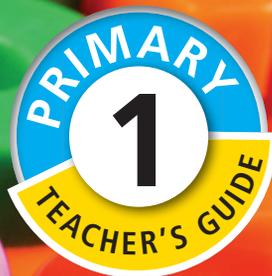


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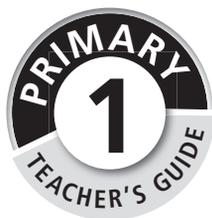


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Mathematics



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Introduction

The purpose of the curriculum

The main objectives of the curriculum are to prepare your pupils to:

- acquire mathematical literacy necessary to function in an information age
- cultivate the understanding and application of mathematical concepts and skills necessary to thrive in the ever-changing technological world
- develop the essential elements of problem solving, communication, reasoning and connection within the study of Mathematics
- take advantage of the numerous career opportunities provided by Mathematics
- further their studies in Mathematics and other related fields.

The role of the teacher

One of the principal duties of a Mathematics teacher is to prepare and present good lessons to his or her pupils. It is your role to:

- be as well informed as possible on the scheme of work
- know the aims and objectives of each topic
- select appropriate content material
- decide on the best methods of presentation, such as group work, worksheets, question-and-answer sessions, debates, etc.
- keep informed about social and environmental issues, and other current news in Nigeria and the rest of the world
- encourage learning that will promote creativity and critical thinking in pupils through innovative teaching approaches.

To be effective in presentation, you, the teacher, must do a written/typed plan for each lesson. This must include aims, objectives, resources, time frames, content for the lesson, activities, homework, assessment, and ideas/additional worksheets to cater for pupils requiring extension or learning support (remedial).

Prepare each topic in advance. Many teachers go into the classroom inadequately prepared. It is your responsibility as a Mathematics teacher to actively involve your pupils in the learning process. It is a proven fact that pupils learn far more by *doing* than by *listening*.

Mathematics involves being curious and asking questions. Wherever possible, ask questions to engage the pupils, encourage independent thought processes and develop problem-solving skills. Start your lessons by asking the pupils to write down answers to questions related to your lesson (approximately five questions). This will settle them into the lesson. You can use different types of questions in your lessons:

- for **diagnostic** purposes, enabling you to determine prior knowledge on the topic

- for **consolidation** of challenging concepts during the lesson
- for **stimulation** of interest in the subject
- for **understanding**
- for **concluding** the lesson.

This will assist you in finding out whether your pupils have grasped the concepts/terminology in the lesson. It will also highlight any areas/concepts they may need to revise at home, or that you may need to revisit in the next lesson.

Teachers must ensure that they do not appear to have favourites in the class. It is important to devise a system that ensures that you ask questions fairly, being careful not to embarrass weaker pupils if they cannot answer a question.

How to use the scheme of work

A scheme of work is defined as the part of the curriculum that you, the teacher, will be required to teach in any particular subject. Its primary function is to provide an outline of the subject matter and its content, and to indicate how much work a pupil should cover. The scheme of work allows you to clarify your thinking, and plan and develop particular curriculum experiences that you believe may require more time and attention when preparing lessons. The criteria all teachers should bear in mind when planning a scheme of work are continuity in learning and progression of experience. You can add your own notes to the scheme of work provided in this Teacher's Guide on pages vii to xii.

The scheme of work is sequential. The sequence is aligned with the Pupil's Book and Workbook. Do not be tempted to jump around. Rather spend time carefully planning the term to ensure that you adhere to the sequence of teaching laid out in the scheme of work.

The year is divided into three terms. Each term is divided into 13 weeks. There are 12 topics in Term 1, 10 topics in Term 2 and 10 topics in Term 3. Each term also allows time for revision. The time frame may vary depending on the planning of your particular school.

Your management of the class will have an enormous influence on your ability to adhere to the time frames. Focus on effective discipline strategies. You will have fewer discipline issues if you are punctual, well prepared, follow a plan (write this on the board at the start of the lesson), keep your word (don't make empty threats) and consistently adhere to rules.

A teacher of Mathematics is a professional instructor who facilitates, promotes and influences pupils to achieve the outcomes of the scheme of work. It is the wish of the authors that the pupils will, at the end of each course in this series, attain a level of mathematical proficiency that will equip them for future studies in this field.

Scheme of work

Term 1

Topic	Exercise objectives	PB page	WB page
Theme 1 Numbers and numeration			
1. Identification and reading of whole numbers 1–5	Pupils should be able to: <ul style="list-style-type: none"> Identify numbers of objects 1–5 Read numbers 1–5 	1–3	1–4
2. Sorting and classification of objects leading to ideas	Pupils should be able to: <ul style="list-style-type: none"> Sort out different objects into groups of similar objects Classify different objects, e.g. books, sticks, seeds, bottle tops, etc. 	4–6	5–8
3. Ordering and writing of whole numbers 1–5	Pupils should be able to: <ul style="list-style-type: none"> Order numbers 1–5 using objects Write numbers 1–5 	7–16	9–14
4. The whole number zero (0)	Pupils should be able to: <ul style="list-style-type: none"> Identify a group of 5 numbers Reduce by one until all numbers disappear Make correct statements about the no-number set or zero 	17–25	15–18
5. Identification and reading of whole numbers 6–9	Pupils should be able to: <ul style="list-style-type: none"> Identify the number of objects in a group or collection Read the number of objects in a group or collection 	26–32	19–24
6. Ordering and writing of whole numbers 6–9	Pupils should be able to: <ul style="list-style-type: none"> Arrange numbers 6–9 in order of magnitude Write numbers 6–9 	33–40	25–27
7. Using place value in tens and units	Pupils should be able to: <ul style="list-style-type: none"> Identify the place value of numbers not exceeding tens and units Use the idea of place value limited to tens and units 	41–45	28–32

Topic	Exercise objectives	PB page	WB page
Theme 1 Numbers and numeration			
8. Counting and identification of whole numbers 1–9	Pupils should be able to: <ul style="list-style-type: none"> • Count numbers from 1–9 • Read numbers 1–9 • Identify numbers 1–9 • Relate the use of numbers 1–9 to arrange concrete objects in the environment, e.g. 4 balls, 5 pencils, etc. 	46–51	33–36
9. Writing whole numbers from 1–9	Pupils should be able to: <ul style="list-style-type: none"> • Write numbers 1–9 correctly in the air and on a sand tray • Write the numerals 1–9 on paper 	52–56	37–40
10. Reading and writing whole numbers 1–99	Pupils should be able to: <ul style="list-style-type: none"> • Identify and read correctly numbers 1–99 • Write correctly numbers 1–99 	57–63	–
11. Identification of fractions $\frac{1}{2}$ and $\frac{1}{4}$	Pupils should be able to: <ul style="list-style-type: none"> • Read and name one half and one quarter of an object • Divide an object (piece of paper) into two equal parts to show halves of a whole; and into four equal parts to show quarters of a whole 	64–69	41–44
12. Identification of fractions using concrete objects and shapes	<ul style="list-style-type: none"> • Divide an object into halves and quarters • Identify and name a half or a quarter of an object • Use $\frac{1}{2}$ and $\frac{1}{4}$ to have fun with activities 	70–75	45–48
Revision		76–80	49–52

Term 2

Topic	Exercise objectives	PB page	WB page
Revision of Term 1 work	Pupils should be able to: <ul style="list-style-type: none"> Recall what has been taught and write correctly Count and write numbers 11–50 	81–86	53–56
Theme 2 Basic operations			
1. Addition of whole numbers with a sum less than 5	Pupils should be able to: <ul style="list-style-type: none"> Recognise and write the addition symbol + and say what the symbol stands for and how to use it Add two whole numbers from 1 to 3 with a sum not more than 5 	87–90	57–60
2. Addition of whole numbers less than 10	Pupils should be able to: <ul style="list-style-type: none"> Add any two or three numbers from 0 to 9 (a) with the aid of objects for counting (b) without the aid of objects for counting Add two or three whole numbers from 1 to 8 with a sum not more than 10 	91–96	61–64
3. Addition of whole numbers with a sum less than 20	Pupils should be able to: <ul style="list-style-type: none"> Add any two or three numbers with sums from 11 to 19 Use the various ways of forming 3, 6 and 9 to solve addition of such sums mentally Solve addition in vertical order 	97–107	65–68
4. Addition of two-digit whole numbers with a sum not greater than 40	Pupils should be able to: <ul style="list-style-type: none"> Add 2-digit whole numbers with a sum not greater than 40 without exchanging and remaining 	108–120	69–72
5. Subtraction of whole numbers not greater than 9	Pupils should be able to: <ul style="list-style-type: none"> Show subtraction practice as taking away and going back on the number line Perform operations like 5–3, 4–1, 7–4, etc. with and without the aid of objects 	121–126	73–76

Topic	Exercise objectives	PB page	WB page
6. Subtraction from whole numbers not greater than 20	Pupils should be able to: <ul style="list-style-type: none"> Subtract from whole numbers not greater than 20 Play games involving subtraction 	127–130	77–80
7. Addition of two-digit numbers without regrouping	Pupils should be able to: <ul style="list-style-type: none"> Add two-digit numbers without grouping e.g. $40 + 9 = 49$ $97 = 90 + \square$ $49 = 9 + \square$ 	131–134	81–84
8. Addition and subtraction on the number line	Pupils should be able to: <ul style="list-style-type: none"> Add using a number line, e.g. $2 + 4 = 6$  $9 - 4 = 5$  Identify the counting of numbers forwards and backwards using arrows e.g. addition is forwards (\rightarrow) and subtraction is backwards (\leftarrow) 	135–140	85–87
Theme 3 Algebraic processes			
1. Open sentences involving addition	Pupils should be able to: <ul style="list-style-type: none"> Find the missing addends e.g. $8 + 2 = \square$ $5 + 0 = \square$ $\square - 2 = 5$ 	141–145	–
2. Open sentences involving subtraction	Pupils should be able to: <ul style="list-style-type: none"> Find the missing subtrahends e.g. $7 - 2 = \square$ $8 - \square = 6$ $7 - 0 = \square$ 	146–148	–
Revision		149–157	88–90

Term 3

Topic	Exercise objectives	PB page	WB page
Revision of Term 2 work	Pupils should be able to: <ul style="list-style-type: none"> Recall what has been taught and write them correctly Count and write numbers 51–100 	158–169	91–93
Theme 4 Mensuration and geometry			
1. Money – recognition of coins and notes	Pupils should be able to: <ul style="list-style-type: none"> Identify any Nigerian coin and its value Arrange coins in order of their values and trace them on paper Express one coin in terms of another (in value) 	170–172	94–95
2. Money – addition and subtraction of coins and notes	Pupils should be able to: <ul style="list-style-type: none"> Add and subtract Nigerian coins with different values up to 10 kobo Add and subtract coins involving 5 and 10 kobo coins, and single kobo coins up to 25k Add and subtract notes involving ₦1 up to ₦50. Buy, sell and calculate balance due from ₦10 to ₦50, e.g $₦50 - ₦28 = ₦22$ 	173–178	96–97
3. Length – introducing natural units	Pupils should be able to: <ul style="list-style-type: none"> Estimate length and given distances with natural units Measure length and distances with natural units such as handspans, arm length, foot length and pace Compare the length of common objects in the classroom Compare two different lengths or distances 	179–184	98–101
4. Length – ordering of measurement	Pupils should be able to: <ul style="list-style-type: none"> Explain the need for a standard unit of measurement Use terms like longer than or shorter than to determine length 	185–189	102–104

Topic	Exercise objectives	PB page	WB page
5. Time	Pupils should be able to: <ul style="list-style-type: none"> • Demonstrate knowledge of the idea of time • Explain when certain activities are carried out at home or at school • Explain the need to keep to time 	190–198	105–107
6. Mass (weight)	Pupils should be able to: <ul style="list-style-type: none"> • Compare weights of different objects using the terms lighter than and heavier than 	199–203	108–111
7. Capacity	Pupils should be able to: <ul style="list-style-type: none"> • Compare capacity containers • Use an improvised scale for weighing objects • Order capacity of containers 	204–207	112–113
8. Three-dimensional shapes	Pupils should be able to: <ul style="list-style-type: none"> • Identify cubes, cuboids, spheres and cylinders • Distinguish between cuboid shapes and cubes 	208–211	114–115
9. Two-dimensional shapes	Pupils should be able to: <ul style="list-style-type: none"> • Identify (a) a square (b) a rectangle (c) a circle • Name (a) a square (b) a rectangle (c) a circle • Distinguish between square and rectangular shapes 	212–216	116–118
Theme 5 Everyday statistics			
1. Data collection	Pupils should be able to: <ul style="list-style-type: none"> • Collect data on their ages at home and school • Collect data on their heights 	217–223	117–118
Revision		224–234	119–122

Topic 1 Identification and reading of whole numbers 1–5**Pupil's Book pages 1–3**

Skills: counting; estimating; identifying; matching; reading; recognising

Concepts: more and less; number symbols; number names; quantity (how many – one and many)

Resources: counters; concrete objects such as beads, bottle tops, buttons and stones; number chart; number line; number symbol cards and number name cards from 1 to 5; word and flash cards for more and less, one and many

Vocabulary: count; estimate; more and less; number names 1 to 5

Learning experiences**Lesson focus**

Pupil's Book: Topic 1: Exercises 1–3

Counting

- Do counting daily with the pupils as a whole class or in smaller groups, on a mat.
- Pupils need as much practice in counting as possible.
- Use a variety of concrete objects and counters, such as beads, bottle tops, buttons and stones.
- Vary the counting:
 - count concrete objects
 - count objects in a picture.
- Count from number charts and number lines, identifying the numbers:
 - count forwards and backwards in ones
 - count forwards and backwards from a given number to a given number

- heap up counters and count in groups, for example, in ones and in twos.
- Repeat these activities as often as necessary throughout the first term.

