



**Numeracy lesson plans**  
**Primary 4,**  
**term 1, weeks 6—10**

**Shapes, fractions  
and time**

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## Introduction

Good teaching can help learners achieve positive outcomes, even in difficult circumstances. But learners have little chance of making progress where the teaching is poor.

Throughout 2010 in Kaduna State, the Ministry of Education carried out baseline surveys to assess classroom teachers, headteachers and pupil learning outcomes. Sadly, the findings were alarmingly poor. It was clear that despite substantial inputs into education, the majority of teachers were themselves victims of an education system that was in a serious downward spiral.

Following this research, the State Ministry of Education, the State Universal Basic Education Board and local government education authorities, supported by the Education Sector Support Programme in Nigeria (ESSPIN), embarked on a series of reforms to strengthen schools.

To improve the teaching of basic literacy and numeracy in primary schools, Kaduna is introducing a carefully designed series of literacy and numeracy lesson plans for primary 1—5 teachers. These provide a step-by-step guide to teachers, while ensuring that teaching and learning become more exciting and children become active learners.

Alongside the lesson plans, structures and processes have been put in place so that teachers are continuously supported by the State School Improvement Team and specially-trained school support officers.

I am confident that these lesson plans will raise standards in our schools. I commend all those who have worked hard to produce these plans and train our teachers to use them, and I offer thanks to the UK Department for International Development (DFID) for its ongoing support for education reform in Kaduna State through its ESSPIN programme.

**Professor Andrew Jonathan Nok**  
DSc, PhD, OON, FAS, NNOM  
Honourable Commissioner  
of Education, Science  
and Technology, Kaduna State

The numeracy lessons teach calculation, shape, symmetry, fractions and time. Each week focuses on one of these topics.

How

How?

This section illustrates a key concept through simple instructions and photographs. A sign at the top of the column shows you which part of the lesson uses this resource.

Learning expectations

Every pupil in the class will be at a different stage of understanding in maths. The first page of each week outlines learning expectations for the week. These learning expectations are broken into three levels:

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What **all** pupils will be able to do.

---

What **most** pupils will be able to do.

---

What **some** pupils will be able to do.

Assessment

On each weekly page there is an assessment task for you to carry out with five pupils at the end of the week. This will help you find out whether they have met the learning expectations.

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Next to the task, there is an example of a pupil's work, which shows what a pupil can do if they have met the learning expectations.

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If most pupils have not met the learning expectations, you may have to teach some of the week again.

### Daily practice

Helps the pupils to practise something they have previously learned. It should only last 15 minutes and move at a fairly fast pace.

### Introduction

Provides the focus for the lesson. Often involves a variety of fun, quick activities which prepare the pupils for the main topic.

### Main activity

Gives the pupils the opportunity to explore the main topic in different ways. This usually involves group, pair or individual tasks. Your role as a teacher during the main activity is to work with groups and individuals to help them to understand the ideas.

### Plenary

Finishes the lesson with different ways of reviewing learning.

Grade/  
Type of lesson plan

Lesson  
title

**Weekly page**

**Primary 4,  
numeracy  
lesson plans**

**Week 6:**

**Shapes**

**Words/phrases**

**Write these words on the chalkboard  
and leave them there for the week.**

shape  
two-dimensional (2D)  
three-dimensional (3D)  
north  
east  
south  
west  
direction  
symmetry  
symmetrical  
horizontally  
vertically  
diagonally  
parallel  
right angle  
degrees (°)  
polygon

**Learning expectations**

**By the end of the week:**

**All pupils will be  
able to:**  
Identify 2D and 3D shapes.

**Most pupils will be  
able to:**  
Draw lines of symmetry on  
2D shapes.

**Some pupils will be  
able to:**  
Use compass points  
to describe the position  
of an object.

## Assessment task

### Instructions:

Ask the individual pupils to complete these tasks in their exercise books.

1

Give individual pupils three flash cards containing the names of shapes. Ask them to label shapes in the classroom.

2

Ask individual pupils to draw two 2D shapes and show you the lines of symmetry.

3

Ask individual pupils to name the four compass points.

4

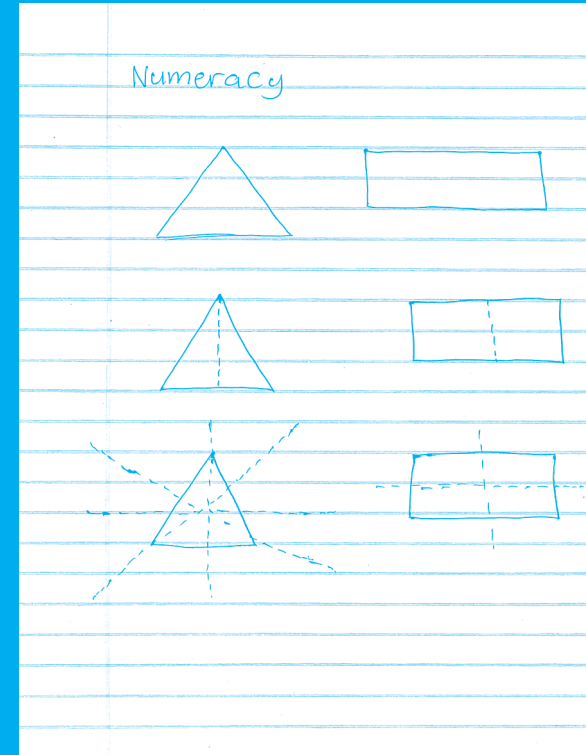
Ask individual pupils to tell you the position of an object in the classroom using the compass points.

