

Draw a shape on the board which has 4 sides.

In this example, make sure that none of the 4 sides are equal in length.

Let the children have a good look at this shape and ask them if they think it will have any lines of symmetry.

## 4 TEACHER AND STUDENT ACTIVITY

Draw a rhombus on the board.

Explain that a rhombus is a square that is leaning to one side, or a square that has been pushed out of its shape.

Make a note for the children that all four sides of a rhombus are equal, like a square.

Cut out the rhombus and fold over the lines of the rhombus.

Ask the children, 'How many axes of symmetry are there?' [2 axes of symmetry].

Tell the children to draw a kite and cut it out.

Explain that a kite shape will have 2 sides which are equal while the remaining sides will also be equal but a different length, much like in a rectangle.

Tell the children to try folding the shape to see how many axes of symmetry are there.

If the folding has been done correctly, the kite shape should have 2 axes of symmetry.

## 5 CONCLUSION AND ASSESSMENT

Ask the children to draw a rhombus and cut it out then find the axis of symmetry.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.



**LESSON TOPIC:** Symmetry

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Recognize symmetrical shapes and pictures in the environment.

## 2 STARTER

Put the children into pairs.

Tell the children to face their partner straight on.

Tell them to think about the axis of symmetry.

Ask them if there is an axis of symmetry on the human body.

Ask them where they can see one, e.g. on the face between the eyes and through the middle of the nose and mouth, or with their 2 legs.

## 3 INTRODUCTION

Tell the children to look at the buildings in the school, the people and any animals around like the dogs.

Ask, 'If we fold these items, could there be an axis of symmetry in them?'

Tell them to be quiet and think first before giving an answer.

## 4 TEACHER AND STUDENT ACTIVITY

With the children, look at the car park if there is one or a nearby parked car.

Ask, 'Are there any cars parked here with an axis of symmetry?'

If there are no cars, do the above by looking at a building to see if there is an axis of symmetry.

Tell the children to look at a nearby hill or a dog on the school grounds or another object that may have an axis of symmetry.

Ask the children to try and work out how many axes of symmetry a dog has [1].

Tell the children to think about the house their family lives in. Ask, 'How many axes of symmetry does it have?'

Tell the children to think of a cat. Ask, 'How many axes of symmetry are there in a cat?'

Tell the children to look at their own hand. Ask, 'How many axis of symmetry can you find?'

## 5 CONCLUSION AND ASSESSMENT

Tell the children to draw a shape from their environment, to cut it out and then to fold it to see how many axes of symmetry it has.

Ask the class for feedback on what they have found out.

Make a note of those children who are not able to do this and those who find it easy too easy. Make a note of these results in the class assessment folder.



**LESSON TOPIC:** Angels and Directions

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Give and follow simple directions to move forward, backwards and sideways from a starting point.

## 2 STARTER

Sing the song 'Put your right leg in, put your right leg out' with the children to get them used to the idea of following instructions.

Stand in a circle with the children.

When you say, 'Put your right leg in', the children must follow that action.

You can also give the instructions, 'put your right arm in, 'bring your left leg out' and 'shake it all about'.

## 5 CONCLUSION AND ASSESSMENT

Play 'Simon Says', emphasizing 'forward', 'backwards' and 'sideways' movement.

Say a range of rules, e.g. 'Simon says take 2 steps forward,' and 'Simon says take 1 step backwards'.

Remind the children that if you don't say 'Simon says' when they complete the direction, then they are out of the game.

Make note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.

## 3 INTRODUCTION

Tell the children a short story about how a hunter chases a cassowary and kills it by running in different directions to confuse it.

Explain that understanding how to follow directions is an important skill and knowing the difference between 'forward', 'backwards' and 'sideways' is very useful.

## 4 TEACHER AND STUDENT ACTIVITY

Tell the children a simple direction, e.g. 'Turn around to face backwards'.

Say the rule then complete the action yourself.

Then say, 'Turn around to face forward'.

Complete this action so that you're facing the children again.

Tell them a third rule, 'Step sideways'. Show them that you can step sideways either to the left or the right.

Allow the children to see you do these then repeat the three rules again.

Make sure they understand the difference between facing forward and backward.

Tell the children to stand up and find a space away from their desk.

Say some directions of movement and tell the children follow the directions. Keep doing this until they are confident in understanding the different directions.



**LESSON TOPIC:** Angels and Directions

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

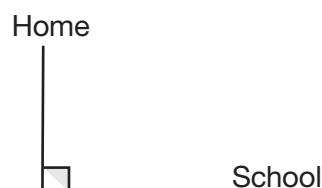
Draw directions to show their movement and identify the right angles in a drawing.

## 2 STARTER

Sing 'Pusi i silip long aninit long diwai' with the children.

## 3 INTRODUCTION

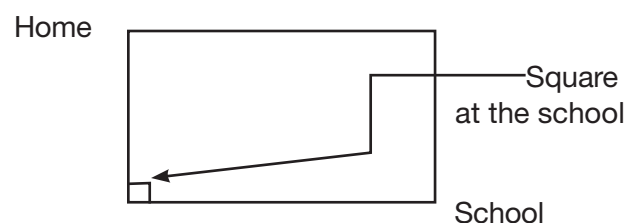
Show the children a drawing that shows your movements when travelling from home to school and the directions you travel in, e.g.



## 4 TEACHER AND STUDENT ACTIVITY

Tell the children to draw their own directions of movement they made this morning.

Tell the children if they can find any straight corners that they draw and draw a small square at that corner, e.g.



Explain to them that the corner is called a 'right angle'.

Tell the children to say 'right angle' and draw the sign for a right angle in the air using their fingers.

## 5 CONCLUSION AND ASSESSMENT

Write some simple directions on the board and tell the children to draw the movement of the directions, e.g.

1. Move 2 steps backwards and 1 step sideways to the right.
2. Move 4 steps forward and 3 steps sideways to the left.

Tell the children to identify the right angles in their drawings by drawing small squares in the corners.

Assess their drawings and ask the children to draw the sign of right angle in their books.

Make a note of those children who are not able to do this and those finding it too easy. Write this information in the class assessment folders.



**LESSON TOPIC:** Angels and Directions

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Give and follow simple directions to move clockwise and anticlockwise from a starting point.

## 2 STARTER

Sing 'On my way to school I met a little friend' with the children.

## 3 INTRODUCTION

Explain to the children you are going to look at how to use actions to follow directions.

Perform a marching action by showing the children how they can move their right leg, then about turn and then left leg and about turn.

Say 'Right leg, about turn. Left leg, about turn,' as you demonstrate the actions.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to stand in 2 straight lines and march to your instructions to turn either left or right and perform an about turn.

Tell the children to listen carefully and follow your instructions as you say them.



## 5 CONCLUSION AND ASSESSMENT

Assess their marching and their turning from left or right and their about turns.

Make a note of those children who are not able to do this and those finding it too easy. Write this information in the class assessment folders.

**LESSON TOPIC:** Angels and Directions

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Draw the direction of a clockwise and anticlockwise movement.

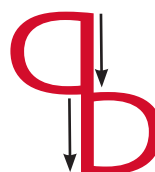
## 2 STARTER

Sing 'Put your right leg in, put your right leg out' with the children.