Identifying numbers

- Use number cards, number charts and number lines.
- Pupils identify numbers by reading and naming them as you show and point.
- Pupils also identify numbers by matching them to different quantities of objects (**how many**, **more** and **less**).
- Repeat this activity as often as necessary throughout the first term.

More and less

- The pupils work in pairs on a mat.
- Hand out:
 - word cards for **more** and **less**
 - a variety of concrete objects and counters, such as beads, bottle tops, buttons and stones but no more than five to each pupil.
- Give each pair two small, empty containers. Each pupil puts a few objects into each container without counting the objects.

Estimate

- Ask the pupils to estimate how many objects each of their containers has, and to compare the quantities.
- Pupils say which container has more and which one has fewer objects (less).
- They place the correct word cards (**more** or **less**) next to the containers and explain why they placed the cards the way they did.
- The pupils can now count the objects to see if their estimate was accurate. Ask them to read the words **more** and **less**.
- Simplify the activity for pupils who struggle. They can do one-to-one matching to find out which container has less.
- Repeat these activities as often as necessary throughout the first term.

One and many

- Pupils work on a mat in small groups.
- Hand out:
 - a few objects to each pupil in the group
 - word cards for **one** and **many**.
- Ask pupils to put one object in front of them on the mat.
- Hold up your flashcard for **one** and ask the pupils to place their word card for **one** next to the object. They should read **one** out loud.
- Pupils now place more objects of the same kind in front of them. Hold up your flashcard for **many**. Pupils place their card for **many** next to the objects. They read the word **many** out loud.
- Repeat this activity using different objects such as beads, bottle tops, buttons and stones.

Exercise 1 Count with me

[group work]

- Counting activities must be done daily.
- Daily counting is the introduction to every Primary 1 Mathematics lesson.
- Have the pupils work on a mat in small groups.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards and number name cards from 1 to 5 (one to five) for abstract counting.
- Ask each group to put out one object and then place the correct number symbol and number name card next to it.



1

one

- Let the pupils continue to put out other objects up to five and place the correct cards.
- Ask the pupils to read all the cards as they put them out.
- Have the pupils turn to Exercise 1 on page 1 in the Pupil's Book.
- Read the instructions and have the pupils follow. As their reading ability develops, they will read more by themselves.
- Let the pupils complete the lesson.

Exercise 2 Let's count our fingers

[classwork]

- Pupils work as a class at their desks.
- Hold up your small finger. Ask pupils to say the number (1).
- Have pupils turn to Exercise 2 on page 2 in the Pupil's Book and read them the instructions.
- Hold up two, three, four and five fingers. Pupils read the number and the number name.
- Pupils then count all the fingers on one hand.

Exercise 3 Count again with me

[group work]

- Pupils work in groups on a mat.
- Put out a number of objects between 1 and 5.
- Ask the pupils to **estimate** (guess) how many there are.
- Then tell them to count the objects.
- They must touch and move the objects as they count each one.
- Have the pupils turn to Exercise 3 on page 3 in the Pupil's Book and hand out number symbol cards from one to five.
- Pupils estimate and then count the objects. They should point to each object on the page as they count.
- Ask them to choose a group leader to hold up the correct number symbol card for each group of objects.

Give the pupils more practice in counting by doing these exercises throughout the week:

Workbook: Topic 1, Exercises 1–4

- Read instructions, questions and names with the pupils.
- As their reading ability develops, they will read more by themselves.

Topic 2 Sorting and classification of objects leading to ideas

Pupil's Book pages 4–6

Skills: counting; estimating; identifying; ordering; reading; recognising; sorting and grouping

Concepts: before and after; between; more and less; number symbols; number names

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; number chart; number symbol cards

Vocabulary: forwards and backwards; order; sort and group

Learning experiences

Lesson focus

Pupil's Book: Topic 2: Exercises 1–3

Sorting and grouping

- Pupils work in small groups on a mat.
- Hand out to each group a variety of mixed objects, for example, beads, bottle tops, buttons and stones but not more than five of each kind.
- Ask the pupils to sort the objects into groups of the same kind.
- Ask them to point to a given number.
- Ask what numbers come before and after.
- Repeat the exercise with different numbers (2 to 4).
- Ask the pupils to point to two numbers, for example, 3 and 5. Ask what number is between 3 and 5.

Exercise 1 Count and group

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - five counters
 - number symbol cards from 1 to 5.
- Have the pupils turn to Exercise 1 on page 4 in the Pupil's Book.

- One pupil in each pair places counters on the same shapes in the picture to group and count them, for example, on the two circles.
- The second pupil finds the correct number symbol card and says the number.
- Pupils take turns to place counters and say the number as they complete the lesson.

Exercise 2 Count how many

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - five counters
 - number symbol cards from 1 to 5.
- Have pupils turn to Exercise 2 on page 5 in the Pupil's Book and read them the instructions.
- Let the pupils take turns to place counters on the same objects in the picture to group and count them, for example, on the two cars.
- Pupils take turns to find the correct number symbol card and say the number.

Exercise 3 Let's count

[classwork]

- Pupils work on their own at their desks.
- Have pupils turn to Exercise 3 on page 6 in the Pupil's Book. Show them the number chart at the top of the page and read them the instruction.
- Read all the names with the pupils.
- Pupils place counters on the picture to group and count, for example, on the two lions.
- Pupils take turns to find the correct number on the number chart and put up their hands to offer the answer.

Give the pupils more practice in sorting and grouping by doing these exercises throughout the week:

Workbook: Topic 2, Exercises 1–4

Topic 3 Ordering and writing of whole numbers 1–5

Pupil's Book pages 7–16

Skills: counting; identifying; ordering; reading; recognising; writing

Concepts: before and after; between; more and less; number symbols; number names; sorting and matching

Resource: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise book; number chart; number symbol cards from 1 to 5; pencils; word and flash cards for one and many

Vocabulary: before and after; between

Learning experiences

Lesson focus

Pupil's Book: Topic 3: Exercises 1–9

One and many

(continued)

- Give each pupil a sheet of paper.
- Ask them to draw one object and to write the word **one**.
- Then pupils draw many of the same objects (up to five) and write the word **many**.
- Pupils then count the objects and write the number symbol and the number name.

Ordering with more and less

For pupils to work with numbers in a sequence, they must also understand the concepts of **more** and **less**.

- Pupils work on a mat in small groups.
- Hand out to each group different quantities of objects, for example, beads, bottle tops, buttons and stones but not more than five of each kind.
- Ask pupils to count the objects.
- They compare numbers to see who has the most and the least, and who has the biggest number and the smallest number.
- Ask them to put the objects in number order from the smallest to the biggest.

Exercise 1 Let's practise numbers

[classwork]

- Pupils work individually at their desks.
- Have pupils turn to Exercise 1 on page 7 in the Pupil's Book and read them the instructions.
- Pupils trace the numbers in the Pupil's Book with their fingers.
- They should begin at the top and follow the arrows.
- Then they write the numbers in the air.
- Pupils may also write numbers in a sand tray.

Exercise 2 Writing numbers

[classwork]

- Pupils work individually at their desks.
- Have pupils turn to Exercise 2 on page 8 in the Pupil's Book and read them the instructions.
- This might be the first time the pupils write numbers (if they did not go to a pre-school) so the teacher should take time to teach this section well.
- Pupils start by tracing the numbers in the Pupil's Book with their fingers.
- When they are ready to write with pencils, make sure they are sitting properly and holding their pencils correctly. Pupils write in their exercise books.
- To write any number, the pupils should begin from the take-off point (the dot). They should place their pencils at this point and follow the arrows as they write.
- Let the pupils complete the lesson in the Pupil's Book.
- Give them lots of practice writing 1 to 5 so that they can master this skill.

Exercise 3 Writing numbers 1–5

[pair work]

- Pupils work in pairs at their desks.
- Have pupils turn to Exercise 3 on page 9 in the Pupil's Book and read them the instructions.
- Pupils take turns to show numbers 1 to 5 with their fingers and say the number. Both pupils then trace each number.
- Let the pupils complete the lesson by counting forwards from 1 to 5 and writing each number from the top in their exercise books.

Exercise 4 Count and write

[classwork]

- Pupils work as a class at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 1 to 5 for abstract counting.
- Have the pupils turn to Exercise 4 on page 10 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- When writing numbers in the correct order, pupils can refer back to question 2 in Exercise 3 on page 9 of the Pupil's Book, or use a number chart.
- Let the pupils complete the lesson.

Exercise 5 Ordering numbers

[group work]

- Pupils work in groups of five.
- Hand out number symbol cards 1 to 5 to each group.
- Ask all the pupils who have the number symbol card 1 to take a step away from their groups and to hold the card up in front of them.
- Ask the pupils what number comes after 1. The pupils with number symbol card 2 then move into position next to the pupils with number symbol card 1. Continue until all the pupils in each group are standing in number order.
- When all the pupils are in position, ask them what number comes before and after 2, 3, 4, and so on.
- Revise with the pupils what number comes between 1 and 3, and so on.
- Have the pupils turn to Exercise 5 on page 11 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- When writing numbers in the correct order in their exercise books, pupils can refer back to previous lessons or use a number chart.
- Let the pupils complete the lesson.

Quantitative reasoning

- Pupils work in pairs on the mat with a variety of concrete objects such as buttons, beads, bottle tops, stones, and so on.
- One pupil puts out four objects to represent their four balloons. The other pupil in the pair adds one more.
- Pupils then count the objects to find the answer.
- Pupils put out the correct number of objects as they tell each other how many brothers and sisters they have. How many children are there in the family? Each pupil should add one object to represent themselves. Is the number more than five? Pupils count to find the answer.

Exercise 6 Ordering and writing numbers

[classwork]

- Pupils work individually at their desks.
- Have the pupils turn to Exercise 6 on page 12 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- When writing numbers in the correct order, pupils can refer back to previous lessons or use a number chart.
- Let the pupils complete the lesson.

Exercise 7 Count how many again

[group work]

- Pupils work in groups on the mat.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 5 (one to five) for abstract counting.
- Pupils turn to Exercise 7 on page 13 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example.
- Pupils use counters to find how many objects there are in each picture.
- They write the correct number symbol and number name for each picture in their exercise books.
- Ask the pupils: Which picture has the smallest number of objects? Which picture has the biggest number of objects? Ask them to use concrete objects to count, and then put the groups of objects in order from the smallest to the biggest number, 1 to 5.

- Now let the pupils work with number charts to complete question 2 in their exercise books.

Exercise 8 Quantitative reasoning

[classwork]

- Pupils work individually at their desks
- Hand out:
 - five counters to each pupil, such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 5 (one to five) for abstract counting.
- Pupils turn to Exercise 8 on pages 14 and 15 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- Pupils draw and count each object, using their counters to help them. Then they write the correct number symbol and number name for each picture in their exercise books.

Exercise 9 Count and write some more

- Pupils turn to Exercise 9 on page 16 in the Pupil's Book.
- Pupils complete this exercise in the same way as Exercise 8.

Give the pupils more practice in ordering and writing of numbers by doing these exercises throughout the week:

Workbook: Topic 3, Exercises 1–6

Topic 4 The whole number zero (0)

Pupil's Book pages 17–25

Skills: counting; identifying; ordering; reading; recognising; tracing; writing

Concepts: number symbols; number names; subtracting (make less, take away); zero (nothing)

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise book; number chart; number line; number symbol cards from 0 to 5; pencils

Vocabulary: zero

Learning experiences

Lesson focus

Pupil's Book: Topic 4: Exercises 1–9

Exercise 1 Introducing zero

[classwork]

- Refer back to **Topic 3** Exercises 1 to 4 and teach this lesson in the same way.
- Pupils work individually at their desks.
- Hand out:
 - five counters to each pupil, such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 0 to 5 (zero to five) for abstract counting.
- Have the pupils turn to Exercise 1 on page 17 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- Ask the pupils how many counters they need to put out to count zero. They should put no counters out. It is very important that each pupil understands that zero means nothing.
- Let the pupils complete the lesson.

Exercise 2 Counting backwards

[classwork]

- Pupils work individually at their desks.
- Refer back to **Topic 2** Exercise 4 on page 8 of the Workbook.

- Use a number chart. Point to 5 and ask the pupils to say the number name.
- Now ask pupils to count backwards from 5 to 1. Let them count a few times as a class and then ask for three or four volunteers to count on their own.
- Hand out:
 - five counters to each pupil, such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 0 to 5 (zero to five) for abstract counting.
- Have the pupils turn to Exercise 2 on page 18 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the examples.
- Pupils complete the lesson in their exercise books.

Exercise 3 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones.
- Pupils turn to Exercise 3 on page 19 in the Pupil's Book.
- Read the questions one by one. Ask the pupils how many apples are in the basket, and to put out a counter for each apple. They should put out five counters.
- This lesson is a first introduction to the concept of subtraction (**making less, taking away**).
- Read questions 2. a) to c). Pupils should take away counters to answer each question. The final answer is zero (no apples left in the basket).

Exercise 4 Let's count

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 1 to 5 for abstract counting.
- Pupils turn to Exercise 4 on page 20 in the Pupil's Book.
- Read the instructions. Pupils write the answers in their exercise books.

Exercise 5 Books on a shelf

[classwork]

- Pupils work individually at their desks with counters.
- They turn to Exercise 5 on page 21 in the Pupil's Book.
- Read the instructions. Pupils write the answers in their exercise books.

Exercise 6 Nobody in class

[classwork]

- Pupils work as a class at their desks with counters.
- They turn to Exercise 6 on page 22 in the Pupil's Book.
- Read the questions. Pupils put up their hands to offer answers.
- Pupils copy and complete the table in their exercise books.