## Example of a pupil's work

### This pupil can:

Draw 2D shapes independently.

Show lines of symmetry for different 2D shapes.





## Week 6: Shapes

## Day 1: Compass points

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Describe simple 2D shapes.

Follow directions using  
compass points.

### Preparation

**Before the lesson:**

Read [How? Finding north](#) and make  
a [simple compass](#), as shown below.

Make a set of [large cardboard 2D shapes](#)  
(square, circle, rectangle, triangle, pentagon,  
hexagon) for each group.

### How? Finding north



Make a simple  
compass.



Take the pupils out  
at midday.



Tell them to stand  
with their backs  
to the sun. They are  
now facing north.



Give pupils north,  
south, east and west  
cards and help  
them stand in the  
compass positions.



Put the compass  
on the ground,  
pointing to north.



15 minutes | 2D card shapes

## Daily practice

### Group task

Hold up the **cardboard 2D shapes** and ask the pupils if they can name them.

Write, 'circle, square, rectangle, triangle, hexagon, pentagon' on the chalkboard.

Give each group a shape without letting other groups see which one it is.

Tell the groups, in turn, to describe their shapes for the rest of the class to guess.

Remind them to describe the number and length of straight lines, curves and corners their shape has.

10 minutes

## Introduction

### Whole class teaching

Ask the pupils to help you explain how to get from the classroom to the school gate.

Use words like 'left', 'right' and 'forwards'.

Remind the pupils of the meaning of 'vertically', 'horizontally' and 'diagonally'.

Write 'north', 'south', 'east' and 'west' on the chalkboard.

Explain that we can use these words to give directions.

Tell the pupils that they are called 'compass points'.

25 minutes

How  
Compass

## Main activity

### Whole class teaching

Take the pupils outside and show them where north is, as shown left in **How? Finding north**.

Tell them to face north and stretch their arms out horizontally from their sides.

Explain that their right arm is pointing to the east, their left arm is pointing to the west and south is behind them.

Position the **simple compass** on the ground so that it matches the compass points.

Tell the pupils to space themselves out and listen to your directions.

10 minutes | Compass

## Plenary

### Whole class teaching

Position the **simple compass** on the floor of the classroom correctly.

Ask the pupils to help you give directions from the classroom to the school gate, using compass points.

## Week 6: Shapes

## Day 2: Symmetry

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify 2D shapes.

Draw lines of symmetry  
on 2D shapes.

### Preparation

**Before the lesson:**

Read [How? Properties of 2D shapes](#),  
as shown below and have ready  
the set of [2D shapes](#) for each group from  
Week 6, Day 1 (yesterday).

Draw the [symmetry chart](#), as shown  
right, on the chalkboard and find a [small  
mirror](#) for each group.

### How? Properties of 2D shapes



Tell the pupils that  
a circle is round  
and a triangle has  
three edges and  
three corners.



Remind them that  
a square has four  
equal length sides,  
four edges and  
four corners.



Tell them that  
the opposite sides  
of a rectangle  
are equal in length,  
with four edges  
and four corners.



Tell the pupils  
that a pentagon has  
five equal length  
sides, five edges  
and five corners.



Tell them that  
a hexagon has six  
equal length  
sides, six edges  
and six corners.

15 minutes

What am I? game/  
2D card shapes

How

10 minutes

25 minutes

2D card shapes/  
Mirror

Symmetry chart

10 minutes

## Daily practice

## Introduction

## Main activity

## Plenary

### Whole class teaching

Play the game **What am I?** with the pupils, as described below.

Show the pupils the **shapes**, as shown left in **How? Properites of 2D shapes** and ask them to name each one.

Choose a shape but don't let the pupils see it.

Tell them that they have to guess which shape it is.

Give them clues to help them guess, eg:  
'I am a 2D shape. I have six edges and six corners' (hexagon).

Repeat until each shape has been described three times.

### Whole class teaching

Ask if anyone can remember what 'symmetry' means.

Remind the pupils that if a shape can be folded into two equal parts, it is symmetrical.

Hold up a paper rectangle and fold it into two equal parts, vertically and horizontally.

Explain that the folds are called 'lines of symmetry'.

### Group task

Give each group a set of **shapes**.

Tell the pupils they are going to investigate how many lines of symmetry each shape has.

Explain that they can fold the shapes horizontally, vertically and diagonally to check for symmetry.

Show the pupils how to use a **mirror** to check if the lines of symmetry are correct.

Ask the pupils to draw the lines of symmetry on each shape.

Tell them to copy and complete the **symmetry chart** (below) on the chalkboard in their exercise books.

Choose some groups to say their results and ask the class if they agree.

Ask the pupils how many lines of symmetry there are on a circle.

### Whole class teaching

Take the pupils outside and ask them to search for leaves with lines of symmetry.

Keep the leaves for the next day.

Symmetry chart

Shape	Number of lines of symmetry
Rectangle	
Circle	
Triangle	
Square	

## Week 6: Shapes

### Day 3: Lines of symmetry

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify 3D shapes.