## 3 INTRODUCTION

Draw 2 semi circles and ask the children to say what shape each semi circle is.

Tell the children to follow your directions as you draw it with them in the air, e.g. 'Straight line down and half circle around it to the right', then 'Straight line down and half circle around it to the left.'



## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to draw the pattern in their exercise books.

Tell the children the meaning of 'clockwise' and 'anticlockwise' referring to the pattern.

You can also explain it by showing them a clock face if there is a large enough clock in the classroom.



## 5 CONCLUSION AND ASSESSMENT

Tell the children to draw some more semi circles in their book.

Assess the children to see if they have drawn the 2 semicircles correctly.

Ask the children to label their shapes to show which direction is clockwise and which direction is anticlockwise.

Make a note of those children who are not able to do this and those who are finding it too easy. Write this information in the class assessment folders.

**LESSON TOPIC:** Angels and Directions

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 1.3.1

## 1 OBJECTIVE

Show and name the right angles in drawings.

## 2 STARTER

Sing the song 'Liklik circle, liklik circle bikipela circle' and tell the children to draw the shapes on their desk with their fingers.

## 3 INTRODUCTION

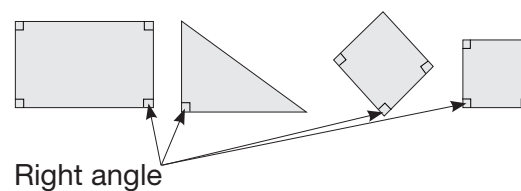
Ask the children to name some shapes that have sharp corners e.g., square, rectangles, etc.

Show children some examples of those shapes cut out from a cardboard.

Ask the children if they can point to the right angles on these shapes.

## 4 TEACHER AND STUDENT ACTIVITY

Draw some 4 sided figures and 3 sided figures and tell the children to identify and draw arrows to where the right angles are on them. Tell them to name the shapes as well, e.g.:



## 5 CONCLUSION AND ASSESSMENT

Assess the children to see whether they can draw the shapes correctly and name the angles by drawing arrows to the right angles on the shapes in their books.

Make a note of those children who are not able to do this and those finding it too easy. Write this information in the class assessment folders.



**LESSON TOPIC:** Solid (3D Shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 13.2

## 1 OBJECTIVE

Collect and group any solids that can be found in the local environment according to their common features.

## 2 STARTER

Before the lesson, collect some objects which are close to the simple shapes: tin cans, boxes, round pebbles, cylindrical sticks and books, etc.

Take the children outside the classroom and walk around with them for 5-10 minutes, looking for objects which have a simple shape. For example, a stick is cylinder, a round pebble is a sphere, a fence post is a cuboid (or cylinder), a plank of wood is a cuboid. Tell them about the roof of buildings – most modern buildings have triangular prisms on top, many traditional buildings have a cone or pyramid.

## 3 INTRODUCTION

Remind the children of the 2d shapes they have already seen. Tell them 2d shapes are 'flat'. Like sheets of paper or leaves, but even thinner. They only have length and breadth/width. This week we will be looking at solid things. Solids have a third measurement, sometimes called height.

## 5 CONCLUSION AND ASSESSMENT

Discuss the drawings and how they have been grouped. What did they look for in the shapes? Pick up the objects and ask the children to describe them, using the words from earlier. Pick out all the cuboids and put them in one group, pick out all the cylinders and put them in another group, carry on until you have all the objects in their correct group. Tell the children the names of the different shapes: cube, cuboid, cone, cylinder, etc. Discuss any difficult objects, e.g. a coke bottle is a very wobbly cylinder, or squashed up cone, or bits of both put together. Note any children who could not group the shapes correctly and put them with stronger children for tomorrow's lesson.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children about the objects you have collected or seen outside. Which are similar shapes? Which are different? Ask them how they can describe the different shapes and group them together. Bring in words like "curved", "flat" and remind them of the names of 2d shapes which might be on the 3d shapes, e.g. the box is made from rectangles, the can is like a lot of circles all stacked in a pile.

Put the objects on a table in the middle of the room and ask the children to draw the objects putting similar shapes together on the page.



## TERM 4 WEEK 6 TUESDAY SOLIDS (3D SHAPES)

**LESSON TOPIC:** Solid (3D Shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 13.2

### 1 OBJECTIVE

Pick out the boxes from the other solids and describe their features.

### 2 STARTER

Before the lesson, put a thick book inside a box on your desk. If there is time, you might put other objects inside other boxes too. You may wish to decorate them.

Write the names of the simple 3d shapes on the board, with their pictures next to them. Practice the names with the children. Remind them of the words from yesterday. Ask: which shapes have curves, which are made from flat things, which are a mix of both?

### 3 INTRODUCTION

Show them the box. Remind them that the box is a solid because it fills 'space'. It is not 'flat' like paper. What do they think is inside the box? Tell them it is another 3d shape. Tell them to ask questions to try and find out what the shape is. Questions like "is it curved?" are good. Once they guess the shape, show it to them. Repeat with any other boxes you have prepared. This activity is called "What's in the box?"

### 4 TEACHER AND STUDENT ACTIVITY

Show the children all the boxes you have. Ask them to describe the shapes they are made from. Remind them of the name for boxes. "Cubes" if they are made from all squares, "cuboids" if they have rectangles on their faces. Show them how to draw a simple box on the blackboard. Put some shapes (books, boxes, balls, sticks, etc.) on their desks and tell them to draw only the cubes and cuboids.



### 5 CONCLUSION AND ASSESSMENT

Let the children walk around and look at each other's work. Ask a few children which pictures they liked best and why. Hold up some pictures and point out how they have drawn the boxes well and if they have included any writing or pictures from the cover of the books etc. Note any children who could not pick out boxes and put them with stronger children for tomorrow's lesson.

**LESSON TOPIC:** Solid (3D Shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 13.2

## 1 OBJECTIVE

Pick out the tins and cans from the other solids and describe their features.

## 2 STARTER

Play “What’s in the box?” with the children, as you did yesterday. Use different objects in the boxes. Encourage clever questions such as “is it made from flat shapes or curved?”

## 3 INTRODUCTION

Go over the names of shapes and their properties again. Ask questions about the cylinder. What shapes is it made from? How can we describe it? Take answers from children. It could be a lot of circles stacked in a pile, or, two circles on the ends with a rectangle bent around between them, or, one circle which has been pulled up and stretched into a tall circle. Accept any other accurate descriptions.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children how to draw a cylinder on the board.

Put the children into pairs, weak with strong, and ask them to draw cylinders they have seen in their community. Give them examples such as tires on a car, handles of shovels, cans of drink, etc. Ask them to think of and draw 5 cylinders they have seen.



## 5 CONCLUSION AND ASSESSMENT

Let the children walk around and look at each other’s work. Ask a few children which pictures they liked best and why. Hold up some pictures and point out how they have drawn the cylinders well and if they have included any extra details, like the name of the drink etc. Note any children who could not think of or draw the shapes and put them with stronger children for tomorrow’s lesson.

**LESSON TOPIC:** Solid (3D Shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 13.2

## 1 OBJECTIVE

Pick out the balls from the other solids and describe their features.