Exercise 7 Counting from zero

[classwork]

- Pupils work individually at their desks.
- This exercise is a first introduction to number lines.
- Refer back to the **Lesson focus** for **Topic 2** on page 5 of this Teacher's Guide, and revise the concepts of **before** and **after**, and **between**.
- Pupils turn to Exercise 7 on page 23 in the Pupil's Book.
- Read the instructions. Pupils should copy the complete number line into their exercise books.
- Make sure they understand they should use this number line to help them fill in the missing numbers in question 2.

Exercise 8 Zero to 5

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 5 (one to five).
- Pupils turn to Exercise 8 on page 24 in the Pupil's Book.
- Read the instructions. Each pupil in the pair must complete the work in their exercise book. Pairs may help each other to find the answers.

Exercise 9 Up or down

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones.
- Pupils turn to Exercise 9 on page 25 in the Pupil's Book.
- This exercise is a first introduction to the vertical number line. Make sure pupils understand they should use the number line to help them answer the questions.
- Read the instructions. Each pupil in the pair must complete the work in their exercise book. Pairs may help each other to find the answers.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 4, Exercises 1–4

Topic 5 Identification and reading of whole numbers 6–9

Pupil's Book pages 26–32

Skills: counting; estimating; identifying; matching; ordering; reading; recognising

Concepts: more and less; number symbols; number names; quantity (how many)

Resources: counters; concrete objects such as beads, bottle tops, buttons and stones; number chart; number symbol cards and number name cards from 1 to 5

Vocabulary: number names 6 to 9

Learning experiences

Lesson focus

Pupil's Book: Topic 5: Exercises 1–7

Refer back to **Topics 1 and 3** to teach these lessons. Concrete objects and number cards should be available for the pupils to use. A number chart should be pasted on the wall.

Exercise 1 Count more with me

[group work]

Pupils turn to page 26 in the Pupil's Book.

Exercise 2 Let's count our fingers

[classwork]

Pupils turn to page 27 in the Pupil's Book.

Exercise 3 Let's practise writing again

[classwork]

Pupils turn to page 28 in the Pupil's Book.

Exercise 4 Reading numbers 6–9

[pair work]

Pupils turn to page 29 in the Pupil's Book.

Exercise 5 Count and write again

[pair work]

Pupils turn to page 30 in the Pupil's Book.

Exercise 6 Counting to 9

[pair work]

Pupils turn to page 31 in the Pupil's Book.

Exercise 7 Quantitative reasoning

[classwork]

- Pupils work at their desks. They can use counters and a counting chart.
- They turn to page 32 in the Pupil's Book and complete the exercise.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 5, Exercises 1–6

Topic 6 Ordering and writing of whole numbers 6–9

Pupil's Book pages 33–40

Skills: counting; identifying; ordering; reading; recognising; writing

Concepts: before and after; between; more and less; number symbols; number names; sorting and grouping/matching

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise book; number chart; number lines; number symbol cards from 1 to 5; pencils

Vocabulary: match

Learning experiences

Lesson focus

Pupil's Book: Topic 6: Exercises 1–8

Refer back to **Topics 2 and 3** to teach these lessons. Concrete objects and number cards should be available for the pupils to use. A number chart should be pasted on the wall.

Exercise 1 Sort, then count

[pair work]

Pupils turn to page 33 in the Pupil's Book.

Exercise 2 Count to 9 again

[classwork]

Pupils turn to page 34 in the Pupil's Book.

Exercise 3 Quantitative reasoning

[classwork]

Pupils turn to page 35 in the Pupil's Book.

Exercise 4 Ordering more numbers

[pair work]

Pupils turn to page 36 in the Pupil's Book.

Exercise 5 Count and match

[group work]

- Pupils work in groups on a mat.
- Hand out counters.
- Pupils turn to page 37 in the Pupil's Book.
- Read the instructions and explain the example.
- Over and above counting and writing, pupils must match the groups with the same number of objects.
- Let pupils help each other to match the groups correctly.

Exercise 6 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They may use counters.
- Pupils turn to page 38 in the Pupil's Book.
- Read each question. This offers the pupils good practice in listening and understanding.
- Pupils study the picture and help each other to count.
- Each pupil in the pair must do the written work.

Exercise 7 Counting numbers up to 9

[classwork]

Pupils turn to page 39 in the Pupil's Book.

Exercise 8 Ordering and writing 6–9

[pair work]

Pupils turn to page 40 in the Pupil's Book.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 6, Exercises 1–3

Refer back to the Lesson focus for **Topic 1** on page 1 of this Teacher's Guide, and revise the concepts of **more** and **less**.

Topic 7 Using place value in tens and units

Pupil's Book pages 41–45

Skills: counting; identifying; recognising

Concepts: number concept (10); place value

Resources: counters: concrete objects such as: sticks (or match sticks or straws), beads, bottle tops, buttons and stones; crayons; elastic bands or string with scissors; interlocking cubes like Dienes blocks; exercise books; number chart; number line; number symbol and number name cards from 1 to 10; pencils

Vocabulary: tens; units

Learning experiences

Lesson focus

Pupil's Book: Topic 7: Exercises 1–5

Place value: tens and units

Pupils work in groups on a mat.

Hand out:

- enough sticks for each pupil in a group to have ten
- elastic bands or string with scissors
- number symbol and number name cards from 1 to 10 (one to ten) for each group.
- Have a number chart on the wall.
- Ask the pupils to each take ten sticks. They should count the sticks in ones from 1 to 9 and then add one more to make 10.
- Point to the number sequence on the number chart.
- Explain that they are going to exchange their single loose sticks for one bundle of ten. Show them how to tie ten sticks into a bundle. Explain that they each now have a whole 10.
- Show the number symbol card 10 and point to the 1. Say *one whole 10*. Point to the zero. Say *no single sticks (no units)*. Ask the pupils to place their number card for 10 next to their bundles of 10.
- If you have interlocking cubes like Dienes blocks, hand out ten cubes to each pupil.
- Have pupils interlock 10 single loose cubes (*units*) into one whole 10.

Exercise 1 Let's count to 10

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 10 (one to ten) for abstract counting.
- Pupils turn to Exercise 1 on page 41 in the Pupil's Book.
- They hold up their hands and count their fingers aloud, 1 to 10.
- Pupils count forwards in ones on the number line on the page, starting at 0.
- Now pupils count backwards on the number line, from 10 to 0.
- Pupils may use counters to help them count the different objects on the page.

Exercise 2 Tens and units

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - sticks (or match sticks or straws) – 55 for each group
 - an elastic band or string with scissors
 - number symbol and number name cards from 1 to 10 (one to ten) for abstract counting.
- Pupils turn to Exercise 2 on page 42 in the Pupil's Book.
- Read the instructions. Pupils place their number symbol and number name cards in order from 0 to 10 (zero to ten) and put out the correct total of sticks for each number.
- Each group then binds 10 sticks into a bundle with an elastic band or string, to make one group of 10, or one whole 10.
- Pupils place their number symbol and number name cards for 10 (ten) next to the bundle.

Exercise 3 Making 10

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - ten sticks (or match sticks or straws) to each pupil.
- Pupils turn to Exercise 3 on page 43 in the Pupil's Book.

- Read the instructions and have the pupils follow and look at the example.
- Pupils draw sticks to make 10 in their exercise books.

Exercise 4 Building 10

[pair work]

- Pupils work in pairs at their desks.
- Hand out interlocking cubes like Dienes blocks if you have them. (If not, pupils can work by counting the cubes on the page.)
- Pupils turn to Exercise 4 on page 44 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example.
- Pupils interlock cubes and count on to make 10. They check each other's answers and draw in their exercise books.
- Or pupils count the blocks on the page and use counters to work out how many to add on to make 10.

Exercise 5 Filling the 10

[classwork]

- Refer back to **Topic 3** Exercise 4 and **Topic 6** Exercise 2 and teach this lesson in the same way.
- Pupils work individually at their desks.
- Hand out counters.
- Pupils turn to Exercise 5 on page 45 in the Pupil's Book.
- Read the instructions. Pupils complete the lesson in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 7, Exercises 1–4

Topic 8 Counting and identification of whole numbers 1–9

Pupil's Book pages 46–51

Skills: comparing; counting; estimating; explaining; identifying; ordering; recognising; writing

Concepts: before and after; between; one more; one less; quantity (how many)

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise books; number chart; number line; number symbol cards and number name cards from 1 to 9; pencils; word and flash cards for one more and one less

Vocabulary: before and after; between; one more; one less; quantity (how many)

Learning experiences

Lesson focus

Pupil's Book: Topic 8: Exercises 1–6

All the exercises in this topic revise and consolidate the number concepts and skills pupils have learned in the first seven topics. There is also one concept that is now explained and applied throughout the topic:

One more and one less

- Pupils work on a mat in small groups.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards and number name cards from 1 to 9 (one to nine) for abstract counting.
- Each pupil takes five counters and puts the correct number symbol and number name cards next to the counters.
- Now ask the pupils to add one more counter. Ask them how many counters they have. Pupils place the new number symbol and number name cards next to their counters.
- Ask pupils if they can tell you anything about the two numbers. Allow them to come up with their own explanations. Then explain that 6 is one more than 5.

- Let the pupils draw the counters in their exercise books and write the number symbols for 5 and 6 next to their drawings.
- Pupils now work in pairs. Give each pair a pile of counters and tell them that one pupil should have seven counters while the other pupil has eight counters.
- Ask them to tell you who has more counters, and how many more that pupil has.
- Pupils draw pictures of their counters and then write the correct number next to their drawings.
- Repeat this exercise with different numbers and objects until pupils understand the concept of **one more**.
- To teach the concept of **one less**, follow the same procedure but ask the pupils to take away one counter.
- Pupils who struggle can do a one-to-one correspondence with their counters so that the concepts of **one more** and **one less** become clear.

Exercise 1 Hop to 9

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 1 to 9 for abstract counting.
- Pupils turn to Exercise 1 on page 46 in the Pupil's Book.
- Read the instructions and have the pupils follow. Give an example if necessary by completing the block for two. Pupils complete the exercise.

Exercise 2 Up and down the ladder

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 0 to 9 for abstract counting.
- Pupils turn to Exercise 2 on page 47 in the Pupil's Book.
- Read the instructions. Each pupil in the pair copies and completes the ladder in their exercise book.
- Pupils then take turns to count forwards and backwards up and down the ladder.

Exercise 3 Ordering 1–9

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 0 to 9 for abstract counting.
- Pupils turn to Exercise 3 on page 48 in the Pupil’s Book.
- Read the instructions. Pupils complete the exercise in their exercise books.

Exercise 4 Counting fingers

[classwork]

- Pupils work as a class at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 6 to 9 (six to nine) for abstract counting.
- Pupils turn to Exercise 4 on page 49 in the Pupil’s Book.
- Read the instructions. Pupils apply the concept of one more (two, three and four more).
- They work out the answers using counters and call out or put up their hands.
- This exercise leads on to addition in Term 2.

Exercise 5 Filling the 9

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 9 (one to nine) for abstract counting.
- Pupils turn to Exercise 5 on page 50 in the Pupil’s Book.
- Read the instructions.
- Each pupil in the pair must complete the written work. Pupils help each other and check each other’s answers.

Exercise 6 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- This exercise can be used as an evaluation of how well pupils have understood and can apply the number concepts and skills they have learned so far.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 0 to 9 for abstract counting.
- Pupils turn to Exercise 6 on page 51 in the Pupil's Book.
- Read the instructions. Pupils complete the sequences in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 8, Exercises 1–4

Exercises 3 and 4 can be used to evaluate how well pupils have understood and can apply the number concepts and skills they have learned so far.

Topic 9 Writing whole numbers from 1–9

Pupil's Book pages 52–56

Skills: counting; ordering; recognising; writing

Concepts: before and after; between; more and less; number symbols; quantity (how many – one and many)

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; number symbol cards and number name cards from 1 to 5

Vocabulary: before and after; between; more and less; number symbols; quantity (how many – one and many)

Learning experiences

Lesson focus

Pupil's Book: Topic 9: Exercises 1–5

The exercises in this topic revise and consolidate number concepts and skills pupils have learned in the first seven topics, particularly counting, ordering and writing. The exercises can be used to evaluate how much the pupils have been able to learn.

Exercise 1 Number lines 1–9

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 9 (one to nine) for abstract counting.
- Pupils turn to Exercise 1 on page 52 in the Pupil's Book.
- Read the instructions. Pupils complete the number lines in their exercise books.

Exercise 2 How many?

[classwork]

- Pupils work individually at their desks.
- Pupils work in pairs at their desks.

- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 1 to 9 for abstract counting.
- Pupils turn to Exercise 2 on page 53 in the Pupil’s Book.
- Read the instructions. Pupils complete the exercise in their exercise books.

Exercise 3 Count the flowers

[classwork]

- Pupils turn to Exercise 3 on page 54 in the Pupil’s Book.
- They complete this exercise in the same way as Exercise 2.

Exercise 4 Number line fun

[classwork]

- Pupils turn to Exercise 4 on page 55 in the Pupil’s Book.
- They complete this exercise in the same way as Exercise 1.

Exercise 5 Count the objects

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 9 (one to nine) for abstract counting.
- Pupils turn to Exercise 5 on page 56 in the Pupil’s Book.
- Read the instructions and have the pupils follow and look at the example.
- Each pupil in the pair must complete the written work.
- Pupils may help each other and check each other’s answers.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 9, Exercises 1–4

Topic 10 Reading and writing whole numbers 1–99

Pupil's Book pages 57–63

Skills: counting; estimating; identifying; matching; ordering; reading; recognising; writing

Concepts: counting on; grouping; more and less; number concept (10); number symbols; number names; place value; quantity (how many – one and many)

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; number chart; number line; number symbol cards and number name cards from 1 to 99; word and flash cards for more and less, one and many

Vocabulary: count; estimate; more and less; number names 1 to 99; tens and units

Learning experiences

Lesson focus

Pupil's Book: Topic 10: Exercises 1–7

Counting and writing numbers up to 20

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 11 to 20 (eleven to twenty) for abstract counting.
- Ask each group to put out the following counters:
 - ten and one extra
- Ask them to group the ten counters and keep the extra counter on the side.
- Now show the pupils the number symbol and number name cards for 11 (eleven).
- Pupils find the correct cards and place them next to the group of ten counters and one extra.