Draw lines of symmetry  
on letters of the alphabet.

#### Preparation

**Before the lesson:**

Have ready the [leaves](#) from yesterday  
and a [small mirror](#) for each group.

Read [How? Properties of 3D shapes](#),  
as shown below, and have ready a set  
of [3D objects](#).

#### How? Properties of 3D shapes



Tell the pupils that  
a cylinder has three  
faces, no corners  
and two edges.



Tell them that a  
cube and a cuboid  
both have six  
faces, eight corners  
and 12 edges.



Tell the pupils that  
a sphere has  
one face, no corners  
and no edges.



Tell them that  
a cone has two  
faces, no corners  
and one edge.



Tell the pupils  
that a triangular  
prism has five  
faces, six corners  
and nine edges.

15 minutes

How

What am I? game/  
3D objects

10 minutes

Leaves

25 minutes

Mirrors

10 minutes

## Daily practice

## Introduction

## Main activity

## Plenary

### Whole class teaching

Play the [What am I? game](#) with the pupils.

Show the pupils the [objects](#), as shown left in [How? Properites of 3D shapes](#) and ask them to name each one.

Choose a shape but don't let the pupils see it.

Tell the class that they have to guess which shape it is.

Give them clues to help them guess, eg: 'I am a 3D shape. I have no edges, no corners and one curved face' (sphere).

Repeat until each shape has been described three times.

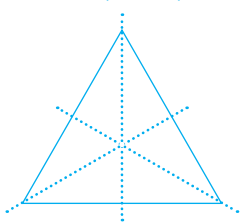
### Individual task

Ask the pupils to explain the meaning of symmetry.

Look at the [leaves](#) they have collected and choose some pupils to point to any lines of symmetry they can see.

Draw a triangle on the chalkboard (as shown below) and choose some pupils to draw on the lines of symmetry, as shown below.

Lines of symmetry



### Whole class teaching

Ask each group to write the whole alphabet in capital letters, one at a time in their exercise books.

Ask them to use the small [mirror](#) to find the lines of symmetry.

Tell the groups to draw any lines of symmetry on the letters.

### Whole class teaching

Write the capital letters: A, E, H, M, T, O, P, F and R carefully on the chalkboard and choose some pupils to come and draw the lines of symmetry.

Discuss why P, F and R are not symmetrical.

## Week 6: Shapes

## Day 4: Compass points

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify correctly 2D  
and 3D shapes.

Follow directions  
using compass points  
and right angles.

### Preparation

**Before the lesson:**

Have ready the [simple compass](#)  
from Week 6, Day 1 (earlier this week)  
and hide an [object](#) in the classroom.

Have ready a set of [3D shapes](#), a set  
of [2D shape flash cards](#) and draw the 2D  
shapes on the chalkboard.

Read [How? Describing turns](#), as  
shown below.

### How? Describing turns



Ask the pupils to  
stand and face north,  
turn to the east,  
south, west and back  
to the north.



Tell them that  
a quarter turn can  
be described as  
'90°' (degrees),  
or a 'right angle'.



Explain that  
a half turn can  
be described  
as '180°' (degrees).



Tell them that  
a three quarter  
turn can be described  
as '270°' (degrees).



Tell them that  
a full turn can be  
described as  
'360°' (degrees).

15  
minutes

Flash cards/  
3D shapes

## Daily practice

### Whole class teaching

Show the **2D flash cards** and ask the pupils to read the words with you.

Hold up each card and choose some pupils to say the word and point to the correct shape on the chalkboard.

Hold up the **3D shapes** and ask the pupils to name them.

Hold them up again and ask the pupils to point to any 2D shapes on the 3D shapes.

10  
minutes

Compass/  
Object

## Introduction

### Group task

Ask the groups to say the compass points with you.

Place the **simple compass** on the floor so that it is lined up correctly with the north.

Explain to the pupils that they are going to play a treasure hunt game.

Ask the groups in turn to stand by the door and, using compass points, direct them to the hidden **object**, eg: 'Go four steps north, now two steps east.'

25  
minutes

How

## Main activity

### Whole class teaching

Explain **How? Describing turns**, as shown left.

Tell the pupils to face north, turn to the east and ask, 'How far have you turned?' (A quarter of a turn).

Ask them to face north, turn to the south and ask, 'How far you have turned?' (A half turn).

Write '360°' on the chalkboard and explain that there are 360 degrees in a circle or complete turn. Ask, 'How many degrees are there in half a turn, a quarter of a turn, three quarters of a turn?'

10  
minutes

## Plenary

### Pair task

Write on the chalkboard:  
'One complete turn = °'  
'A quarter of a turn = °'  
'Half a turn = °'

Ask the pairs to complete these statements in their exercise books.



## Week 6: Shapes

## Day 5: Polygons

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify 2D and 3D shapes.

Find symmetrical and  
parallel lines and right angles  
in polygons.

### Preparation

**Before the lesson:**

Read [How? Parallel lines and polygons](#),  
as shown below.

Make a set of [polygon shapes](#), as  
shown below, for each group and have  
ready the [2D shapes](#) from Week 6,  
Day 1 (earlier this week).

### How? Parallel lines and polygons



Tell the pupils that  
parallel lines are  
two lines that never  
meet, they are  
always the same  
distance apart.



Tell them that poly-  
gons are 2D shapes  
with three or more  
straight sides.