## 2 STARTER

Play “What’s in the box?” with the children, as you did yesterday. Use different objects in the boxes. Encourage clever questions such as “is it made from flat shapes or curved?”

## 3 INTRODUCTION

Go over the names of shapes and their properties again. Ask questions about the sphere (ball). What shapes is it made from? How can we describe it? Take answers from children. It could be a lot of circles all linked together, or, an evenly smooth, round/curved thing, or, one circle spun around to fill a space. Accept any other accurate descriptions.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children how to draw a sphere on the board.

Put the children into pairs, weak with strong, and ask them to draw spheres they have seen in their community. Give them examples such as footballs, the moon, peas, eyes, etc. Ask them to think of and draw 5 spheres they have seen.



## 5 CONCLUSION AND ASSESSMENT

Let the children walk around and look at each other’s work. Ask a few children which pictures they liked best and why. Hold up some pictures and point out how they have drawn the spheres well and if they have included any extra details, like the name of the pattern on a football etc. Note any children who could not think of or draw the shapes.

**LESSON TOPIC:** Solid (3D Shapes)

**STRAND:** Geometrical Figures

**CONTENT STANDARDS:** 13.2

## 1 OBJECTIVE

Recognize solids from the environment, and in pictures.

## 2 STARTER

Before the lesson, prepare the board with names and pictures of the simple 3d shapes. Collect some real objects which match the pictures. Also, draw a picture of a house, including some of the simple shapes in the picture. List the names of the shapes you have included in your picture next to it. Examples: sphere (football by the door), cuboid (house without roof), cylinder (trunk of tree). Do not write the words in brackets on the board.

Put the objects on a desk at the front and ask children if they can put the object with its picture on the board, naming the shape as they do so.

## 3 INTRODUCTION

Tell the children that solids are everywhere in the environment, outside and inside. Show them your picture of a house and the names of the shapes you have put in the picture. Ask them if they can find all the shapes on your list. As they find them, write the words in brackets next to the shape names.

## 4 TEACHER AND STUDENT ACTIVITY

Take the children outside, with books and pencils. Ask them to find an example of a cylinder. Take the class to the example they have chosen and tell them to draw it. Ask the ones who finish quickly if they can see any other examples and if they can remember the properties of cylinders or how they can describe them.

Repeat this activity with the other simple 3d shapes.

Bring the children back inside.

## 5 CONCLUSION AND ASSESSMENT

Tell the children to open their books to their favourite picture from this weeks work. Let the children walk around and look at each other's work. Ask a few children which pictures they liked best and why. Hold up some pictures and ask the children if they remember the lesson it was from. Ask them what they learned that day. Note any children who struggled with the tasks this week and record it in the class assessment folders.



**LESSON TOPIC:** Extending and Using Patterns

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.1

## 1 OBJECTIVE

Identify the odd and even numbers between 0 and 50 using flashcards, then order them into separate sets.

## 2 STARTER

Sing 'On my way to school I met a little friend.'

## 3 INTRODUCTION

Write 2 numbers on the board, e.g. 2 and 13.

Ask the children which of them is an 'even' number and which is an 'odd' number [2 is even and 13 is odd number].

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into groups of 5.

Give each group a set of flashcards with numbers between 0 and 50.

Tell them to make 2 new sets out of the bigger set.

Explain that one set should only contain odd numbers and the other set should only contain even numbers between 0 and 50.

Move around the classroom, assessing the children by listening to them and giving help where needed. If some children are finding it too easy, give them additional flashcards to use.



## 5 CONCLUSION AND ASSESSMENT

Write 10 numbers on the board, between 0 and 50.

Assess the children by asking them to identify the odd and even numbers and asking them to order the numbers into 2 separate sets of odd and even numbers on the board.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.

**LESSON TOPIC:** Extending and Using Patterns

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.1

## 1 OBJECTIVE

Recognise the increasing and decreasing pattern of 2 in odd and even number sets.

## 2 STARTER

Play 'I say, you say?' with the children.

Start with the rule of 'add 1', e.g. 'I say 1, you say?' [2] and 'I say 4, you say?' [5]

## 3 INTRODUCTION

Write a number set on the board which has some missing numbers, e.g. 1, 3, 5, 7, \_\_, \_\_, \_\_

Tell the children to complete the pattern [9, 11, 13].

Ask them, 'What is the pattern?' [Add 2 every time]. Ask them how they managed to work it out.

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to write the missing 2 numbers in the following number sets:

1. 13, 14, 15, \_\_, \_\_
2. 27, 25, 23, \_\_, \_\_
3. 14, 16, \_\_, \_\_, 22
4. 36, \_\_, \_\_, 30, 28

## 5 CONCLUSION AND ASSESSMENT

Go through the answers to the previous activity.

Assess the children on how well they can recognize the increasing pattern of 2 in odd and even number sets and how well they can recognize the decreasing pattern of 2 in odd and even number sets.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson.





**LESSON TOPIC:** Values of unknowns

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.1

### 1 OBJECTIVE

Show and find the values of unknowns in simple additions using objects, e.g.  $? + 3 = 8$

### 2 STARTER

Play 'I say, you say?' with the children.

Start with the rule of 'add 1', e.g. 'I say 1, you say?' [2] and 'I say 4, you say?' [5]

### 3 INTRODUCTION

Write  $3 + \_ = 8$  on the board.

Ask the children what number must be added to 3 to get 8 as the answer [5].

Tell the children to use objects, e.g. stones or sticks, to work out the missing number.

$$\begin{array}{ccc} 000 & + & 0000 \\ 3 & + & 5 = 8 \end{array}$$

Explain how if they take 3 away from the 8 objects, they will be left with the answer.

### 4 TEACHER AND STUDENT ACTIVITY

Show the children 2 more examples and go through them first as a class.

Tell the children to do the following 6 problems by themselves.

- |                  |                  |
|------------------|------------------|
| 1) $5 + \_ = 7$  | 4) $\_ + 6 = 9$  |
| 2) $2 + \_ = 9$  | 5) $\_ + 8 = 14$ |
| 3) $6 + \_ = 14$ | 6) $\_ + 9 = 11$ |



### 5 CONCLUSION AND ASSESSMENT

Go through the answers together from the previous activity.

Assess the children on how well they can find the values of unknowns in simple additions using objects.

Make a note of those children who are not able to do this and those who find it too easy. Use the information when planning tomorrow's lesson

**LESSON TOPIC:** Values of unknowns

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.1

## 1 OBJECTIVE

Show and find the values of unknowns in simple subtractions using objects, e.g.  $? - 3 = 5$ .

## 2 STARTER

Play 'I say, you say?' with the children.

Start with the rule of 'subtract 1', e.g. 'I say 3, you say?' [2] and 'I say 2, you say?' [1].

## 5 CONCLUSION AND ASSESSMENT

Go through the answers together from the previous activity.

Assess the children on their ability to find the values of unknowns in simple subtraction using objects.

Make a note of those children who are not able to do this and those who find it easy too easy. Use the information when planning tomorrow's lesson

## 3 INTRODUCTION

Write  $7 - \underline{\quad} = 5$  on the board.

Ask the children what number must be subtracted from 7 to get 5 as the answer.