- Do the same for:
 - ten and two extra (twelve)
 - ten and three extra (thirteen) – up to ten and nine extra (nineteen).
- Pupils should make two groups of ten for the number 20.

Counting and writing numbers up to 99

[group work]

- Teach these numbers in the same way as numbers up to 20.
- Pupils should make three groups of ten for the number 30, four groups of ten for the number 40, and so on.
- Grouping tens with units as extras or remainders on the side will help pupils to do addition with tens and units in Term 2.

Counting in ones to 50

[classwork]

- Use a number chart to practise reading and saying numbers eleven to fifty with the pupils:
 - count forwards and backwards in ones
 - count forwards and backwards from a given number to a given number
 - pupils identify numbers by reading and naming them as you show and point.
- Repeat these activities as often as necessary throughout Term 1.

Counting in ones to 99

[classwork]

Teach these numbers in the same way as numbers up to 50.

Exercise 1 Read and say with me 11–19

[pair work]

- Pupils work in pairs at their desks.
- Pupils turn to Exercise 1 on page 57 in the Pupil's Book.
- Read the instructions. Pupils work in pairs to read and say the numbers.
- Pupils may help each other and check each other's work.
- Each pupil in the pair must do the written work.

Exercise 2 Read and say with me again

[pair work]

- Pupils work in pairs at their desks.
- Pupils turn to Exercise 2 on page 58 in the Pupil's Book.
- They complete the exercise in the same way as for Exercise 1.

Exercise 3 Count in ones to 50

[group work and classwork]

- Pupils work in groups on a mat.
- Hand out:
 - a counter to each pupil that fits easily into the numbered circles of the caterpillar's body
 - number symbol and number name cards from 1 to 50 (one to fifty) for abstract counting.
- Pupils turn to Exercise 3 on page 59 in the Pupil's Book.
- Read the instructions and the questions, one by one.
- Work with the pupils to count in ones, forwards and backwards, starting and ending at particular numbers.
- Each pupil in the group must do the written work. Pupils may return to their desks to complete question 2.

Exercise 4 Count in ones to 99

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 4 on page 60 in the Pupil's Book
- Teach the lesson in the same way as Exercise 3 (group work) on page 59.

Exercise 5 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 50 to 99 (fifty to ninety-nine) for abstract counting.
- Pupils turn to Exercise 5 on page 61 in the Pupil's Book.
- Read the instructions and the questions, one by one.
- Pupils call out or put up their hands, and read as a class.

Exercise 6 Count more objects

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - at least forty concrete objects such as beads, bottle tops, buttons and stones
 - number symbol cards from 1 to 40 for abstract counting.
- Pupils turn to Exercise 6 on page 62 in the Pupil's Book.
- Read the instructions. Pupils complete the written work in their exercise books.

Exercise 7 Break down numbers into tens and units

[classwork]

- Pupils work at their desks. They can use counting objects and an abacus.
- They turn to page 63 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Topic 11 Identification of fractions

$$\frac{1}{2} \text{ and } \frac{1}{4}$$

Pupil's Book pages 64–69

Skills: colouring; drawing; identifying; making; matching; reasoning; recognising

Concepts: half; quarter; sharing; whole

Resources: bread; crayons; exercise books; pencils; scissors; soft fruits; sheets of paper

Vocabulary: half; quarter; whole

Learning experiences

Lesson focus

Pupil's Book: Topic 11: Exercises 1–6

Halves

[pair work]

- Pupils work in pairs at their desks. Give each pair a slice of bread, a soft fruit or a sheet of paper.
- Ask them to talk about how they could share the object so that each one has an equal part.
- Give them time to discuss the problem and to decide what should be done, and how.
- Make sure that pupils understand that equal parts must be the same size. Tell them that two equal parts are called halves. If one part is bigger or smaller, it is not a half.
- Let each pair cut their slice of bread, fruit or paper in half, using a plastic knife or a ruler and scissors.
- Point out that each pupil now has a half.
- Ask the pupils:
 - how many halves they have together?
 - how they know that each piece is a half? (Make sure they understand that both parts must be equal in size.)
- Write the fraction $\frac{1}{2}$ on the board and explain what it means – one part out of two.
- Pupils practise writing $\frac{1}{2}$ in their exercise books.
- Ask the pupils how many halves they would get from two slices of bread? Encourage them to work out the solution with their partners.

Quarters

Teach quarters in the same way as halves.

Exercise 1 Fraction fun

[classwork]

- Pupils work as a class at their desks.
- They turn to Exercise 1 on page 64 in the Pupil's Book.
- Read with them.
- Make sure they understand what a whole is.
- Make sure they understand what a fraction is.

Exercise 2 Let's make halves

[classwork]

- Pupils work individually at their desks.
- Hand out:
 - a rectangular piece of paper each
 - a pair of blunt-nosed scissors each.
- Pupils turn to Exercise 2 on page 65 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- Pupils complete the exercise.

Exercise 3 Let's make quarters

[classwork]

- Pupils work individually at their desks.
- Pupils turn to Exercise 3 on page 66 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 2 on page 65.

Exercise 4 Identifying fractions

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 67 in the Pupil's Book.
- Read the instructions. Talk about the shapes in the pictures.
- Pupils complete the written work in their exercise books.

Exercise 5 Colouring fractions

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 5 on page 68 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.
- This lesson can be used to evaluate how well pupils understand wholes, halves and quarters.

Exercise 6 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 6 on page 69 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.
- Let pairs help each other and check each other's answers.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 10, Exercises 1–4

Topic 12 Identification of fractions using concrete objects and shapes

Pupil's Book pages 70–75

Skills: colouring; drawing; identifying; making; matching; reasoning; recognising

Concepts: half; quarter; sharing; whole

Resources: crayons; counters; exercise books; pencils; sheets of paper

Vocabulary: half; quarter; whole

Learning experiences

Lesson focus

Pupil's Book: Topic 12: Exercises 1–6

Dividing a group of objects into fractions

- Pupils work in pairs at their desks. Give each pair counters (at least ten).
- Ask one pupil in each pair to take four counters and give half of them to the other pupil.
- Ask how many counters they each have? Point out that half of 4 is 2.
- Pupils repeat the activity a number of times using different even numbers of counters, such as 2, 4, 6, 8.

A fraction of the whole

- Pupils work in groups of four on the mat.
- Hand out two counters to each pupil.
- Ask each pupil to group the two counters in the centre – four groups of 2.
- How many counters are there altogether? (8)
- What fraction is 2 out of 8? Explain to the pupils that there are four groups of 2 counters and so each group of 2 counters is $\frac{1}{4}$ of 8.
- Repeat the activity with different numbers of counters, 1, 3, 4, and so on.

Exercise 1 $\frac{1}{2}$ or $\frac{1}{4}$

[pair work]

- Pupils work in pairs at their desks.
- Pupils turn to Exercise 1 on page 70 in the Pupil's Book.
- Read the instructions. Pupils draw the objects and write $\frac{1}{2}$ or $\frac{1}{4}$.

Exercise 2 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- Pupils turn to Exercise 2 on page 71 in the Pupil's Book.
- Read the instructions and the questions.
- Each pupil in the pair must complete the written work.
- Let pupils help each other and check each other's answers.

Exercise 3 Fraction fun again

[pair work]

- Pupils work in pairs at their desks.
- Hand out:
 - counters such as beads, bottle tops, buttons and stones (at least ten for each pupil).
- Pupils turn to Exercise 3 on page 72 in the Pupil's Book.
- Read the instructions.
- Each pupil in the pair must complete the written work.
- Let pupils help each other and check each other's answers.

Exercise 4 Fractions with shapes

[group work]

- Pupils work in groups on a mat.
- Hand out:
 - a variety of counters such as beads, bottle tops, buttons and stones.
- Pupils turn to Exercise 4 on page 73 in the Pupil's Book.
- Read the instructions and the questions. Pupils use counters to help them find the answers a) to e).
- Pupils may return to their desks to do the written work f) and g).

Exercise 5 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- Hand out ten stones to each pupil.

- Pupils turn to Exercise 5 on page 74 in the Pupil's Book.
- Read the instructions and the questions.
- Each pupil must complete the written work.
- Let pupils help each other and check each other's answers.
- By the end of this lesson, pupils should understand very clearly how to divide a group of objects into fractions, and how to find a fraction of a whole.

Exercise 6 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 6 on page 75 in the Pupil's Book.
- Read the instructions and the questions.
- Pupils complete the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Topic 11, Exercises 1–4

Revision

Pupil's Book pages 76–80

- Pupils work on their own to complete the exercises.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 10 (one to ten) for abstract counting.
- Read and explain the instructions and questions so the pupils understand what to do.
- The exercises will revise and consolidate the work done throughout the term.

Exercise 1 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 1 on page 76 in the Pupil's Book.
- Read the instruction and the questions.
- Pupils complete the written work in their exercise books.

Exercise 2 Count the letters

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 77 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 3 Number symbols and number names

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on page 78 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 4 More number symbols and number names

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 79 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 5 More and less

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 5 on page 80 in the Pupil's Book.
- Read the instructions. Let pupils look at the example.
- Pupils complete the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Revision, Exercises 1–4

Revision of Term 1 work

Pupil's Book pages 81–86

- Pupils work on their own to complete the exercises.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards from 1 to 50 (one to fifty) for abstract counting.
- Make sure that they understand the instructions and the questions.
- The exercises evaluate the pupils' understanding of the various skills and concepts that were taught in Term 1.
- If these exercises are not used for evaluation, pupils may work in pairs to help each other, and check each other's work.

Exercise 1 Count the stars

[classwork or pair work]

- Pupils work individually or in pairs at their desks.
- They turn to Exercise 1 on page 81 in the Pupil's Book.
- Read the instructions and the questions.
- Pupils complete the written work in their exercise books.

Exercise 2 Quantitative reasoning

[classwork or pair work]

- Pupils work individually or in pairs at their desks.
- They turn to Exercise 2 on page 82 in the Pupil's Book.
- Read the instructions and the questions.
- Pupils complete the written work in their exercise books.

Exercise 3 Count the fruit

[classwork or pair work]

- Pupils work individually or in pairs at their desks.
- They turn to Exercise 3 on page 83 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 4 Count the vegetables

[classwork or pair work]

- Pupils work individually or in pairs at their desks.
- They turn to Exercise 4 on page 84 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 5 Count the insects

[classwork or pair work]

- Pupils work individually or in pairs at their desks.
- They turn to Exercise 5 on page 85 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 6 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 86 in the Pupil's Book. Read the instructions.
- Pupils complete the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Revision of Term 1 work, Exercises 1–4

Topic 1 Addition of whole numbers with a sum less than 5

Pupil's Book pages 87–90

Skills: adding; breaking down numbers; counting; reading; writing

Concepts: addition (making more, putting together)

Resources: counters; exercise books; flash cards for + and = signs; number symbol cards; pencils

Vocabulary: addition; equal to; number sentence; plus; sum

Learning experiences

Lesson focus

Pupil's Book: Topic 1: Exercises 1–4

Addition up to 5

- Pupils move on to formal addition, using the + and = signs.
- They work in groups on a mat.
- Give each group a set of counters and number symbol cards.
- Show the pupils the + (addition or plus) and = (equal to) flashcards so that they can see what the symbols look like.
- Ask the pupils to put out three counters. Then ask them to add one more counter. How many counters do they have now?
- Pupils put the correct number symbol cards next to their counters.
- Explain that four is one more than three. $4 = 3 + 1$.
- Pupils now divide their four counters into two groups. Ask them how many counters there are in each group. They should say 2 and 2, or 3 and 1.
- Explain that 4 is 3 and 1, or 4 is 2 and 2 (building up numbers).
- We can also say $3 + 1 = 4$, or $2 + 2 = 4$, and so on (sums of 4).
- Explain that when we say: 4 is 3 and 1, *is* means **equal to** and *and* means **plus**.

Exercise 1 Addition

[classwork]

- Pupils work with you, the teacher, as a class at their desks.
- They turn to Exercise 1 on page 87 in the Pupil's Book.
- You may use the board or flash cards to teach the + (plus) and = (equal to) signs.
- Pupils need to understand that the + sign means putting together or making more (combining).
- The = sign shows the sum or the answer in a number sentence.
- Work with the pupils to solve the first addition problems on the page. They may use counters.
- Pupils should group their counters separately, for example, 2 and 1, before combining them to add.
- Pupils write the answers as number sentences in their exercise books.

Exercise 2 Addition up to 5

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 2 on page 88 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example.
- Revise zero (see **Term 1, Topic 4**, Pupil's Book pages 17–25). Pupils must understand that zero means nothing. Adding with zero means adding nothing on.
- Pupils use the geometric shapes as counters for each number sentence. They may also use concrete objects.
- Pupils may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 3 Break down numbers

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 3 on page 89 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example.
- They are now working from the answer to find parts of a sum.

- Make sure that pupils understand that a sum can be broken down into different parts, for example, 3 can break down into $0 + 3$, $3 + 0$, $1 + 2$, $2 + 1$.
- Pupils use the dots on the page as counters. They may also use concrete objects.
- Each pupil in the group must complete the written work.