Explain that  
a parallelogram  
is a flat shape with  
opposite sides that  
are parallel and  
equal in length.



Tell the pupils that  
a trapezium has a  
pair of opposite sides  
that are parallel.



Explain that a kite  
has two pairs of  
equal sides. Each pair  
of sides meets.

15  
minutes

How

2D shapes

10  
minutes

25  
minutes

Polygon shapes

10  
minutes

## Daily practice

## Introduction

## Main activity

## Plenary

### Whole class teaching

Choose some pupils to name some **2D shapes**.

Explain to the class that polygons are any 2D shapes with three or more straight sides.

Explain the meaning of parallel lines as shown left in **How? Parallel lines and polygons**.

Draw four polygons on the chalkboard and name them.

Ask the pupils to describe each shape and point to any parallel lines they can see.

Ask if they know any other shapes that have parallel lines, ie: a square, a rectangle.

### Whole class teaching

Write 'symmetry' on the chalkboard and ask if anyone can say what it means.

Choose some pupils to draw lines of symmetry on the polygons on the chalkboard.

Write 'parallel' on the chalkboard and ask if anyone can remind you what it means.

Choose some pupils to point to any parallel lines in the 2D shapes.

Explain that a right angle can be described as: a quarter of a turn,  $90^\circ$ , or a 'square corner'.

Choose some pupils to point to any right angles in the 2D shapes.

### Group task

Give each group a set of **polygon shapes**.

Tell them to look closely at the shapes, fold them to check for symmetry and count any right angles and parallel lines they can see.

Ask each group to make a chart that shows the properties of polygons.

### Pair task

Remind the pupils about the compass points.

## Weekly page

# Primary 4, numeracy lesson plans

## Week 7:

# Fractions

### Words/phrases

Write these words on the chalkboard and leave them there for the week.

double  
halve  
quarter  
rectangle  
equal parts  
fraction  
divide  
numerator  
denominator  
equivalent fractions  
greater than (>)  
less than (<)

### Learning expectations

By the end of the week:

**All pupils will be able to:**

Halve and double numbers from 0—100.

**Most pupils will be able to:**

Find equivalent fractions from a given fraction.

**Some pupils will be able to:**

Solve word problems that involve fractions.

## Assessment task

### Instructions:

Ask the individual pupils to complete these tasks in their exercise books.

1

Halve the following numbers:

18

88

2

Double the following numbers:

24

42

16

3

Write two equivalent fractions of the following:

$$\frac{2}{4} \quad \frac{3}{5} \quad \frac{5}{6} \quad \frac{3}{4}$$

## Example of a pupil's work

### This pupil can:

Identify the numerator and denominator in a fraction.

Order fractions.

Find equivalent fractions using multiplication knowledge.

Numeracy

$\frac{3}{6}$  ← numerator  
 $\frac{3}{6}$  ← denominator

$\frac{1}{4} \quad \frac{2}{4} \quad \frac{3}{4} \quad \frac{4}{4} \quad \frac{5}{4} \quad \frac{6}{4}$

$\frac{2}{4} = \frac{4}{8} = \frac{8}{16}$

$\frac{4}{6} = \frac{8}{12} = \frac{16}{24}$

# Week 7: Fractions

## Day 1: Fraction strips

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Halve numbers up to 100.

Recognise equivalent  
fractions.

### Preparation

**Before the lesson:**

Read [How? Fraction strips](#), as shown below.

Have ready **six strips of paper** of equal  
size for each group.

Draw the fraction strips on the chalkboard  
and leave them there for the week.

### How? Fraction strips



Tell the pupils to  
write 'one whole' on  
the first strip, fold  
the second strip in  
half and write 'a half'  
on each section .



Tell them to fold  
the third strip into  
four equal parts  
and write 'a quarter'  
on each section .



Ask them to fold  
the fourth strip into  
eight equal parts  
and write 'an eighth'  
on each section .



Tell them to fold  
the fifth strip into  
three equal  
parts and write  
'a third' on each  
section.



Ask them to fold  
the sixth strip  
into six equal parts  
and write 'a sixth'  
on each section.

15  
minutes

## Daily practice

### Group task

Tell the groups to halve these numbers:  
2, 30, 26, 12, 14, 4, 20, 10, 24, 34.

Ask the pupils to write each sum in their exercise books like this:  
 $14 \div 2 = 7$

Remind them that dividing by two is the same as halving.

10  
minutes

How

Paper strips

## Introduction

### Group task

Give each group six **strips of paper** that are the same size.

Follow the instructions for **How? Fraction strips**, as shown left, stopping at eighths.

Glue the strips on to card or paper for use during the rest of the week.

25  
minutes

Fraction strips

## Main activity

### Group task

Remind the class that a fraction is a part of a whole and ask:

'How many halves are there in a whole?'

'How many quarters are there in a whole?'

'What are the parts called when we divide a whole into eight parts?' (eighths)

'How many quarters are the same as a half?'

'How many eighths are the same as a quarter?'

'How many eighths are the same as a half?'

Remind the pupils that 'equivalent fractions' are fractions that have the same value.

Ask the pupils to help you write fraction sums about each strip on the chalkboard, eg:

$$\frac{1}{2} + \frac{1}{2} = 1$$

Read the fraction sums with the pupils and then rub them off the chalkboard.