Tell the children to use objects, e.g. stones or sticks, to work out the missing number.

$$\begin{array}{c} \text{OOOO} \\ \text{OO} \end{array} - \text{OO} = \text{OOOOO}$$

$$7 - 2 = 5$$

Explain to them that if they start off with the largest number, 7, and take away the other number, 2, they will be left with the answer, 5, which is the left over amount of sticks of stones.

## 4 TEACHER AND STUDENT ACTIVITY

Show the children 2 more examples and go through them first as a class.

Tell the children to do the following 6 problems by themselves.

- |                                  |                                 |
|----------------------------------|---------------------------------|
| 1) $5 - \underline{\quad} = 2$   | 4) $\underline{\quad} + 6 = 9$  |
| 2) $9 - \underline{\quad} = 5$   | 5) $\underline{\quad} + 8 = 14$ |
| 3) $14 - \underline{\quad} = 10$ | 6) $\underline{\quad} + 9 = 11$ |



**LESSON TOPIC:** Extending and Using Pattern

**STRAND:** Data and Mathematical Relations

**CONTENT STANDARDS:** 1.4.1

## 1 OBJECTIVE

Recognize the patterns and fill in the missing numbers in other number sets, e.g. 3, 6, 9, \_\_, 15

## 2 STARTER

Say a riddle and let the children try to answer, e.g. 'I have 4 legs when I am a small, two legs when I am young and 3 legs when I am old. Who am I?' [A human being].

## 3 INTRODUCTION

Write a number set on the board, e.g. 1, 3, 5, 7, \_\_, \_\_, \_\_

Ask the children to complete the pattern [9, 11, 13]

Ask, 'What is the pattern?' [+2 each time].

## 4 TEACHER AND STUDENT ACTIVITY

Ask the children to write the missing 2 numbers in the following number sets:

1) 13, 15, 17, \_\_, \_\_

2) 27, 25, 23, \_\_, \_\_

3) 32, 34, 36, \_\_, \_\_

4) 42, \_\_, \_\_ 48, \_\_



## 5 CONCLUSION AND ASSESSMENT

Ask the children for the answers to the previous activity.

Assess the children on their ability to recognise a range of patterns and fill in missing numbers in other number sets.

Make a note of those children who are not able to do this and those who find it easy too easy. Write the information in the class assessment folder.

**LESSON TOPIC:** Addition

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Know all the ways of adding 2 numbers to make 10 using objects.

## 2 STARTER

Count forwards and count backwards from 2 to 20 in twos. First, count slowly and then count quickly.

Then, count forwards and count backwards from 5 to 50 in fives.

## 3 INTRODUCTION

Bring 10 children to the front of the class. Ask the class to count them.

Now separate one child from the group and ask how many are left. Count them together.

On the board write  $10 - 1 = 9$  and  $9 + 1 = 10$  and read it out.

Now take another child from the group to stand alongside the first child.

Ask how many are children left in the larger group. Count them together.

On the board write  $10 - 2 = 8$  and  $8 + 2 = 10$ .

Continue until all of the children have moved from the first group into the second group.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give them 10 stones.

Explain how to move the stones into different groups to show all of the ways of making 10.

Ask the children to write down the number sentences for each different way.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, ask them to find all the ways to make 15.

## 5 CONCLUSION AND ASSESSMENT

Bring 10 children to the front of the class.

Ask one pair to tell you how you could separate them into 2 groups.

Ask, 'What are the number sentences that go with these groups?'

Repeat the activity with another pair.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Addition by using Object

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Know all the ways of adding 2 numbers to make 20 using objects.

## 2 STARTER

Play 'More than or less than'.

Say, 'I am thinking of a number between 1 and 20.' The children should ask 'more than' and 'less than' questions to find out your number, e.g. 'Is it more than 10?'

If it is, say yes and remind them the number must be between 11 and 20.

Carry on until they find your number.

Repeat the game with a different number.

## 3 INTRODUCTION

Bring 20 children to the front of the class. Ask the class to count them.

Now separate one child from the group and ask how many are left. Count them together.

On the board write  $20 - 1 = 19$  and  $19 + 1 = 20$  and read out the number sentences.

Take another child from the group to stand alongside the first child.

Ask how many are left in the larger group. Count them together.

On the board write  $20 - 2 = 18$  and  $18 + 2 = 20$ .

Continue until all of the children have moved from the first group.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Give them 20 beads.

Explain how to move the beads into different groups to show all the ways of making 20.

Ask the children to write down the number sentences for each different way.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, ask them to find all the ways to make 25.

## 5 CONCLUSION AND ASSESSMENT

Bring 20 children to the front of the class.

Ask one pair to tell you how you could separate them into 2 groups.

Ask, 'What are the number sentences that go with these groups?'

Repeat the activity with another pair.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Addition by Numberline

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Know all the ways of adding 2 numbers to make 10 using a number line.

## 2 STARTER

Play 'More than or less than'.

Say, 'I am thinking of a number between 1 and 20.' The children should ask 'more than' and 'less than' questions to find out your number, e.g. 'Is it more than 10?'

If it is, say yes and remind them the number must be between 11 and 20.

Carry on until they find your number.

Repeat the game with a different number.

## 3 INTRODUCTION

Draw a 0 to 10 number line on the board.

Tell the children that you will use it to work out all the ways of adding 2 numbers to make 10.

Start at 1 and ask the children how many more will be needed to make 10.

Use a frog to hop along from 1 to 10. Ask the children to count the number of hops.

Write the number sentence  $1 + 9 = 10$  on the board and read it.

Repeat the activity starting at each number up to 9.

## 4 TEACHER AND STUDENT ACTIVITY

Draw number lines in the playground.

Put the children into pairs.

Remind them how to use the number lines by jumping along it like frog.

Tell them to find all the different ways of making 10 and to write down the number sentences.

Move around the different pairs, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

On the board write  $1 + 9 =$

Ask one pair to show you how to use the number line to find the answer.

Check to see if the others agree.

Repeat this with a different number sentence.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Addition by Numberline

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Know all the ways of adding 2 numbers to make 20 using a number line.

## 2 STARTER

Sing a number song such as, '10 green bottles standing on a wall' or '10 little birds sitting in a tree'.

## 3 INTRODUCTION

Draw a 0 to 20 number line on the board.

Tell the children that you will use it to work out all the ways of adding 2 numbers to make 20.

Start at 11 and ask the children how many more will be needed to make 20.

Use a frog to hop along from 11 to 20. Ask the children to count the number of hops.

Write the number sentence  $11 + 9 = 20$  on the board and read it.

Repeat this activity starting at each number up to 19.

## 4 TEACHER AND STUDENT ACTIVITY

Draw a number line from 0 to 20 in the playground.

Show the sum  $11 + 9 =$

Ask one child to show you how to use the number line to find the answer.

Ask all of the children to count the number of hops.

Put the children into pairs and repeat this with other sums, e.g.  $4 + 12 =$  [16].

Assess the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

On the board write  $13 + 6 =$ .

Ask one pair to show you how to use the number line to find the answer.

Check to see if the others agree.

Repeat this with a different number sentence.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.





**LESSON TOPIC:** Addition Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Solve addition problems in word stories for numbers 1 to 20.

## 2 STARTER

Tell children your rule, e.g. 'add 3'.

Pick children to add this to numbers from 1 to 10.