Exercise 4 Add numbers less than 5

[classwork]

- Pupils work individually at their desks.
- They turn to page 90 in the Pupil's Book. Read the instructions.
- Pupils complete the written work in their exercise books.

Give the pupils more practice in addition by doing these exercises throughout the week:

Workbook: Term 2, Topic 1, Exercises 1–4

Topic 2 Addition of whole numbers less than 10

Pupil's Book pages 91–96

Skills: adding; breaking down numbers; building up numbers; counting; reading; writing

Concepts: addition (making more, putting together)

Resources: counters; exercise books; pencils

Vocabulary: addition; equals; number sentence; plus; sum

Learning experiences

Lesson focus

Pupil's Book: Topic 2: Exercises 1–6

Horizontal addition

- We can add numbers in different ways.
- In **Topics 1** and **2** of **Term 2**, pupils add numbers in a horizontal way.
- They break down and build up numbers, and work with number sentences.

More addition up to 5

- Ask the pupils to divide their counters into three groups, for example, $2 + 1 + 1$.
- Refer back to the **Lesson focus** for **Topic 1** on pages 1–3 of this Teacher's Guide, adding three digits this time.

Exercise 1 Add numbers up to 5

[classwork]

- Pupils work individually at their desks.
- They turn to page 91 in the Pupil's Book.
- Ensure that pupils understand the instructions and what to do.
- They do the written task in their exercise books.

Exercise 2 Break down more numbers

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 2 on page 92 in the Pupil's Book.
- Teach the lesson in the same way as **Topic 1**, Exercise 3 on page 89 in the Pupil's Book.

Exercise 3 Build up numbers

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 3 on page 93 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example. They should draw up and fill in the tables for each question.
- Pupils use the dots on the page as counters. They may also use concrete objects.
- Pupils may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 4 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 4 on page 94 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the examples.
- Pupils use counters to work out the answers. For example:
 $3 = 1 + _ + _$
- Pupils group three counters and then put one of the three counters to the side.
- There are two counters left and they need two numbers. The only possible answer is $1 + 1$.
 $3 = 1 + 1 + 1$
 $3 = 0 + _ + _$
- Pupils group three counters and put zero of the counters to the side.
- There are three counters left and they need two numbers. Possible answers are:
 $3 = 0 + 3 + 0$
 $3 = 0 + 2 + 1$
 $3 = 0 + 1 + 2$
and so on.

- Pupils may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 5 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 5 on page 95 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 3 on page 89 in the Pupil's Book.

Exercise 6 Busy bees

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 6 on page 96 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the example.
- Pupils may use counters to complete the number sentences.

Give the pupils more practice in addition by doing these exercises throughout the week:

Workbook: Term 2, Topic 2, Exercises 1–4

Topic 3 Addition of whole numbers with a sum less than 20

Pupil's Book pages 97–107

Skills: adding; breaking down numbers; building up numbers; counting; reading; writing

Concepts: addition (making more, putting together); vertical addition

Resources: counters; exercise books; pencils

Vocabulary: addition; equals; number sentence; plus; sum; tens and units

Learning experiences

Lesson focus

Pupil's Book: Topic 3: Exercises 1–11

Addition

Refer back to the **Lesson focus** for **Topics 1** and **2** on pages 1–3 and 5 of this Teacher's Guide.

Exercise 1 Add numbers up to 10

[classwork]

- Pupils work individually at their desks.
- They turn to page 97 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Exercise 2 Break down numbers again

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 2 on page 98 in the Pupil's Book.
- Teach the lesson in the same way as **Topic 1**, Exercise 3 on page 89 in the Pupil's Book.

Exercise 3 Build up more numbers

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 3 on page 99 in the Pupil's Book.
- Teach the lesson in the same way as **Topic 2**, Exercise 3 on page 93 in the Pupil's Book.

Exercise 4 Let's add

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 100 in the Pupil's Book.
- Read the instructions.
- Pupils use counters to work out the number sentences.
- They complete the written work in their exercise books.

Exercise 5 More tens and units

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 5 on page 101 in the Pupil's Book.
- Read the instructions.
- Pupils use the dots on the page as counters. They may also use concrete objects.
- They complete the written work in their exercise books.

Exercise 6 Mental calculations

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 6 on page 102 in the Pupil's Book.
- Hand out 20 counters each.
- Read the instructions and make sure pupils understand what to do. You can do a) with them as an example.
- Pupils should try to add the numbers quickly without using counters. If they are not able to do this, let them work out the answers with counters.
- Encourage them to add the same numbers a second time without counters.
- Pupils take turns. They may help each other and check each other's answers.
- There is no written work in this lesson.

Exercise 7 Addition using place value

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 7 on page 103 in the Pupil's Book.
- Here pupils are introduced to vertical addition.
- There is enough information on page 103 to teach the lesson. Read with the pupils.
- Show pupils how to group tens and units in columns, and how to add.

- Let pupils help others in the group to understand – allow them to show and explain.

Exercise 8 Place value

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 8 on page 104 in the Pupil's Book.
- This lesson is an extension of the work pupils did in **Term 1, Topic 10 Lesson focus**, where they learned to work with numbers from 11 to 99 by grouping in tens and units.
- Each pupil in the group must complete the written work.
- Allow them to help each other and check each other's work.

Exercise 9 Adding units

[classwork]

- This lesson gives the pupils practice in vertical addition (units only).
- Pupils work individually at their desks.
- Hand out nine counters each.
- Pupils turn to Exercise 9 on page 105 in the Pupil's Book.
- Read the instructions.
- Pupils use their counters to work out the answers.

Exercise 10 Let's add tens and units

[classwork]

- This lesson gives the pupils more practice in vertical addition (tens and units).
- Pupils work individually at their desks.
- Hand out 20 counters each.
- Pupils turn to Exercise 10 on page 106 in the Pupil's Book.
- Read the instructions.
- Pupils use their counters to work out the answers.

Exercise 11 Double then add

[classwork]

- Pupils work individually at their desks.
- They turn to page 107 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Give the pupils more practice in addition by doing these exercises throughout the week:

Workbook: Term 2, Topic 3, Exercises 1–4

Topic 4 Addition of two-digit whole numbers with a sum not greater than 40

Pupil's Book pages 108–120

Skills: adding; counting; doubling numbers; reading; writing

Concepts: addition (making more, putting together); vertical addition

Resources: counters; exercise books; number symbol and number name cards up to 40; pencils

Vocabulary: addition; equals; number sentence; plus; sum; tens and units

Learning experiences

Lesson focus

Pupil's Book: Topic 4: Exercises 1–13

Double the numbers

- Pupils work in pairs.
- Hand out 20 counters each.
- One pupil puts out any number of counters in a group, for example, three counters.
- The second pupil in the pair doubles the group.
- Make sure that pupils understand how to double. They must add the same number.
- Pupils take turns to put out a group of counters and double the group.

Exercise 1 More about numbers

[group work]

- Pupils work in groups on the mat.
- Hand out:
 - counters
 - number symbol and number name cards up to 40 (forty).
- Pupils turn to Exercise 1 on page 108 of the Pupil's Book.
- Read the instructions and look at the example.
- Let pupils help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 2 Double the numbers

[pair work]

- Pupils work in pairs.
- Hand out counters.
- Pupils turn to Exercise 2 on page 109 of the Pupil's Book.
- Read the instructions and look at the example.
- Refer back to **Lesson focus** on page 52, where pupils learned how to double numbers.
- Check again that pupils understand how to double. They must add the same number.
- Let the pupils help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 3 Adding tens and units

[pair work]

- Pupils work in pairs.
- Hand out counters.
- Pupils turn to Exercise 3 on page 110 of the Pupil's Book.
- Refer back to **Topic 3** Exercise 9 on page 105 in the Pupil's Book.
- Teach the lesson in the same way.
- Let the pupils help each other and check each other's work.

Exercise 4 Adding more tens and units

[pair work]

- Pupils work in pairs.
- Hand out counters.
- Pupils turn to Exercise 4 on page 111 of the Pupil's Book.
- Refer back to the previous exercise, Exercise 3 on page 110 in the Pupil's Book.
- Teach the lesson in the same way.
- Let the pupils help each other and check each other's work.

Exercise 5 Adding tens and units again

[pair work]

- Pupils work in pairs.
- Hand out counters.
- Pupils turn to Exercise 5 on page 112 of the Pupil's Book.
- Refer back to the previous exercises, Exercise 3 and Exercise 4 on pages 110 and 111 in the Pupil's Book.
- Teach the lesson in the same way.
- Let the pupils help each other and check each other's work.

Exercise 6 More tens and units addition

[pair work]

- Pupils work in pairs.
- Hand out counters.
- Pupils turn to Exercise 6 on page 113 of the Pupil's Book.
- Refer back to the previous exercises, Exercise 3, Exercise 4 and Exercise 5 on pages 110, 111 and 112 in the Pupil's Book.
- Teach the lesson in the same way.
- Let the pupils help each other and check each other's work.

Exercise 7 Double then add

[classwork]

- Pupils work individually at their desks.
- They turn to page 114 in the Pupil's Book.
- Refer to the **Lesson focus** for **Topic 3** on page 52.
- Read and explain the instructions.
- The pupils do the written work in their exercise books

Exercise 8 What is the sum of ...

[classwork]

- Pupils work individually at their desks.
- They turn to page 115 in the Pupil's Book.
- Explain the sum of. It is the total of two or more numbers. The total of 2 and 3 is 5. The total of 2 and 1 and 3 is 6.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Exercise 9 Building numbers

[classwork]

- Pupils work individually at their desks.
- They turn to page 116 in the Pupil's Book.
- Explain how to add the numbers in the pyramid. Add the first two numbers on the bottom row and write the answer in the empty block above it. Then continue to add the next two numbers and write the answer in the block above it.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Exercise 10 Building more numbers

[classwork]

- Pupils work individually at their desks.
- They turn to page 117 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Exercise 11 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 118 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 12 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 119 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 13 Up the ladder again!

[classwork]

- Pupils work individually at their desks.
- They turn to page 120 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice in addition by doing these exercises throughout the week:

Workbook: Term 2, Topic 4, Exercises 1–4

Topic 5 Subtraction of whole numbers not greater than 9

Pupil's Book pages 121–126

Skills: counting; grouping; reading; subtracting; writing

Concepts: subtraction (making less, taking away)

Resources: counters; exercise books; flash cards for – and = signs; number symbol cards; pencils

Vocabulary: equal to; number sentence; minus; subtraction; take away

Learning experiences

Lesson focus

Pupil's Book: Topic 5: Exercises 1–6

Subtraction up to 9

- Pupils move on to formal subtraction, using the – and = signs.
- They work in groups on a mat.
- Give each group nine counters and number symbol cards from 1 to 9.
- Show the pupils the – (subtraction or minus) and = (equal to) flashcards, so that they can see what the symbols look like.
- Ask pupils to put out four counters. Then ask them to take away one counter. Ask them how many counters they have now?
- Pupils put the correct number symbol cards next to their counters.
- Explain that 3 is 1 less than 4.
 $3 = 4 - 1$
- Repeat the same sequence with 7 and 6.

Subtract – cross it out

- Now give each group a sheet of paper and a crayon.
- Write this problem on the board and read it to the pupils:
– Jojo has five crayons. He loses 3. How many does he have left?
- Ask pupils to put 5 counters on the mat in front of them, to represent the 5 crayons. Tell them to draw the five counters on their sheets of paper.

- Say the problem again:
 - Jojo has 5 crayons. He loses 3. How many does he have left?
- Ask the pupils what they think they should do to find the answer?
- Explain that they need to take away three counters (representing crayons) from the five counters they have.
- Ask pupils to remove 3 of their counters and tell you how many they have left. Pupils should also cross out three counters in their drawings.
- Explain that 5 take away 3 is 2. *Take away* means the same as **minus** and *is* means the same as **equal to**.
- We can also say: $5 - 3 = 2$. Write this number sentence on the board.
- Tell the pupils to write the number sentence below their drawings.
- Repeat the exercise as often as necessary with different problems and different numbers.
- Give the pupils enough practice with each number.

Exercise 1 Subtraction

[classwork]

- Pupils work with you, the teacher, as a class at their desks.
- They turn to Exercise 1 on page 121 in the Pupil's Book.
- You may use the board or flash cards to teach the – (minus) and = (equal to) signs.
- Pupils need to understand that the – sign means making less.
- The = sign shows the difference or the answer in a number sentence.
- Work with the pupils to solve the first subtraction problem on the page. They may use counters.
- Pupils should group their counters separately, for example, 3 and 1, before subtracting.
- Pupils write the answer in a number sentence in their exercise books.

Exercise 2 Ducks crossing a stream

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 122 in the Pupil's Book.

- Read the instruction and the questions and look at the examples.
- Pupils draw the ducks and cross out in their exercise books (see **Lesson focus** on page 56).
- They may use counters.
- Pupils write the answers in their exercise books.

Exercise 3 Subtract – cross it out

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on page 123 in the Pupil's Book.
- Read the instructions.
- Pupils draw and cross out in their exercise books (see **Lesson focus** on page 56).
- They may use counters.
- Pupils write the answers in their exercise books.

Exercise 4 Subtracting shapes

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 4 on page 124 in the Pupil's Book.
- Refer back to **Topic 1** Exercise 2 on page 87 of the Pupil's Book and teach this lesson in the same way.
- Read the instructions and have the pupils follow.
- Pupils use the geometric shapes for each number sentence as counters. They may also use concrete objects.
- Pupils may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 5 More subtraction

[classwork]

- Pupils work individually at their desks.
- Hand out counters.
- Pupils turn to Exercise 5 on page 125 in the Pupil's Book.
- Read the instructions and have the pupils follow and look at the examples.
- Pupils use counters to work out the answers (see **Lesson focus** on page 56).
- Pupils write the number sentences in their exercise books.