Ask the groups to look at their **strips** and write some fraction sums about their strips in their exercise books.

10  
minutes

## Plenary

### Whole class teaching

Draw fraction strips on the chalkboard, colouring the amount for each fraction:

$$\frac{1}{4} \quad \frac{3}{8} \quad \frac{5}{8} \quad \frac{3}{4}$$

Choose some pupils to write the fraction of each strip you have shaded in.

## Week 7: Fractions

### Day 2: Numerator and denominator

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Double numbers up to 100.

Identify the numerator  
and denominator in  
a fraction.

#### Preparation

**Before the lesson:**

Read [How? Fraction strips](#) from Week 7,  
Day 1 (yesterday).

Have ready the [fraction strips](#) from  
Week 7, Day 1 (yesterday) and [two more  
strips of paper](#) for each group.

Read [How? Numerator and denominator](#),  
as shown left.

#### How? Numerator and denominator



Draw a rectangle,  
divide it into eight  
equal sections  
and shade in five  
sections.



Tell the pupils to  
write the fraction you  
have shaded.



Explain that the top  
number is the  
'numerator' and the  
bottom number  
is the 'denominator'.



15  
minutes

## Daily practice

### Group task

Tell the groups to double these numbers:  
2, 30, 26, 12, 14, 4, 20, 10, 24, 34.

Ask the pupils to write them in their exercise books like this:  
 $14 \times 2 = 28$ .

Remind them that multiplying by two is the same as doubling.

10  
minutes

Fraction strips/  
Paper strips

## Introduction

### Group task

Give out the **fraction strips** from yesterday and the **new strips** and explain how to make fraction strips for thirds and sixths.

Ask the groups to line up all their **fraction strips**.

Ask them:

'What fraction is the same as two sixths?' (a third)

Remind them that equivalent fractions are fractions that have the same value.

Choose some groups to say some equivalent fractions they notice on their **strips**.

25  
minutes

How

## Main activity

### Whole class teaching

Teach the pupils **How? Numerator and denominator**, as shown left.

Draw another rectangle and divide it into six sections.

Choose some pupils to shade in four sections and write the fraction that is shaded in:

$$\frac{4}{6}$$

Ask them to point to the numerator and the denominator.

### Individual task

Tell the pupils to draw four rectangles in their exercise books.

Tell them to divide the first rectangle into eight equal sections, the second rectangle into six equal sections, the third rectangle into four equal sections and the fourth rectangle into two equal sections.

Tell them to shade in sections to show three eighths in the first rectangle, four sixths in the second rectangle, three quarters in the third rectangle and a half in the fourth rectangle.

10  
minutes

## Plenary

### Whole class teaching

Write these fractions on the chalkboard:

$$\frac{3}{8} \quad \frac{1}{2} \quad \frac{4}{6} \quad \frac{5}{6} \quad \frac{7}{8}$$

Choose some pupils to read them out and circle the numerators.

## Week 7: Fractions

## Day 3: Order fractions

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Find a quarter of a whole  
number.

Order fractions.

### Preparation

**Before the lesson:**

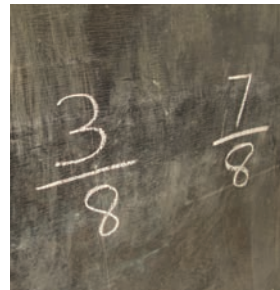
Read [How? Fraction strips](#), as shown on  
Week 7, Day 1 (earlier this week) and  
make sure each group has all the [fraction  
strips](#) they have made this week.

Read [How? Fractions: Greater than  
and less than](#), as shown below.

### How? Fractions: Greater than and less than



Write the signs for  
less than < and  
greater than > on  
the chalkboard.



Write two fractions on  
the chalkboard.



Ask the pupils,  
'Which fraction is less  
than the other'



Ask them to help  
you put the < or >  
sign between  
the fractions to show  
which is bigger.

15  
minutes

## Daily practice

### Pair task

Remind the class that they have been doubling and halving numbers and ask, 'Can anyone remember how to find a quarter of a number?'

Remind the pupils that there are four quarters in a whole, so we can find one quarter by dividing by four.

Write these numbers on the chalkboard and tell the pairs to find a quarter of each number:  
8, 12, 20, 40.

Tell them to write each sum like this:  
 $8 \div 4 =$

10  
minutes

Fraction strips

## Introduction

### Group task

Tell the groups to line up all of their **fraction strips**.

Ask the groups, 'What is an equivalent fraction?'

Ask the groups to use their **fraction strips** to give examples of equivalent fractions, eg:

$$\frac{1}{2} \text{ and } \frac{3}{6}$$

Ask the pupils to come and write the fractions on the chalkboard.

Choose some pupils to come and circle the numerator and then the denominator.

25  
minutes

How

## Main activity

### Whole class teaching

Teach **How? Fractions: Greater than and less than**, as shown left.

Ask the pupils to look at the fraction strips on the chalkboard.

Ask:

'Which fraction is the largest?'

'Which fraction is the smallest?'

Read and explain the examples to them.

Write the following questions on the chalkboard:

$$\frac{1}{8} \frac{1}{2} \frac{5}{8} \frac{1}{4}$$

$$\frac{1}{2} \frac{7}{8} \frac{3}{8} \frac{3}{4}$$

$$\frac{1}{2} \frac{5}{8} \frac{7}{8} \frac{3}{4}$$

Look together at them and explain they need to arrange them in order, starting with the smallest first.