Change the rule, e.g. 'subtract 2'.

Pick children to take this away from numbers from 10 to 20.

Make up more addition and subtraction rules and repeat the activity.

## 3 INTRODUCTION

Make up a number story, e.g. 'It was John's birthday. There were 20 children at his birthday party but there were only 14 cakes. How many more cakes did his mother need to buy?'

Help the children to recognise the important words: '20 children', '14 cakes' and 'how many more'.

Ask the children how they could work out the answer and try out their different methods.

Make up other stories to test the children, e.g. 'I went to a party. They had 9 blue balloons, 3 red balloons and 5 yellow balloons. How many balloons were there altogether?'

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Tell the children to make up their own number stories and to find the answer.

Tell them to write down the number sentences for their stories and read them out.

Move around the classroom, assessing the children by listening to them. Give help where needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to tell their number stories and to show how they worked out the answer.

Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Record this information in the class assessment folder.



**LESSON TOPIC:** Subtraction Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Use mental arithmetic to answer simple subtraction problems for numbers 1 to 20.

## 2 STARTER

Draw a 4 by 3 grid and fill it with numbers less than 10.

Ask the children to look for numbers that have a total of 5.

In pairs, tell the children to write addition sentences.

Repeat this activity for totals of 6, 7, 8 and 9.

## 3 INTRODUCTION

Write  $7 - 3 =$  and then  $17 - 3 =$  on the board underneath.

Ask what the answer is [4 and 14].

Tell them that the first sum will help them to work out the second one.

Explain that knowing the number factor 10 will help them.

Repeat this activity, writing  $8 - 2 =$  and then  $18 - 2 =$  on the board underneath [6 and 16].

Remind the children that the first sum will help them to work out the second one.

Write  $14 - 2 =$

Ask what number factor will help them to work this out. Explain that it is  $4 - 2 = 2$ , so  $14 - 2 = 12$ .

Repeat with other numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Write 10 subtractions on the board.

Tell the children to work out the answers mentally by thinking of the number facts to 10 that will help them.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Go through the 10 subtraction problems together.

Make a note of those children who not able to solve them and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Explain how the children did their mental calculations.

## 2 STARTER

Draw a 4 by 3 grid and fill it with numbers less than 10.

Ask the children to look for numbers that have a total of 5.

In pairs, tell the children to write addition sentences.

Repeat this activity for totals of 11, 12, 13, 14 and 15.

## 3 INTRODUCTION

Write  $9 - 3 =$ , then  $19 - 3 =$  on the board underneath.

In pairs, tell the children to work these out mentally [6 and 16].

Remind them how to use the number factor 10 to help them.

Tell them that another way to find the answer is to remember the big number and use their fingers to count backwards.

Ask them to remember 19 and count backwards 3 to 18, 17 and 16, just like using a number line.

Repeat both of these methods using different numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into new pairs.

Write 10 subtractions on the board, e.g.  $20 - 5 =$

Tell the children to choose how to work them out mentally and write the answers in their books.

Move around the classroom, assessing the children by listening to them and giving help where needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their subtractions.

Ask them how they did it.

Check to see if the class agrees with their answer and the way they did it.

Repeat this with 2 more pairs.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Use mental arithmetic to answer simple subtraction problems for numbers 1 to 50.

## 2 STARTER

Split the class into 2 groups.

Tell group 1 to say the odd numbers and group 2 to say the even numbers.

Count on from 1 to 50 and count backwards from 50 to 1.

Repeat with group 2 saying the odd numbers and group 1 saying the even numbers.

## 3 INTRODUCTION

Write  $6 - 5 =$ ,  $16 - 5 =$  and  $26 - 5 =$  on the board underneath each other.

Ask the children to work out the answers [1, 11 and 21].

Tell them that the first sum will help them to work out the others.

Repeat using the following sums:  $8 - 2 =$ ,  $18 - 2 =$ ,  $28 - 2 =$  and  $38 - 2 =$

Remind them that the first sum will help them to work out the others.

Tell them that they are going to work out the answers mentally and knowing the number factor 10 will help them find the answers.

Write  $37 - 5 =$  on the board.

Ask the children to guess what the answer might be. Ask, 'Will it be more than 30 or less than 30?' and 'What is the number factor that will help you to work this out?'

It is  $7 - 5 = 2$ , so  $37 - 5 = 32$ .

Ask them to compare their answer with their guess.

Repeat with other mental calculations.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Write 10 subtractions on the board, e.g.  $39 - 6 =$

Tell the children to work out the answers mentally by thinking of the number factors to 10 that will help them. Ask them to guess what the answer might be before working it out.

Move around the classroom, assessing the children by listening to them and giving help where needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their additions.

Ask them to explain to the class how they did it.

Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Explain how the children did their mental calculations.

## 2 STARTER

Cover 10 numbers between 1 and 50 on a number square.

Tell the children to write down the numbers that have been covered.

Uncover the numbers to check the answers.

Repeat this, covering up different numbers.

## 3 INTRODUCTION

Write  $8 - 5 =$  and then  $38 - 5 =$  on the board underneath.

Put the children into pairs and ask them to work these out mentally.

Remind them how to use the number factor 10 to help them.

Tell them another way to find the answer is to remember the big number then to count backwards, e.g. to remember 38 and use their fingers to count backwards by 5 to 37, 36, 35, 34 and 33, just like using a number line.

Repeat both of these methods using different numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs. Write 10 subtractions on the board, e.g.  $50 - 5 =$

Tell the children to choose how to work them out mentally and to write the answers in their books.

Move around the classroom, assessing the children by listening to them and giving help where needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to show one of their subtractions. Ask them how they did it.

Check to see if the class agrees with their answer and the way they did it.

Repeat with 2 more pairs.

Make a note of those children not able to solve the problems and those finding it too easy. Use this information when you plan tomorrow's lesson.



**LESSON TOPIC:** Subtraction Problem

**STRAND:** Number and Operation

**CONTENT STANDARDS:** 1.1.1

## 1 OBJECTIVE

Make up and solve subtraction stories using mental arithmetic

## 2 STARTER

Put your hands behind your back then bring them out holding up 4 fingers before quickly putting them back again.

Ask the children to show you the same number of fingers.

Ask, 'How many more do I need to make 10?' and 'How many more to make 20?'

Repeat the activity with other numbers.

## 3 INTRODUCTION

Tell the children a number story, e.g. 'There were 29 birds sitting in a tree singing very loudly. A naughty cat crept up on them and scared them. 5 birds flew away. Then 2 more birds flew away. How many were left?'

Help them to think of the important words, e.g. '29 birds', '5 flew away', '2 more flew away' and 'how many were left'.

Remind the children of the different ways they could work it out mentally.

Ask for the answer [22].

Write the number sentences on the board and read it out.

Repeat the story with different numbers.

## 4 TEACHER AND STUDENT ACTIVITY

Put the children into pairs.

Tell them to make up their own number stories and to work out the answers mentally.

Ask them to write the number sentence in their books.

Move around the classroom, assessing the children by listening to them. Give help if needed. If some children are finding it too easy, give them more difficult problems.

## 5 CONCLUSION AND ASSESSMENT

Pick one pair to tell one of their number stories.

Ask the class to work out the answer.

Repeat with 2 more pairs.