Exercise 6 Subtraction again

[pair work]

- Pupils work in pairs on a mat or at their desks.
- Hand out counters.
- Pupils turn to Exercise 6 on page 126 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 5 on page 125 in the Pupil's Book.
- Pupils use counters to work out the answers (see **Lesson focus** on page 56).
- Pupils write the number sentences in their exercise books.

Subtract from 10 is a challenge section, as pupils have been working only up to 9 so far. Let the pupils who finish their work quickly, try this section. They should group 10 counters (1 ten), take away the units, and then write the number sentence with the answer in their exercise books.

Give the pupils more practice in subtraction by doing these exercises throughout the week:

Workbook: Term 2, Topic 5, Exercises 1–4

Topic 6 Subtraction from whole numbers not greater than 20

Pupil's Book pages 127–130

Skills: counting; grouping; playing games; reading; subtracting; writing

Concepts: subtraction (making less, taking away)

Resources: counters; exercise books; flash cards for $-$ and $=$ signs; number chart; number line; number symbol cards; pencils

Vocabulary: equal to; number sentence; minus; solve; subtraction; take away

Learning experiences

Lesson focus

Pupil's Book: Topic 6: Exercises 1–4

Refer back to **Topic 5 Lesson focus** on page 56 of this Teacher's Guide.

Exercise 1 Subtraction hop

[group work]

- Pupils work in groups on a mat.
- Give each pupil a counter.
- Pupils turn to Exercise 1 on page 127 in the Pupil's Book.
- Read the instructions and have the pupils follow.
- Let them play the game. Pupils use the counter to hop back.
- They write the number sentence in their exercise books.
- Pupils use the game to complete the exercise. They may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 2 Subtraction ladder

[pair work]

- Pupils work in pairs at their desks.
- Give each pupil a counter.
- They turn to Exercise 2 on page 128 in the Pupil's Book.
- Read the instructions and have the pupils follow.

- They count backwards down the ladder with a counter to subtract, and complete the number sentences.
- Pupils may help each other and check each other's work.
- Each pupil in the pair must complete the written work.

Exercise 3 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- Hand out counters. Have a number chart and a number line to 20 for pupils to see and use.
- Pupils turn to Exercise 3 on page 129 in the Pupil's Book.
- Read the instructions.
- Read the story sums one at a time and have the pupils follow.
- Pupils may use any counting tools they like, and any subtraction method they have learned to solve the sums.
- Pupils help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 4 Quantitative reasoning

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 4 on page 130 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 3 on page 129 in the Pupil's Book.

Give the pupils more practice in subtraction by doing these exercises throughout the week:

Workbook: Term 2, Topic 6, Exercises 1–4

Topic 7 Addition of two-digit numbers without regrouping

Pupil's Book pages 131–134

Skills: adding; counting on; identifying; recognising

Concepts: addition of tens and units; breaking down numbers; building up numbers; expanding numbers; place value

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; number chart

Vocabulary: expanding numbers; place value; tens and units

Learning experiences

Lesson focus

Pupil's Book: Topic 7: Exercises 1–4

Adding tens

- Refer back to **Term 1, Topic 10 Lesson focus** on pages 29–30 of this Teacher's Guide.
- Pupils have also worked with tens and units in **Term 1, Topic 7** (see **Lesson focus** on page 20 of this Teacher's Guide.)
- Refer back to **Term 2, Topic 2 Lesson focus** on page 46 of this Teacher's Guide for horizontal addition of units.
- Pupils now move on to horizontal addition of tens.
- They need to be able to:
 - break down numbers into tens and units, for example:
$$78 + 10$$
$$78 = 70 + 8$$
$$10 = \underline{10} + 0$$
$$= \underline{80} + 8 = 88$$
 - $37 = 3 \text{ tens} + 7 \text{ units}$
$$= 30 + 7$$
 - build up by expanding numbers and using place value, for example:
 - $30 + 3 = 3 \text{ tens plus } 3 \text{ units} = 33$

Exercise 1 Adding tens

[group work]

- Pupils work in groups on a mat.
- Hand out counters and let pupils use a number chart.
- Pupils turn to Exercise 1 on page 131 in the Pupil's Book.
- Read the instructions and look at the example.
- If pupils are able to work out the answers without counters and/or a number chart, let them do so.
- If not, pupils may count on, using the number chart.
- Pupils may also use their knowledge of breaking down numbers for tens and units (see **Lesson focus**). Hand out rough paper for them to work out the answers. They count how many tens and how many units, add and write the completed number sentences in their exercise books.
- Pupils may help each other and check each other's work.
- Each pupil in the group must do the written work.

Exercise 2 Build up more numbers

[pair work]

- Pupils work in pairs.
- Hand out counters and let pupils use a number chart.
- Pupils turn to Exercise 2 on page 132 in the Pupil's Book.
- Read the instructions and look at the example.
- If pupils are able to work out the answers without counters and/or a number chart, let them do so.
- If not, pupils may count on, using a number chart.
- Pupils may also use their knowledge of building up numbers for tens and units (see **Lesson focus**). Hand out rough paper for them to work out the answers. They count how many tens and how many units, add and write the completed number sentences in their exercise books.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 3 Break down more numbers

[pair work]

- Pupils work in pairs.
- Hand out counters and let pupils use a number chart.
- Pupils turn to Exercise 3 on page 133 in the Pupil's Book.
- Read the instructions and look at the example.

- If pupils are able to work out the answers without counters and/or a number chart, let them do so.
- If not, pupils may count on, using a number chart.
- Pupils are asked to break down tens and units by expanding numbers and using place value ($36 = 30 + 6$). They may also use this knowledge (see **Lesson focus**). Hand out rough paper for them to work out the answers. They count how many tens and how many units, and write the completed number sentences in their exercise books.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 4 Adding two-digit numbers

[classwork]

- Pupils work individually at their desks.
- Hand out counters and let pupils use a number chart.
- Pupils turn to Exercise 4 on page 134 in the Pupil's Book.
- Read the instructions. This lesson includes work from the three previous lessons and can be used for evaluation.
- If pupils are able to work out the answers without counters and/or a number chart, let them do so.
- If not, pupils may count on, using a number chart, or choose the correct method from the **Lesson focus** on page 62. Hand out rough paper for them to work out the answers.
- They count how many tens and how many units, and write the completed number sentences in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 2, Topic 7, Exercises 1–4

Topic 8 Addition and subtraction on the number line

Pupil's Book pages 135–140

Skills: adding; counting backwards; counting forwards; counting on; subtracting

Concepts: addition; subtraction

Resources: crayons; exercise books; number chart; number line; pencils

Vocabulary: add; count on; forwards and backwards; left and right; smaller and bigger; subtract

Learning experiences

Lesson focus

Pupil's Book: Topic 8: Exercises 1–6

Addition on the number line

- Draw a number line on the board and write this number sentence underneath:
 $2 + 4 = \underline{\quad}$
- Start at 2 on the number line and count on 4. Let the pupils count out loud with you.
- Draw in the hops (see the example in Exercise 1 on page 135 of the Pupil's Book).
- Ask the pupils where to stop?
 $2 + 4 = 6$
- Point out:
 - that when we add on a number line, we move to the right
 - the answer becomes more as the number we are adding becomes bigger.

Subtraction on the number line

- Draw a number line on the board and write this number sentence underneath:
 $10 - 3 = \underline{\quad}$
- Start at 10 and count backwards for three hops because we are taking away 3. Let the pupils count out loud with you. Ask them where to stop?

- Draw in the hops (see the example in Exercise 1 on page 135 of the Pupil’s Book).
 $10 - 3 = 7$
- Point out:
 - that when we subtract on a number line, we move to the left
 - the answer becomes less as the numbers become smaller.

Exercise 1 Work on number lines

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- Pupils turn to Exercise 1 on page 135 of the Pupil’s Book.
- Read with them.
- Look at the examples and ask each pupil to hop forwards or backwards with a counter to check the answers.

Exercise 2 Work on number lines – addition

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- Pupils turn to Exercise 2 on page 136 of the Pupil’s Book.
- Read the instruction and look at the example.
- Pupils draw number lines in their exercise books and add jumps and hops as they work out the answer for each number sentence.
- Pupils also write the completed number sentence under each number line.

Exercise 3 Work on number lines – subtraction

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- Pupils turn to Exercise 3 on page 137 of the Pupil’s Book.
- Read the instruction and look at the example.
- Pupils draw number lines in their exercise books and add hops as they work out the answer for each number sentence.
- Pupils also write the completed number sentence under each number line.

Exercise 4 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- Hand out counters.
- Pupils turn to Exercise 4 on page 138 of the Pupil's Book.
- Read the instructions one by one for each question.
- Pupils draw the number lines in their exercise books and follow the instructions.

Exercise 5 Work with number lines

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- Pupils turn to Exercise 5 on page 139 of the Pupil's Book.
- Read the instructions with them and look at the example.
- Pupils write a number sentence for each number line in their exercise books.

Exercise 6 Find the pairs

[classwork]

- Pupils work individually at their desks.
- They turn to page 140 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 2, Topic 8, Exercises 1–3

Topic 1 Open sentences involving addition

Pupil's Book pages 141–145

Skills: adding; counting; drawing; finding (missing numbers); playing games

Concepts: counting on

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise books; number chart; number line; pencils

Vocabulary: count on; find; missing numbers; solve

Learning experiences

Lesson focus

Pupil's Book: Topic 1: Exercises 1–5

Counting on for addition

- Pupils can find the missing numbers in open sentences by using the counting on method and counting on tools.
- The counting on method for addition is explained in the example in Exercise 1 on page 141 of the Pupil's Book.

Exercise 1 Open sentences – Addition 1

[group work]

- Pupils work in groups on a mat.
- Hand out counters. Have counting on tools, for example, a number chart and a number line, for pupils to see and use.
- Pupils turn to Exercise 1 on page 141 in the Pupil's Book.
- Read the instructions and work through the example to explain the counting on method for addition.
- Pupils use counting on tools to complete the open sentences.
- Pupils may help each other and check each other's work.
- Each pupil in the group must complete the written work.

Exercise 2 Open sentences – Addition 2

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 142 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 1 on page 141 in the Pupil's Book.
- Help pupils to use the counting on method to draw pictures and solve the problems in question 2. For example, counting on from 7 to 12 gives the answer.

Exercise 3 Open sentences – Addition 3

[classwork]

- Pupils work individually at their desks.
- Hand out counters to each pupil if you have enough (70 each) or let pupils use a number chart to count forwards in ones (see **Term 1, Topic 10, Exercise 4** on page 60 of the Pupil's Book).
- If pupils use counters, they should group in tens and units to count on (see **Term 1, Topic 10 Lesson focus** on pages 29–30 of this Teacher's Guide).
- Pupils turn to Exercise 3 on page 143 in the Pupil's Book.
- They complete the open number sentences in the game in their exercise books.

Exercise 4 Open sentences – Addition 4

[classwork]

- Pupils work individually at their desks.
- They turn to page 144 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 5 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 145 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Topic 2 Open sentences involving subtraction

Pupil's Book pages 146–148

Skills: counting; drawing; finding (missing numbers); playing games; subtracting

Concepts: counting on

Resources: counters: concrete objects such as beads, bottle tops, buttons and stones; crayons; exercise books; number chart; number line; pencils

Vocabulary: count on; find; missing numbers; solve

Learning experiences

Lesson focus

Pupil's Book: Topic 2: Exercises 1–3

Counting on for subtraction

- Pupils can find the missing numbers in open sentences by using the counting on method and counting on tools.
- The counting on method for subtraction is explained in the example in Exercise 1 on page 146 of the Pupil's Book.

Exercise 1 Open sentences – Subtraction 1

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters. Have counting on tools, for example, a number chart and a number line, for pupils to see and use.
- Pupils turn to Exercise 1 on page 146 in the Pupil's Book.
- Read the instructions and work through the example to explain the counting on method for subtraction.
- Pupils use counting on tools to complete the open sentences in their exercise books.

Exercise 2 Open sentences – Subtraction 2

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 147 in the Pupil's Book.
- Teach the lesson in the same way as Exercise 1 on page 141 in the Pupil's Book.
- Help pupils to use the counting on method to draw pictures and solve the problems in question 2, for example, counting on 8 from 12 gives the answer.

Exercise 3 Open sentences – Subtraction 3

[classwork]

- Pupils work individually at their desks.
- Hand out counters to each pupil if you have enough (50 each) or let pupils use a number chart to count backwards in ones.
- If pupils use counters, they should group in tens and units to subtract.
- Pupils turn to Exercise 3 on page 148 in the Pupil's Book.
- They complete the open number sentences in the game in their exercise books.

Revision

Pupil's Book pages 149–157

- Pupils work on their own to complete the exercises.
- Hand out:
 - counters: a variety of concrete objects such as beads, bottle tops, buttons and stones
 - number symbol and number name cards up to 50 (fifty) for abstract counting.
- Read and explain the instructions and questions so the pupils understand what to do.
- The lessons will revise and consolidate the work done throughout the term.

Exercise 1 Count the balloons

[classwork]

- Pupils work individually at their desks.
- Hand out counters.
- They turn to Exercise 1 on page 149 in the Pupil's Book.
- Pupils count the balloons. They may use any method they have learned.
- Pupils write the correct number symbol and number name in their exercise books.

Exercise 2 Chain sums

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- They turn to Exercise 2 on page 150 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 3 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- Have counters if necessary.
- Pupils turn to Exercise 3 on page 151 in the Pupil's Book.
- Read the instructions and look at the examples.
- Pupils complete the written work in their exercise books.