10  
minutes

Fraction strips

## Plenary

### Group task

Write on the chalkboard:

$$\frac{1}{4} \square \frac{1}{8}$$

$$\frac{3}{8} \square \frac{1}{2}$$

$$\frac{2}{6} \square \frac{2}{8}$$

$$\frac{2}{8} \square \frac{1}{4}$$

Ask the groups to look at their **fraction strips** and decide which sign (>, < or =) should go in each box.

Choose some pupils to write the signs in the boxes.

## Week 7: Fractions

## Day 4: Equivalent fractions

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Find doubles, halves  
and quarters of numbers.

Generate equivalent fractions.

### Preparation

**Before the lesson:**

Make sure each group has the [fraction strips](#) they have made this week.

Read [How? Equivalent fractions](#),  
as shown below.

### How? Equivalent fractions



Write two equivalent fractions on the chalkboard, as shown in the picture.



Explain that the numerator and the denominator have each been multiplied by 2 to get the equivalent fraction.



Write two different equivalent fractions on the chalkboard, as shown in the picture.



Explain that the numerator and the denominator have each been multiplied by 3 to get the equivalent fraction.

15  
minutes

## Daily practice

### Pair task

Remind the class that they have been doubling, halving and finding a quarter of numbers.

Write on the chalkboard:

$$\text{Double } 40 = \square$$

$$\frac{1}{2} \text{ of } 40 =$$

$$\frac{1}{4} \text{ of } 40 =$$

Ask the pupils to help you complete these calculations.

Write these numbers on the chalkboard: '12, 16, 20'.

Ask the pairs to double, halve and find a quarter of each number.

Ask them to write their calculations in their exercise books.

10  
minutes

How

Fraction strips

## Introduction

### Whole class teaching

Ask the pupils to look at their **fraction strips**.

Choose some pupils to say some equivalent fractions and write them on the chalkboard.

Choose some pupils to help you make equivalent fractions (by multiplying the numerator and the denominator by the same number) for  $\frac{3}{4}$

Teach **How? Equivalent fractions**, as shown left.

25  
minutes

## Main activity

### Pair task

Remind pupils that equivalent means 'worth the same size or quantity'.

Write these fractions on the chalkboard:

$$\frac{2}{3} \text{ and } \frac{1}{8}$$

Ask the pupils to write each fraction in their exercise books with two equivalent fractions.

Choose some pairs to write their equivalent fractions on the chalkboard.

Ask the class to say if they are correct and what number they have used to multiply the numerator and the denominator.

10  
minutes

## Plenary

### Pair task

Give the pairs three minutes to write as many equivalent fractions for a half as they can.

Ask pairs to say their answers to the class and write them on the chalkboard.

## Week 7: Fractions

## Day 5: Equivalent fractions

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify fractions of shapes.

Solve fraction word  
problems.

### Preparation

**Before the lesson:**

Make *two large circles out of paper,  
or card.*

Read *How? Fractions: Making one,*  
as shown left.

### How? Fractions: Making one



Explain that this  
shape is one whole.



Divide the rectangle  
into eight equal  
sections and shade  
five sections.



Ask the pupils  
what fraction  
of the rectangle  
is shaded.



Ask them what  
fraction has  
not been shaded.



Ask the pupils to  
help you write  
this as a fraction  
addition sum.

15  
minutes

How

## Daily practice

### Group task

Explain **How? Fractions: Making one**, as shown left.

Draw another rectangle on the chalkboard and ask the pupils to help you divide it into six equal sections and shade in four sections.

Ask the groups to write a fraction addition sum that makes the value of one whole.

10  
minutes

Card circles

## Introduction

### Whole class teaching

Show the pupils a **card circle** and ask, 'If you want to share a cake equally between eight people, what fraction of the cake will they each get?'

Demonstrate by cutting or folding the card circle into eighths.

Ask the pupils, 'Would you rather have an eighth of a cake or a twelfth?'

Cut or fold the second **card circle** into twelfths.

Show the pupils that a twelfth is smaller than an eighth.

25  
minutes

## Main activity

### Whole class teaching

Ask the class how to find a half and a quarter of a number.

Explain that  $\frac{1}{2}$  of 10 can be written as

'10 divided by 2 ='

Write the word problems (shown right) on the chalkboard and discuss how to complete them with the pupils.

Ask if anyone can suggest how to find a tenth, a third and a fifth of a number.

### Pair task

Read each problem and ask the pairs to write the calculation in their exercise books:

'Sade makes 24 cakes. She gives half of the cakes to her neighbour. How many cakes does her neighbour get?'

'Lola has N100. She gives a tenth to her brother. How many Naira does her brother get?'

'A school buys 36 books. Class 1 gets a third of the books. How many books does Class 1 get?'

'Aminu has 30 goats. A fifth of them run away. How many run away?'

10  
minutes

## Plenary

### Pair task

Read the following out to the pupils, 'Damola has 24 sweets. She gives a third to her sister. How many sweets does her sister get?'

Ask, 'What fraction of the sweets does Damola keep?'