Make a note of those children who are not able to solve the problems and those who are finding it too easy. Record this information in the class assessment folder.



# ASSESSMENT

Assessment should be carried out in each lesson. The teacher watches and listens to the children and judges how they are doing. This is called formative assessment. Elementary student do not usually have tests (summative assessment).

The Teacher Guide includes photocopiable assessment records for you to use. You need one for each student.

You should keep the assessment records in the student's assessment folder and fill them out at the end of every week. If you have it, you should also put in any written or picture evidence of the student's learning and progress.

At the end of each term you must bring out the student's assessment folder and use it in the parent/teacher conference. When you pass the student onto their next teacher, you should sit down with them and discuss the student's progress and abilities using these sheets.

## Assessment plan for each strand

The daily lesson plans have assessment tasks built in. At the end of each topic you must assess the student to make sure they are meeting the National Standards. Report on the assessment tasks achieved by students at the end of Elementary 1 for each strand of study.

### Strand 1: Number and Operation

Topics	By the end of Elementary 1 the students should be able to	Assessment tasks
<b>Numbers up to 1,000 (Counting)</b>	1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<ul style="list-style-type: none"> <li>a. Count 0 to 50 sets of objects</li> <li>b. Read number names from 0 to 50</li> <li>c. Write number scripts from 0 to 50</li> <li>d. Name even numbers</li> <li>e. Name odd numbers</li> </ul>
<b>Numbers up to 1,000 (Comparing and ordering)</b>	1.1.1 Understand the meaning and representations of numbers using place value by making 10 and 100 up to 1000	<ul style="list-style-type: none"> <li>a. Estimate sets of objects</li> <li>b. Compare sets of numbers using less than or more than 0 to 50</li> <li>c. Order number sets from 0 to 50</li> </ul>
<b>Numbers up to 1,000 (Place value)</b>	1.1.2 Understand the use of relative size of numbers in various situations	<ul style="list-style-type: none"> <li>a. Show base 10 materials from numbers 0 to 50 and more</li> <li>b. Write 2 digit numbers in tens and units from 0 to 50</li> <li>c. Order 2 digit numbers from smallest to biggest</li> </ul>
<b>Addition and Subtraction of 2 and 3 digit numbers (Addition)</b>	1.1.4 Extend their understanding of addition and subtraction to calculate 2 digit numbers	<ul style="list-style-type: none"> <li>a. Add 2 digit objects up to 50 or more</li> <li>b. Use different ways of adding to make 10 and 20</li> <li>c. Write number sentences for addition using the symbols,</li> <li>d. Solve simple addition problems</li> </ul>
<b>Addition and Subtraction of 2 and 3 digit numbers (Subtraction)</b>	1.1.4 Extend their understanding of addition and subtraction to calculate 2 digit numbers	<ul style="list-style-type: none"> <li>a. Tell half of objects in numbers and shapes e.g. half of 10 is 5, half of coconut</li> <li>b. Show how to divide in numbers and share</li> </ul>
<b>Simple Fractions (Fractions)</b>	1.1.3 Show and represent the meaning of half and quarter as equally divided part of a whole using pictorial or concrete objects	<ul style="list-style-type: none"> <li>a. Tell half of objects in numbers and shapes e.g. half of 10 is 5, half of coconut</li> <li>b. Show how to divide in numbers and share</li> </ul>



# ASSESSMENT

## Strand 2: Quantities and Measurement

Topics	By the end of E1 the students should be able to	Assessment tasks
Units of Length (Length)	1.2.1 Understand and compare length of objects using the units of measurement such as centimetre ( <i>cm</i> ) and metre ( <i>m</i> )	<ul style="list-style-type: none"> <li>a. Measure length using the meter ruler a standard units</li> <li>b. Measure height using the meter ruler a standard units</li> <li>c. Measure width of objects using string and meter ruler</li> </ul>
Weight		<ul style="list-style-type: none"> <li>a. Measure weight of objects on beam balance</li> <li>b. Record their weight as in heavier than, lighter than or same</li> </ul>
Capacity		<ul style="list-style-type: none"> <li>a. use a cup or jug to fill big containers</li> <li>b. record how much the container can hold in cups or jugs</li> <li>c. use a L bottle or measuring cup to fill a bucket and record how much a full bucket can hold</li> </ul>
Reading time (Time)	1.2.3 Understand and set the units of time and duration in hours and days	<ul style="list-style-type: none"> <li>a. Tell season of events</li> <li>b. Read the calendar months and dates</li> <li>c. Read time on clock face for half hour and quarter to and quarter past</li> </ul>
Money		<ul style="list-style-type: none"> <li>a. Exchange coins for notes</li> <li>b. Count out money to buy items</li> </ul>

## Strand 3 : Geometrical Figures

Topics	By the end of Elementary 1 the students should be able to	Assessment tasks
Triangles & Quadrilaterals (Plane shapes- 2D shapes)	1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures	<ul style="list-style-type: none"> <li>a. Name and describe the shapes</li> <li>b. Make patterns out of shapes</li> </ul>
Triangles & Quadrilaterals (Angles & directions)	1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures	<ul style="list-style-type: none"> <li>a. Give and follow simple directions to move clockwise and anticlockwise from a starting point</li> <li>b. Draw directions of clockwise and anticlockwise movements</li> </ul>
Shape of box(Solids -3D shapes)	1.3.2 Knowing boxes by the component of the faces and make a box	<ul style="list-style-type: none"> <li>a. Describe the features of solids</li> <li>b. Tell differences between boxes and tins from solids</li> </ul>
Triangles & Quadrilaterals (Symmetry)	1.3.1 Understand and investigate components of triangles and quadrilaterals as geometrical figures	Make and show lines of symmetry on folded paper, leaves, etc.

## Strand 4: Data and Mathematical Relations

Topics	By the end of E1 the students should be able to	Assessment tasks
Rules of addition and subtraction (Extending and Using Patterns)	1.4.1 Apply using rules for inverse operation to calculate addition and subtraction	<ul style="list-style-type: none"> <li>a. Make patterns in colour and shapes</li> <li>b. Make odd and even number patterns</li> <li>c. Fill in numbers in missing number pattern</li> </ul>
Collecting and representing data (Representing and Interpreting Data)	1.4.2 Understand and use simple tables and graphs to represent and compare various types of situations in everyday life.	<ul style="list-style-type: none"> <li>a. Collect any number of objects less than 50, and group into their most obvious features, e.g. all green, round, stones, cans or others</li> <li>b. Find out and record the number of students who come from different areas in the classroom</li> </ul>

# ASSESSMENT

## Elementary 1 Term1 Sample Assessment Record

Year: ..... Class: ..... E1, Mathematics Assessment Record, Child's Name: .....