Exercise 4 Butterfly sums

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- They turn to Exercise 4 on page 152 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 5 Calculating tens and units – addition

[classwork]

- Pupils work individually at their desks.
- Have counters if necessary.
- They turn to Exercise 5 on page 153 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 6 Double the number

[pair work]

- Pupils work in pairs at their desks.
- Hand out counters.
- They turn to Exercise 6 on page 154 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 7 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 155 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 8 More open sentences – add and subtract

[classwork]

- Pupils work individually at their desks.
- They turn to page 156 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 9 Add and subtract again

[classwork]

- Pupils work individually at their desks.
- They turn to page 157 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 2, Revision, Exercises 1–3

Revision of Term 2 work

Pupil's Book pages 158–169

- Pupils work on their own to complete the exercises.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones.
- Make sure that they understand the instructions and the questions.
- The exercises evaluate the pupils' understanding of the various skills and concepts that were taught in Term 2.

Exercise 1 Count on

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 1 on page 158 in the Pupil's Book.
- Read the questions.
- Pupils take turns to count.
- There is no written work in this lesson.

Exercise 2 Number symbols

[classwork]

- Pupils work individually at their desks.
- Hand out counters.
- They turn to Exercise 2 on page 159 in the Pupil's Book.
- Read the instructions.
- Pupils take turns to count.
- Pupils complete the written work in their exercise books.

Exercise 3 Compare numbers

[pair work]

- Pupils work in pairs at their desks.
- Refer back to **Term 1, Topic 1 Lesson focus** on page 1 of this Teacher's Guide (**more and less**).
- Let the pupils use a number chart.
- They turn to Exercise 3 on page 160 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 4 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- Refer back to **Term 1, Topic 1 Lesson focus** on page 1 of this Teacher's Guide (**more and less**).
- Let the pupils use a number chart.
- They turn to Exercise 4 on page 161 in the Pupil's Book.
- Read the instructions and look at the examples.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 5 Place value

[pair work]

- Pupils work in pairs at their desks.
- Refer back to **Term 1, Topic 10 Lesson focus** on pages 29–30 of this Teacher's Guide.
- Pupils have also worked with tens and units in **Term 1, Topic 7** (see **Lesson focus** on page 20 of this Teacher's Guide.)
- See **Term 2, Topic 7 Lesson focus** on page 62 of this Teacher's Guide for expanding numbers and place value (**adding tens**).
- Pupils turn to Exercise 5 on page 162 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- Each pupil must do the written work.

Exercise 6 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 163 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 7 Practise adding and subtracting (1)

[classwork]

- Pupils work individually at their desks.
- They turn to page 164 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 8 Practise adding and subtracting (2)

[classwork]

- Pupils work individually at their desks.
- They turn to page 165 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 9 Practise adding and subtracting (3)

[classwork]

- Pupils work individually at their desks.
- They turn to page 166 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 10 Practise adding and subtracting (4)

[classwork]

- Pupils work individually at their desks.
- They turn to page 167 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 11 Practise adding and subtracting (5)

[classwork]

- Pupils work individually at their desks.
- They turn to page 168 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 12 Practise adding and subtracting (6)

[classwork]

- Pupils work individually at their desks.
- They turn to page 169 in the Pupil's Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Revision of Term 2 work, Exercises 1–3

Topic 1 Money – recognition of coins and notes**Pupil's Book pages 170–172****Skills:** adding; calculating; counting; drawing; reading; recognising**Concepts:** money (coins and notes); total cost**Resources:** chart with Nigerian money; classroom shopping items; crayons; exercise books; kobo and Naira; paper; pencils; play money**Vocabulary:** cost; kobo and Naira**Learning experiences****Lesson focus***Pupil's Book:* Topic 1: Exercises 1–3**Nigerian currency****Let's talk**

- If possible, show and pass around real and play kobo and Naira.
- Show the class a Nigerian money chart if you have one or make use of pictures of money.
- Talk about money. Why do we need money? What do we use money for? How do people get money?
- Let the pupils talk about the different coins and notes, for example, the symbols, the colours and the value (how much they are worth).
- Let pupils touch the money.
- Ask a few questions, for example, ask pupils to hold up a 1 kobo coin, a 5 kobo coin, a 10 Naira note and so on.
- Introduce the idea of change: ask pupils how many 5 kobo coins they would need to exchange for a 10 kobo coin, and so on.
- In Exercise 3 on page 172 of the Pupil's Book, pupils will shop and work out totals.

Exercise 1 Recognising coins

[classwork]

- Pupils work as a class at their desks.
- If possible, show and pass around real and play coins or show the class a Nigerian money chart if you have one; or make use of pictures of money.
- Pupils turn to Exercise 1 on page 170 in the Pupil's Book.
- Read the instructions.
- Pupils put up their hands to offer answers for a) and b).
- Pupils complete the written work in their exercise books.

Exercise 2 Recognising notes

[classwork]

- Pupils work as a class at their desks.
- If possible, show and pass around real and play notes or show the class a Nigerian money chart if you have one; or make use of pictures of money.
- Pupils turn to Exercise 2 on page 171 in the Pupil's Book.
- Read the instructions and look at the pictures with the pupils.
- Pupils complete the written work in their exercise books.

Exercise 3 Quantitative reasoning

[group work and pair work]

- Pupils first work in groups.
- If possible, let them set up a classroom shop with empty boxes and other containers they have brought from home or you, the teacher, have supplied.
- Pupils now return to their desks and work in pairs.
- They turn to Exercise 3 on page 172 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Pupils complete the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 1, Exercises 1–2

Topic 2 Money – addition and subtraction of coins and notes

Pupil's Book pages 173–178

Skills: adding; calculating; counting; drawing; problem solving; reading; subtracting

Concepts: change; money; total cost

Resources: chart with Nigerian money; exercise books; kobo and Naira; paper; pencils; play money

Vocabulary: change; cost; kobo and Naira

Learning experiences

Lesson focus

Pupil's Book: Topic 2: Exercises 1–6

See **Term 3, Topic 1 Lesson focus.**

Exercise 1 Adding coins

[pair work]

- Pupils work in pairs at their desks.
- If possible, show and pass around real and play coins and show the class a Nigerian money chart if you have one; or make use of pictures of money.
- Pupils turn to Exercise 1 on page 173 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- They complete the written work in their exercise books.

Exercise 2 Subtracting coins

[pair work]

- Pupils work in pairs at their desks.
- If possible, show and pass around real and play coins and show the class a Nigerian money chart if you have one; or make use of pictures of money.
- Pupils turn to Exercise 2 on page 174 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- They complete the written work in their exercise books.

Exercise 3 Money – problem solving

[group work]

- Pupils work in groups on a mat.
- They turn to Exercise 3 on page 175 in the Pupil’s Book.
- Read the instructions.
- Pupils may help each other and check each other’s work.
- Pupils complete the written work in their exercise books.

Exercise 4 Add and subtract coins and notes

[pair work]

- Pupils work in pairs at their desks.
- If possible, show and pass around real and play coins and show the class a Nigerian money chart if you have one; or make use of pictures of money.
- Pupils turn to Exercise 4 on page 176 in the Pupil’s Book.
- Read the instructions.
- Pupils may help each other and check each other’s work.
- Pupils complete the written work in their exercise books.

Exercise 5 Add money – notes and coins

[classwork]

- Pupils work individually at their desks.
- They turn to page 177 in the Pupil’s Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Exercise 6 Add and subtract money – notes

[classwork]

- Pupils work individually at their desks.
- They turn to page 178 in the Pupil’s Book.
- Read and explain the instructions.
- Explain the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 2, Exercises 1–2

Topic 3 Length – introducing natural units

Pupil's Book pages 179–184

Skills: explaining; listening; measuring; observing; reading

Concepts: size; length

Resources: counters; crayons; paper; pencils; ruler

Vocabulary: arm length; foot length; hand span; pace

Learning experiences

Lesson focus

Pupil's Book: Topic 3: Exercises 1–6

Measuring with natural units

- In ancient times, people used parts of the body to measure length.
- As some people were tall and some short, their arms and feet and hands were different sizes, and so measurements were different.
- These natural measurements gave way to standard measurements, for example, a foot became 12 inches or 30 centimetres (cm). In this way, measurements could be the same all over the world.
- In the lessons below, pupils will use parts of their bodies to measure length.

Exercise 1 Natural units

[classwork]

- Pupils work as a class, on a mat or at their desks.
- They turn to Exercise 1 on page 179 in the Pupil's Book.
- Read and talk with the pupils (see **Lesson focus** above).

Exercise 2 Measuring your classroom

[classwork]

- Pupils work as a class, on a mat or at their desks.
- They turn to Exercise 2 on page 180 in the Pupil's Book.
- Look at the picture and read the questions with the pupils.
- Pupils put up their hands to offer answers.
- There is no written work in this lesson.

Exercise 3 Measuring with natural units

[classwork]

- Pupils work as a class at their desks.
- They turn to Exercise 3 on page 181 in the Pupil's Book.
- Read with the pupils and let them try out how to do each measurement.
- For the foot length and pace measurements, pupils will need to move around. If possible, try out these measurements on the playground.
- Pupils return to their desks and put up their hands to offer answers to the questions on the page.
- There is no written work in this lesson.

Exercise 4 Quantitative reasoning

[group work]

Pupils work in groups.

- They turn to Exercise 4 on page 182 in the Pupil's Book.
- Read the instructions.
- Revise with the pupils how to estimate (see **Term 1, Topic 1 Lesson focus**).
- Pupils move around the classroom in groups and measure the objects in the table with hand spans. Measurements may differ according to the size of the pupils' hands. This has been explained in the **Lesson focus**.
- Each pupil must complete the written work.

Exercise 5 Quantitative reasoning

[group work]

- Pupils work in groups.
- They turn to Exercise 5 on page 183 in the Pupil's Book.
- Read the instructions.
- Pupils move around the school in groups and measure the items in the table with foot lengths. Measurements may differ according to the size of the pupils' feet. This has been explained in the **Lesson focus**.
- Each pupil must complete the written work.

Exercise 6 Measure your body

[pair work]

- Pupils work in pairs.
- They turn to Exercise 6 on page 184 in the Pupil's Book.
- Read the instructions and the questions.
- Pupils should trace and measure each other.
- Each pupil must complete the written work.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 3, Exercises 1–4

Topic 4 Length – ordering of measurement

Pupil's Book pages 185–189

Skills: comparing; drawing; ordering

Concepts: high and low; long and short; tall and short

Resources: crayons; exercise books; pencils

Vocabulary: high and low; long and short; longest; shortest; tall; tallest

Learning experiences

Lesson focus

Pupil's Book: Topic 4: Exercises 1–5

Comparison of length

Pupils should be able to:

- compare the length of two or more objects to develop the concepts of longer and shorter
- order similar objects according to length
- apply length and ordering of length in everyday life.

Exercise 1 Long or short

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 1 on page 185 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils complete the written work in their exercise books.

Exercise 2 Let's compare

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 186 in the Pupil's Book.
- Read the instructions.
- Pupils may draw to order the objects, and/or write the words.

Exercise 3 Who is the tallest?

[group work]

- Pupils work in groups of ten.
- They turn to Exercise 3 on page 187 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils work together to form a line from tallest to shortest.
- Each pupil must complete the written work.

Exercise 4 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 188 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils complete the written work in their exercise books.

Exercise 5 Sequencing length

[classwork]

- Pupils work individually at their desks.
- They turn to page 189 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 4, Exercises 1–3

Topic 5 Time

Pupil's Book pages 190–198

Skills: matching; reading; writing

Concepts: faster and slower; long, longer; short, shorter; time; today, tomorrow, yesterday

Resources: calendar; charts for days and months; crayons; number symbol and number name cards; pencils; ruler; word cards for days and months

Vocabulary: afternoon; calendar; day; early and late; evening; faster and slower; long, longer; midday; morning; night; short, shorter, time; today, tomorrow, yesterday

Learning experiences

Lesson focus

Pupil's Book: Topic 5: Exercises 1–9

Time

- Pupils should be able to:
 - show their understanding of the concept of time by stating when activities are done.
- Pupils work as a class. Show flashcards one at a time for **morning, afternoon**, and so on.
- Ask pupils to say what they do at these times of day.
- Introduce the idea of taking time to do something. Use flashcards for the words **long, longer, short, shorter, faster and slower**. Talk about activities that take different lengths of time to do (duration).

Days of the week, months of the year

- Pupils work in groups. Hand out word cards for the days of the week.
- Give each group number symbol and number name cards from 1 to 7 (one to seven).
- Read through the word cards with the pupils. Ask them to match the number cards with the days of the week.
- Teach the months of the year in the same way with number cards from 1 to 12 (one to twelve).

- Pupils now work as a class. Make reading charts for the days and months. Point to the word for a day or month and ask the pupils to read and say.

Exercise 1 Time of day

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 1 on page 190 in the Pupil's Book.
- Read the instructions and look at the illustrations of activities at different times of the day.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 2 Daily activities

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 2 on page 191 in the Pupil's Book.
- Read the instructions and the list with the pupils.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 3 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 3 on page 192 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 4 Faster or slower

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 4 on page 193 in the Pupil's Book.
- Read the instructions.
- Help the pupils to name all the vehicles in the first picture. Write the names on the board.
- Pupils choose which vehicles move fast and copy down the correct names from the board.
- Help the pupils to name all the animals in the second picture. Write the names on the board.

- Pupils choose which animals are slower and copy down the correct names from the board.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 5 Yesterday

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 5 on page 194 in the Pupil's Book.
- Read the instructions and look at the picture with the pupils.
- Read through the sentences with them to make sure they understand the words. Ask them which words they need to complete the sentences. Help the pupils by writing these words on the board.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 6 Today or tomorrow

[group work]

- Pupils work in groups.
- They turn to Exercise 6 on page 195 in the Pupil's Book.
- Read the instructions and look at the picture with the pupils.
- Read through the list and the sentences with them to make sure they understand the words.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 7 Calendar month

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 7 on page 196 in the Pupil's Book.
- Read the instructions and look at the calendar page with the pupils.
- Read through the questions with them to make sure they understand the words. Ask them which words they need to write their answers. Help the pupils by writing these words on the board.
- Pupils complete the written work in their exercise books.