Explain that she keeps two thirds because

$$\frac{1}{3} + \frac{2}{3} = 1$$



## Weekly page

# Primary 4, numeracy lesson plans

## Week 8:

# Time

### Words/phrases

Write these words on the chalkboard and leave them there for the week.

measure  
seconds  
minutes  
hours  
days  
weeks  
months  
years  
analogue  
digital  
am  
pm

### Learning expectations

**By the end of the week:**

**All pupils will be able to:**

Tell the time using half past, quarter past and quarter to the hour.

**Most pupils will be able to:**

Tell the time on an analogue clock using minutes to and minutes past the hour.

**Some pupils will be able to:**

Change the time from analogue to digital.

## Assessment task

### Instructions:

Use a clock to complete tasks 1 and 2 with the pupils. Ask them to complete tasks 3 and 4 in their exercise books.

1

Set the clock at different times using half past, quarter past and quarter to and ask the pupil to tell you the time.

2

Set the clock at different times using minutes to and minutes past the hour and ask the pupil to tell you the time.

3

Change the following times from analogue to digital:  
4 o'clock am  
Half past 7pm  
10 minutes past 10am  
25 minutes to 2pm

4

Convert these times:

2 hours  
are  minutes

10 minutes  
are  seconds

18 minutes  
are  seconds

360 minutes  
are  hours

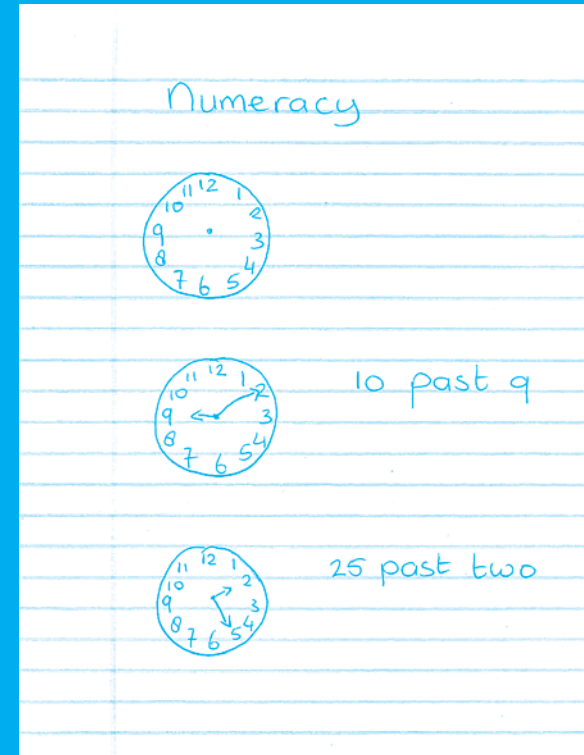
## Example of a pupil's work

### This pupil can:

Draw the analogue clock in the right proportions.

Draw the hands of the clock according to a certain time.

Tell the time according to an analogue clock.



## Week 8: Time

## Day 1: Telling the time

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Say the units used to  
measure time.

Tell the time using minutes  
past the hour.

### Preparation

**Before the lesson:**

Make a [clock](#) as shown below in  
[How? Making an hours and minutes clock.](#)

Have ready a [real clock](#).

### How? Making an hours and minutes clock



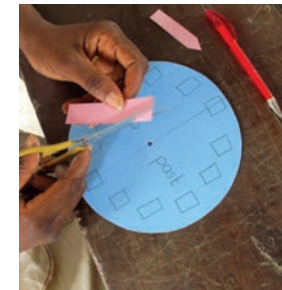
Cut out a cardboard  
circle.



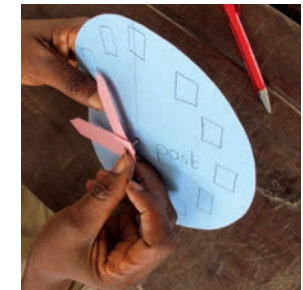
Draw blank boxes  
for the clock numbers  
around the edge.



Divide in half and  
write 'to' and 'past'  
on the clock.



Make a short hand  
and a long hand.



Use a brass fastener  
to attach the  
hands to the clock.

15  
minutes

## Daily practice

### Whole class teaching

Tell the class that they are going to learn about measuring time.

Ask if anyone knows what the smallest unit of time is (a second).

Write the following on the chalkboard and ask the pupils to help you fill in the missing numbers:

- seconds in a minute.
- minutes in an hour.
- hours in a day.
- days in a week.
- weeks in a year.
- months in a year.
- days in a year.

10  
minutes

Clock

## Introduction

### Whole class teaching

Show the pupils the real clock and ask them what it is used for.

Remind them that the shorter hand is the hour hand and the longer hand is the minute hand.

Show them the **hours and minutes clock** and remind them that we count minutes in fives.

Remind the class how to count minutes past the hour and minutes to the hour.

Choose some pupils to help you write the missing numbers on the clock.

25  
minutes

Clock

## Main activity

### Pair task

Move the hands on the **hours and minutes clock** to make times showing quarter past, half past and quarter to.

Choose some pairs to say each time you make.

Choose some pupils to move the hands on the clock to show: half past 7, quarter to 9, quarter past 11, half past 6.

Move the hands on the clock to make 5, 10, 20 and 25 past times.

10  
minutes

## Plenary

### Whole class teaching

Ask the pupils some time questions:

- 'How many minutes are there in a day?'
- 'How many days are there in a year?'
- 'How many hours are there in a day?'