Wk	Term 1	Notes –	A, P, N	Evidence
1	<b>Orientation</b>			Y/N
2	<b>Counting</b> Count the number of objects in a set 0-50			Y/N
3	<b>Counting</b> Recognize odd and even numbers			Y/N
4	<b>Counting</b> Estimate the number of objects in a set from 0-50			Y/N
5	<b>Comparing &amp; Ordering</b> Compare and order sets of objects and numbers 0-50 Use vocabulary; first to twentieth			Y/N
6	<b>Place Value</b> Break numbers into tens and units e.g. $24=20+4$			Y/N
7	<b>Place Value</b> Break numbers into tenths and units e.g. $24=20+4$			Y/N
8	<b>Addition</b> Add sets of objects and numbers 0-50			Y/N
9	<b>Subtraction</b> Make number sentences and stories to estimate and solve subtraction problems 0-50 or more  Use mental arithmetic to solve simple addition and subtraction sums 0-50 or more			Y/N

A = Achieved learning objectives for this week

P = partly achieved or achieved some of the learning objectives for the week

N = Not done, child did not follow this week's work

# ASSESSMENT

## Elementary 1 Term 2 Sample Assessment Record

Year: ..... Class: ..... E1, Mathematics Assessment Record, Child's Name: .....

Wk	Term 2	Notes –	A, P, N	Evidence
1	<b>Orientation</b>			
2	<b>Addition</b> Do repeated addition for numbers 2 and 5			Y/N
3	<b>Subtraction</b> Make number sentences and stories to estimate and solve subtraction problems 0-50			Y/N
4	<b>Addition and Subtraction</b> Use mental arithmetic to solve simple addition and subtraction problems 0-50.			Y/N
5	<b>Fractions</b> Divide into halves whole objects and sets of objects.			Y/N
6	<b>Length</b> Estimate and measure height, width and length using a metre ruler or a metre rope			Y/N
7	<b>Length</b> Compare height and length using 'more than 1m' or 'less than 1m', before, after			Y/N
8	<b>Addition</b> Add sets of objects and numbers 0-50 or more Make number sentences and stories and solve addition problems 0-50 or more			Y/N
9	<b>Weight</b> Estimate and measure light and heavy objects using improvised balances.			Y/N

A = Achieved learning objectives for this week

P = partly achieved or achieved some of the learning objectives for the week

N = Not done, child did not follow this week's work

# ASSESSMENT

## Elementary 1 Term 3 Assessment Record

Year: ..... Class: ..... E1, Mathematics Assessment Record, Child's Name: .....

Wk	Term 3	Notes –	A, P, N	Evidence
1	<b>Orientation</b>			
2	<b>Addition</b> Add sets of objects and numbers 0-50 or more  Make number sentences and stories and solve addition problems 0-50 or more Do repeated addition for numbers 2 and 5			Y/N
3	<b>Subtraction</b> Use simple arithmetic to solve subtraction problems with numbers 0-50			Y/N
4	<b>Capacity</b> Compare and estimate capacity using non-standard units, e.g. cup, jug Estimate and measure the capacity of containers using standard unit litre(L)			Y/N
5	<b>Time</b> Read day, date, month and events using calendar. Read time in hours and half hour on clock face.			Y/N
6	<b>Money</b> Recognise notes up to K50 and exchange and use coins up to K1 or more			Y/N
7	<b>Money</b> Calculate how many items may be bought with a sum			Y/N
8	<b>Representing and Interpreting Data</b> Select and sort real objects by two features e.g. shape, colour or size			Y/N
9	<b>Plane Shapes (2D Shapes)</b> Identify, sort and name four sided shapes in their environment.			Y/N

A = Achieved learning objectives for this week

P = partly achieved or achieved some of the learning objectives for the week

N = Not done, child did not follow this week's work

# ASSESSMENT

## Elementary 1 Term 4 Assessment Record

Year: ..... Class: ..... E1, Mathematics Assessment Record, Child's Name: .....

Wk	Term 4	Notes –	A, P, N	Evidence
1	<b>Orientation</b>			
2	<b>Money</b> Calculate how many items may be bought with a sum			Y/N
3	<b>Plane Shapes (2D Shapes)</b> Draw and make patterns using 2D shapes			Y/N
4	<b>Symmetry</b> Identify one line of symmetry in shapes and in the environment			Y/N
5	<b>Angles &amp; Direction</b> Give, follow and draw simple moving and turning directions using half turns, clockwise and anticlockwise. Recognize right angles in the environment.			Y/N
6	<b>Solids (3D Shapes)</b> Group, describe and name common solid shapes using non-standard words like ball, box, tins and cans.			Y/N
7	<b>Extending and Using Patterns.</b> Recognize the pattern in odd and even number sets. Work out missing numbers in a given set of numbers. Recognise and follow patterns in addition and subtraction			Y/N
8	<b>Addition</b> Add sets of objects and numbers 0-50 or more  Make number sentences and stories and solve addition problems 0-50 or more			Y/N
9	<b>Subtraction</b> Make number sentences and stories to estimate and solve subtraction problems 0-50 or more  Use mental arithmetic to solve simple addition and subtraction sums 0-50 or more			Y/N

A = Achieved learning objectives for this week

P = partly achieved or achieved some of the learning objectives for the week

N = Not done, child did not follow this week's work

## Reporting Sample

You may photocopy and use for each student in your class.

Name of school:.....

Class Teacher.....

Student Name: .....Male/female:.....

Year: ..... Class: ..... E1

Rating of Assessment Tasks											
KEY FOR RATING: A- Excellent (80-100%) B. Good (60-80%) C partly achieved (30-60%)											
Strand: Number and Operation											
Counting	Rating A,B,C	Comparing and ordering	Rating A,B,C	Place Value	Rating A,B,C	Addition	Rating A,B,C	Subtraction		Fraction	Rating A,B,C
Count 0 to 50 sets of objects	A	Estimate sets of objects	B	Show base 10 materials from numbers 0 to 50	B	Add 2 digit objects up to 50	A	Subtract 2 digit objects up	A	Tell half of objects in numbers and shapes e.g. half of 10 is 5, half of coconut	A
Read number names from 0 to 50	B	Compare sets of numbers using less than or more than 0 to 50	A	Write 2 digit numbers in tenths and units from 0 to 50	A	Use different ways of adding to make 10 and 20	C	Use different ways of subtracting to make 10 and 20	C	Show how to divide in numbers and share	B
Write number scripts from 0 to 50	A	Order number sets from 0 to 50	A	Order 2 digit numbers from smallest to biggest	C	Write number sentences for addition using the symbols,	B	Write number sentences for subtraction using the symbols	B		
Name even numbers	A					Solve simple addition problems	B	Solve simple subtraction problems	C		
Name odd numbers	A										

# ASSESSMENT

## Strand: Quantities and Measurement

Length	Rating A,B,C	Weight	Rating A,B,C	Capacity	Rating A,B,C	Time	Rating A,B,C	Money	Rating A,B,C
Measure length using the meter ruler a standard units		Measure weight of objects on beam balance		use a cup or jug to fill big containers record how much the container can hold in cups or jugs		Tell season of events		Exchange coins for notes	
Measure height using the meter ruler a standard units		Record their weight as in heavier than, lighter than or same		use a L bottle or measuring cup to fill a bucket and record how much a full bucket can hold		Read the calendar months and dates		Count out money to buy items	
Measure width of objects using string and meter ruler		Order objects according to weight from light to heavy or vice versa				Read time on clock face for half hour and quarter to and quarter past			

## Strand: Geometrical Figures

Plane shapes (2D shapes)	Rating A,B,C	Angles & directions	Rating A,B,C	Solids (3D shapes)	Rating A,B,C	Symmetry	Rating A,B,C		
Group similar shapes and name them									
Match triangles, squares and circles									
Tell their differences									

## Strand : Data and Mathematical Relations

	Rating A,B,C		Rating A,B,C
Extending Patterns		Representing and interpreting data	
Make patterns using colour and shape		Collect objects from the local environment and sort them into two groups using their own criteria e.g. colour and shapes	
Arrange numbers in different ways to form a pattern		Sort numbers according to criteria given by the teacher e.g. even and odd, more or less than 10,	
Do even number pattern			



# ASSESSMENT

Teachers Comments.....  
.....  
.....