Exercise 8 Quantitative reasoning

[group work]

- Pupils work in groups.
- They turn to Exercise 8 on page 197 in the Pupil's Book.
- Read the instructions and look at the pictures. Read the word list with the pupils.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 9 Ordering the days of the week

[classwork]

- Pupils work individually at their desks.
- They turn to page 198 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 5, Exercises 1–3

Topic 6 Mass (weight)

Pupil's Book pages 199–203

Skills: comparing; estimating

Concepts: heavy; light

Resources: pencils; ruler

Vocabulary: heavy and light; lighter and heavier; weight (mass)

Learning experiences

Lesson focus

Pupil's Book: Topic 6: Exercises 1–5

Comparison of mass (weight)

- Pupils should be able to:
 - estimate the weight (mass) of familiar objects using the terms **light** and **heavy**
 - compare weight – **lighter** or **heavier**.
- Pupils work in groups on a mat.
- Hand out a variety of heavy and light fruits, for example, a big pineapple and a small pineapple, for pupils to lift and feel the weights.
- Ask the pupils which fruits are light and which are heavy.
- Point out that the bigger fruits are heavier (more weight).
- Put some fruit into a basket and let the pupils lift the basket of fruit and compare the weight to an empty basket – heavier and lighter.
- Wherever possible, bring real objects to class for pupils to lift and feel the weights before they complete the work in the lessons and exercises.

Exercise 1 Heavy or light (1)

[classwork]

- Pupils work as a class at their desks.
- They turn to Exercise 1 on page 199 in the Pupil's Book.
- Read the instructions.
- Pupils put up their hands to offer answers.
- There is no written work in this lesson.

Exercise 2 Heavy or light (2)

[pair work]

- Pupils work in pairs at their desks.
- If possible, bring to class the real objects shown in the table for pupils to lift and feel the mass (weight). Pass the objects around.
- Pupils turn to Exercise 2 on page 200 in the Pupil's Book.
- Read the instructions and look at the example.
- Revise with the pupils how to estimate (see **Term 1, Topic 1 Lesson focus**).
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 3 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on page 201 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 4 Quantitative reasoning

[pair work]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 202 in the Pupil's Book.
- Read the instructions.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 5 Ordering mass

[classwork]

- Pupils work individually at their desks.
- They turn to page 203 in the Pupil's Book.
- Read and explain the instructions.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 6, Exercises 1–4

Topic 7 Capacity

Pupil's Book pages 204–207

Skills: compare; measure

Concepts: capacity

Resources: buckets; cups; tablespoons; water

Vocabulary: capacity; full and empty; half full; most and least

Learning experiences

Lesson focus

Pupil's Book: Topic 7: Exercises 1–4

Capacity

- Pupils should be able to:
 - identify and name objects that could be used to measure capacity, for example, cups, spoons, empty containers, buckets
 - order containers according to capacity.
- Pupils work in groups around the classroom.
- Hand out two cups, a tablespoon, a jug and a bucket of water to each group.
- Pupils fill one cup with tablespoons of water from the bucket. Ask them how many tablespoons of water they used until the cup was full?
- Now pupils fill the jug with the second, empty cup, using water from the bucket. Ask them how many cups of water they used until the jug was full?
- Ask the pupils which container has the most water, the cup or the jug?
- Explain that the amount a container can hold is its capacity. Bigger containers have a bigger capacity (they hold more).

Exercise 1 Full or empty

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 1 on page 204 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 2 Full, half full, empty

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 2 on page 205 in the Pupil's Book.
- Read the instructions and look at the example.
- Refer back to **Term 1, Topic 11**, pages 64–69 in the Pupil's Book, to revise half.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 3 Most to least

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 3 on page 206 in the Pupil's Book.
- Read the instructions and look at the example.
- Pupils may help each other and check each other's work.
- Each pupil must complete the written work.

Exercise 4 Comparing quantities

[classwork]

- Pupils work individually at their desks.
- They turn to page 207 in the Pupil's Book.
- Read and explain the instructions.
- Tell them to look at the example.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 7, Exercises 1–2

Topic 8 Three-dimensional shapes

Pupil's Book pages 208–211

Skills: counting; drawing; experimenting; investigating; naming; sorting

Concepts: depth; height; three-dimensional; width

Resources: 3-D objects (cubes, cuboids, cylinders, spheres); crayons; exercise books; old magazines; pencils

Vocabulary: cubes; cuboids; cylinders; depth; spheres; height; three-dimensional; width

Learning experiences

Lesson focus

Pupil's Book: Topic 8: Exercises 1–4

Three-dimensional shapes

- Pupils should be able to:
 - identify and name cubes, cuboids, cylinders and spheres
 - know the difference between a cube and a cuboid
 - sort the shapes
 - identify these shapes in the environment.
- Pupils work in groups on a mat.
- Hand out 3-D objects (cubes and cuboids, cylinders and spheres).
- Give each group word cards for cube, cuboid, cylinder and sphere.
- Ask the pupils to name and describe some of the 3-D objects, for example, a big square box.
- Hold up a 3-D object, for example, a tin can. Explain that the object is three-dimensional because it is not flat, it has height. Stand the can on a desk and point to show the pupils how high it is. Point to the can's width and depth. Height, width and depth are the can's three dimensions.
- Ask pupils to show each other the three dimensions of other objects.

- Now ask the pupils to sort their objects. They should put all the square and rectangular objects (cubes and cuboids) in one pile, and all the round objects (cylinders and spheres) in another pile.
- Use flash cards to show the pupils which objects are cubes, cuboids, cylinders and spheres. Each flashcard should have a word and a picture of an object, for example, the word sphere and a picture of a ball.
- Pupils use their word cards to label each pile of objects.
- Ask the pupils which objects have straight edges and which have rounded edges?
- Ask them which objects roll and which can slide?
- Pupils should investigate and experiment with the two piles of objects to find the answers.
- Pupils may sort the objects further into sizes (small and big) and colours.
- Let the pupils look for pictures of 3-D objects in old magazines to cut out and sort.

Exercise 1 3–D names

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 1 on page 208 in the Pupil’s Book.
- Read the instructions.
- Write up the names of the objects on the board to help the pupils; or make word cards to hand out to each pair. They should choose the correct names to write next to their drawings.
- Pupils may help each other and check each other’s work.
- Each pupil must complete the written work.

Exercise 2 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 2 on page 209 in the Pupil’s Book.
- Read the instructions.
- Write up the names of the objects on the board to help the pupils; or make word cards to hand out to each pair. They should choose the correct names to say.
- Pupils may help each other and check each other’s work.
- Each pupil must complete the written work.

Exercise 3 Sorting 3–D shapes

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on page 210 in the Pupil’s Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 4 Quantitative reasoning

[pair work]

- Pupils work in pairs.
- They turn to page 211 in the Pupil’s Book.
- Read and explain the instructions.
- Make sure pupils understand what is expected of them.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 8, Exercises 1–2

Topic 9 Two-dimensional shapes

Pupil's Book pages 212–216

Skills: cutting out; identifying; matching; naming; recognising; sorting; tracing

Concepts: circle; rectangle; square; triangle; two-dimensional

Resources: concrete objects to trace circles, rectangles, squares and triangles; crayons; cardboard or paper cut-outs of 2-D shapes; exercise books; pencils; scissors

Vocabulary: circle; flat; rectangle; square; triangle; two-dimensional

Learning experiences

Lesson focus

Pupil's Book: Topic 9: Exercises 1–5

Two-dimensional shapes

- Pupils should be able to:
 - identify a square, rectangle, triangle and a circle
 - know the difference between a square and a rectangle
 - name and match shapes
 - identify these shapes in the environment.
- Pupils must understand that two-dimensional shapes are flat.
- Use cardboard or paper cut-outs that pupils can handle and sort to help them learn the shapes.
- Pupils can also make their own cut-outs by tracing around three-dimensional objects, for example, they use half an orange face down on a sheet of paper and trace around the edge to draw a circle. Provide other objects, such as a toothpaste box (rectangle), for pupils to trace around.
- Pupils can also identify shapes in pictures from old magazines and newspapers.

Exercise 1 2–D shapes

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 1 on page 212 in the Pupil's Book.
- Read the instructions.
- Pupils may use concrete objects or cardboard cut-outs (templates) to trace to help them draw the shapes in their exercise books.

Exercise 2 Playing with 2–D shapes

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 2 on page 213 in the Pupil’s Book.
- Read the instructions and the questions.
- Pupils use cardboard or paper to cut out the shapes.
- They may help each other and check each other’s work.
- Each pupil must complete the written work.

Exercise 3 Arrange the shapes

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on page 214 in the Pupil’s Book.
- Read the instructions and look at the example.
- Pupils may trace the shapes from smallest to biggest into their exercise books with tracing paper if this is available.
- Accept approximately correct sizing of the shapes if pupils draw these by hand.

Exercise 4 Quantitative reasoning

[pair work]

- Pupils work in pairs at their desks.
- They turn to Exercise 4 on page 215 in the Pupil’s Book.
- Read the instructions.
- Pupils may use concrete objects or cut-outs (templates) to trace to help them draw the shapes in their exercise books.
- They may help each other and check each other’s work.
- Each pupil must complete the written work.

Exercise 5 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to page 216 in the Pupil’s Book.
- Read and explain the instructions.
- Do one example with the class.
- The pupils do the written work in their exercise books.

Give the pupils more practice by doing these exercises throughout the week:

Workbook: Term 3, Topic 9, Exercises 1–3

Topic 1 Data collection**Pupil's Book pages 217–223****Skills:** observing; sorting; classifying; answering questions; interpreting; reasoning; recording**Concepts:** sorting; data; recording**Resources:** books; pencils; crayons; scissors; glue**Vocabulary:** sorting; data; recording**Learning experiences****Lesson focus***Pupil's Book:* Theme 5: Topic 1: Exercises 1–6**Sorting**

- The learners work in small groups on a mat.
- Give them a variety of objects. Explain that the objects are mixed up.
- Ask the learners to sort the objects into groups that belong together.
- Explain that after they have finished sorting or grouping the objects, they can name the groups.
- Let them name the groups and explain why they chose a particular name.

Data

- Explain to the learners that all the information they have in front of them (the sorted groups) is called data and that data is another word for information. We collect data when we gather information.
- Explain to the learners that they have sorted the data into specific groups and named the groups according to specific characteristics.

- Tell them that we can collect data by asking questions, looking in books, magazines, newspapers and by looking around us.

Recording

- Explain that when we write down data we say that we are recording the data.
- Show the learners how we can record data in different ways. We can use pictures, ticks, strokes, crosses, dots or colours to represent data.
- Show the learners that each symbol that we record represents one item, for example: we can write a ✓ to represent 1 child.

Reading and interpreting data

- Explain to the learners that it is important to read all the data they have in front of them. When they look at data and read the information, they need to understand what it is and what it says. The data will inspire the learners to think of questions as they will want to know more about the data. They will ask ‘why?’ and ‘why not?’ questions. Learners must be able to read and interpret the data to answer questions about the data or to make decisions about it.

Exercises 1–6 Data collection exercises

[classwork]

- Pupils work at their desks to complete the written work.
- They turn to the respective pages (pages 217–222) and read the instructions.
- Ensure that the pupils understand the instructions and know what to do.

Project

[group work]

- The pupils turn to page 223
- They read the instructions.
- Explain the instructions so they understand what it says and know what to do.
- Divide the pupils into groups of ten and they complete the task by working together.

Revision

Pupil's Book pages 224–234

- Pupils work on their own to complete the exercises.
- Hand out:
 - a variety of concrete objects such as beads, bottle tops, buttons and stones.
- Read and explain the instructions so the pupils understand what to do.
- The lessons will revise and consolidate the work done throughout the term.

Exercise 1 Number fun

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 1 on page 224 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 2 Compare

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 2 on page 225 in the Pupil's Book.
- Read the instructions.
- Pupils complete the written work in their exercise books.

Exercise 3 Measure the distance

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 3 on pages 226–227 in the Pupil's Book.
- Read the instructions and demonstrate how to measure.
- Give each pupil a small paperclip to use as a measuring tool.
- Pupils complete the exercise and do the written work in their exercise books.

Exercise 4 Round or straight

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 4 on page 228 in the Pupil's Book.

- Read the instructions. Refer to the **Lesson focus** on page 95 of this Teacher's Guide, where pupils worked with rounded and straight-edged 3-D objects.
- Write up the names of the objects on the board to help the pupils; or make word cards to hand out. Pupils choose the correct names to write down.
- Pupils complete the written work in their exercise books.

Exercise 5 Quantitative reasoning

[classwork]

- Pupils work individually at their desks.
- They turn to Exercise 5 on page 229 in the Pupil's Book.
- Read the instructions. Refer to the **Lesson focus** on page 95 of this Teacher's Guide, where pupils worked with 3-D objects that roll and slide.
- Pupils complete the written work in their exercise books.

Exercises 6–8 Data collection exercises

- The learners turn to each exercise respectively (pages 230–232).
- Explain the instructions and questions so the pupils understand what to do.
- They complete the exercises on their own (one at a time over a few days).
- These exercises will revise and consolidate their understanding of the work done during the term.

Exercises 9–10 Game exercises

[pair work]

- Pupils work in pairs at their desks.
- They turn to the game exercises on pages 233 and 234 respectively.
- Read the instructions and make sure they understand how to play the games.
- Each pupil must have a suitable object to use as a marker. For the game in Exercise 9, each pair will also need a dice.