Signatures:.....

Student;.....Teacher .....Date:.....

Parent/ Guardian Comments.....  
.....

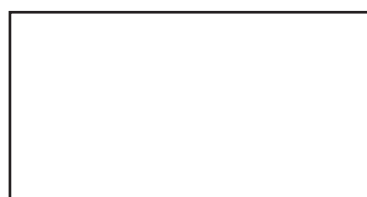
Signatures:.....

Student:..... Parent/ Guardian .....

Date:...../...../.....

**Note:** Parent/ Guardian bring original to class teacher and gets head teacher to sign and stamp.  
Compile and pass copies; to Parent/ Guardian, and E1 teacher for records of the child's progress in the  
next year of learning for a child

Head Teacher signatures.....School Stamp



# GLOSSARY

Meanings of terms used for teacher to read, understand and use in teaching mathematics lessons

Term	Meaning
<b>Addition</b>	As in putting together or putting on of objects etc.
<b>Area</b>	Part or measurement of surface enclosed within a boundary, or extent of the surface of all or part of a solid. <i>E.g.</i> a piece of land for the school called the school area or boundary
<b>Capacity</b>	The quality or amount a container can hold and contain
<b>Circle</b>	A ring all around with same measurement of radius from the centre/mid-point
<b>Cone</b>	Pointed object with round base. <i>E.g.</i> ice-cream
<b>Currency</b>	Money used by the country to buy and sell. For example, Papua New Guinea coins and paper money in Toeas and Kinas to buy and sell
<b>Data</b>	Collection of objects or numbers that give information about population etc. <i>for example</i> , number of students in a school.
<b>Digit</b>	Any single number from 0 to 9. <i>For example</i> number 10 has two digits
<b>Dimensional shapes</b>	Shapes that have height and length (2D shapes) and height, length and width (3D shapes)
<b>Division</b>	Grouping objects and symbols into groups or numbers
<b>Estimate</b>	Make guesses, predictions and calculations with appropriate judgement to solve problems
<b>Geometric shapes</b>	Patterns of shapes such as oblongs, triangles and squares formed by joining straight lines and with corners.
<b>Geometry</b>	Study of angles and shapes that are formed by relating to lines, surfaces and solids such as triangles, cubes and circles
<b>hour</b>	Time measurement for hours or duration of time
<b>Informal units</b>	Non- standard units as arm spans, paces, sticks, ropes used for measuring in the daily activities of different communities e.g. using leg space to measure the length of a house.
<b>Interpret</b>	To work out and say in own words, the meaning and understanding of pictures and symbols.
<b>Minute</b>	Clock face or time measurement operation shown by the long hand showing 60 minute cycle for hourly routine that is 60 minutes per hour.
<b>Multiplication</b>	a mathematical operation which has a x symbol, that can be shown by adding integers repeatedly
<b>Pattern</b>	Repeated designs etc. as in for example weaving a basket or billum
<b>Rectangle</b>	Four (4) straight sided figures with lines that meet at 90 degree angles and with 2 opposite sides equal.
<b>Sphere</b>	An object similar to ball, round solid figure, three- dimensional surface that has distance from all points to the centre point. <i>E.g.</i> globe or earth
<b>Seconds</b>	Time in 1 minute that is 60 seconds per minute
<b>Sorting</b>	Classification or grouping into sets or subsets according to feature of objects or number groups e.g. 10 in 1 set
<b>Subtraction</b>	As in taking away or decreasing an object or symbol
<b>Triangle</b>	Three (3) straight sided figure with 2 lines that meet at 90 degree angle

## RESOURCES AND MATERIALS

These resources should be collected prepared and stored in the classroom for use in lessons

### flashcards for:

days of the week  
months  
dates

### Measures for:

1kg  
1/2 kg  
1/4 kg  
1L  
1/2L  
1/4L

clock, clock faces, calendars, mugs, cups, pots, pans  
buckets  
rice  
empty packets of food  
empty drinks bottles  
cans  
banknotes  
coins  
beam balance  
metre ruler  
tape measure  
string or rope

### Songs

#### Mathematical Songs that can be used during lessons.

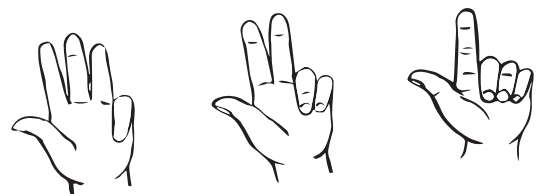
##### 10 Ripe pawpaws

10 ripe pawpaws hanging on the tree,  
10 ripe pawpaws hanging on the tree,  
1 ripe pawpaw has accidentally fallen,  
9 ripe pawpaws hanging on the tree  
(Continue this song to no ripe pawpaw hanging on the tree)



##### One little, two little fingers...

One little, two little fingers, three little fingers,  
Four little, Five little fingers, six little fingers,  
Seven little, eight little fingers, nine little fingers,  
I have 10 little fingers on my hands



## RESOURCES AND MATERIALS

### **I hear some toeas dropping (Tune: Hear the toes dropping)**

I hear some toeas dropping, listen while they drop  
Every coin is different in size, shape and number  
Dropping. dropping, dropping,  
Hear the sounds they make  
Every coin is different in size, shape and number

### **Ten green bottles**

10 green bottles hanging on the wall  
10 green bottles hanging on the wall  
And if one green bottle should accidentally fall  
There'll be 9 green bottles hanging on the wall  
(Continue this song to no green bottles hanging on the wall)

### **I have some coins**

I have some toeas In my pocket, In my pocket. In my pocket  
I have some toeas they count up to one Kina  
(Continue with toeas in my billum and toeas in my wallet)



### **There were 10 in the bed**

There were 10 in the bed and the little one said  
Roll over, roll over.  
So they all rolled over and one fell out  
There were 9 in the bed and the little one said,  
Roll over, roll over  
(Continue this song to no children in the bed)

### **This is the way I brush my teeth**

This is the way I brush my teeth, brush my teeth, brush my teeth, (with all children and teacher doing the action, miming brushing teeth)  
This is the way I brush my teeth, brush my teeth in the morning,  
This is the way I walk to school, walk to school, walk to school (all miming walking)  
This is the way I walk to school, walk to school in the morning.  
Repeat with different activities and actions.

### **On my way to school today I met a little friend**

On my way to school today I met a little friend ,  
we hold our hands together and we walk to school  
(children hold hands in a circle and sing the song while walking around in circles)  
On my way to school today I met a little friend ,  
we hold our hands together and we skip to school  
(children hold hands in a circle and sing the song while skipping around in circles)  
(Repeat with other actions)



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NOT FOR SALE