## Week 8: Time

### Day 2: Minutes to and past the hour

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Change days into weeks.

Tell the time using minutes  
past and minutes to the hour.

#### Preparation

**Before the lesson:**

Make [hours and minutes clocks](#) for  
each group, as shown on Week 8, Day 1  
(yesterday).

Read [How? minutes to and past](#),  
as shown below.

#### How? Minutes to and past



Show the clock to  
the pupils.



Explain that we  
say 'minutes past'  
the hour until  
we reach half past.



Tell them that  
between half past  
and o'clock, we  
say 'minutes to' the  
next hour.

15  
minutes

## Daily practice

### Whole class teaching

Write the following on the chalkboard and ask the pupils to help you fill in the missing numbers:

- seconds in a minute.
- minutes in an hour.
- hours in a day.
- days in a week.
- weeks in a year.
- months in a year.
- days in a year.

Ask the pupils how they could calculate the number of weeks in 21 days  
( $21 \div 7 =$ )

Choose some pupils to say how many weeks there are in 42 days and 63 days.

10  
minutes

Clocks

## Introduction

### Group task

Give an **hours and minutes clock** to each group.

Choose some pupils to explain what the shorter and longer hands are for.

Ask the groups to write the missing numbers on their clocks.

Call out different times and ask the pupils to use their clocks to make them.

Make sure that they also move the shorter hand as it moves to the next hour.

25  
minutes

How

Clocks

## Main activity

### Group task

Explain **How? minutes to and past**, as shown left

Ask the groups to make 5 o'clock on their **hours and minutes** clocks.

Tell them to move the hands on the clock to make 5, 10, 20, 25 and half past 5.

Ask them to move the longer hand on by five minutes (to the number 7).

Ask the pupils to count how many minutes are left before it will be 6 o'clock.

Explain that we call this '25 to 6'.

Ask the groups to make each time from 25 to 6 until 6 o'clock.

10  
minutes

## Plenary

### Whole class teaching

Make the following times on the clock for pupils to read:

- 20 past 6
- half past 8
- 5 to 9
- 10 to 10

## Week 8: Time

## Day 3: Digital time

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Change weeks into days.

Change analogue times  
to digital times.

### Preparation

**Before the lesson:**

Have ready the [hours and minutes  
clocks](#), as shown on Week 8, Day 1  
(earlier this week).

If possible, have ready a [digital clock](#)  
or a mobile phone to display digital time.

Read [How? Digital clocks](#), as  
shown below.

### How? Digital clocks



A digital clock uses  
hours and minutes  
to tell the time.



The hours and  
minutes are  
separated by  
a colon (:).



5 o'clock in the  
morning is  
shown as 5:00 in  
digital time.



The clock counts  
minutes past the  
hour. 15 minutes  
past 5 is shown as  
5:15 in digital time.



15 minutes to 6  
is shown as 5:45 in  
digital time.



15  
minutes

## Daily practice

### Pair task

Ask the class to say the 7 times table with you.

Ask the pupils to write it in their exercise books.

Choose some pupils to help you change six weeks into days ( $6 \times 7 = 42$ ).

Write these problems on the chalkboard for pairs to complete in their exercise books:

5 weeks =  days

8 weeks =  days

4 weeks =  days

10  
minutes

Clocks

## Introduction

### Group task

Give an **hours and minutes clock** to each group.

Remind the pupils that they have learned how to use minutes to and minutes past the hour.

Ask the pupils other ways to say 30 minutes past (half past) and 15 minutes past and to (quarter).

Call out some times for the groups to make on their clocks, eg: half past 3, 20 to 4, 10 past 8.

25  
minutes

How

Clocks/  
Digital clock

## Main activity

### Group task

Explain **How? Digital clocks**, as shown left and explain that digital is another way to tell the time.

If possible show the pupils the time on a **digital clock** or a mobile phone.

Ask the groups to move the bigger hand to the number five on their hours and minutes clocks and write 5:05 on the chalkboard.

Repeat until 6 o'clock is reached: 5:10, 5:15, 5:20, 5:25, 5:30, 5:35, 5:40, 5:45, 5:50, 5:55, 6:00.

Choose some pupils to say the differences between analogue and digital time (in digital time, the hour is said first, there are no clock hands).

10  
minutes

## Plenary

### Whole class teaching

Choose representatives from each group to write some of the digital times on the chalkboard.

Ask the groups to make 20 past 7 on their **clocks**.

Help the pupils to say and write this in digital time on the chalkboard (7:20).

Write these times on the chalkboard:

20 past 4

a quarter to 11

half past 3

10 to 10

25 past 1

6 o'clock

Tell the groups to make these times on their clocks and then write them in digital times in their exercise books.

## Week 8: Time

### Day 4: Changing units of time

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Change days into weeks.

Change hours into minutes  
and minutes into hours.

#### Preparation

**Before the lesson:**

Make the following [flash cards](#) for  
each group:

'7 days', '14 days', '21 days', continuing in  
multiples of 7 up to 70 days.

'1 week', '2 weeks', '3 weeks', up to 10 weeks.

Read [How? Division using repeated  
subtraction](#), as shown below.

#### How? Division using repeated subtraction



Write this sum on  
the chalkboard and  
identify the place  
value of 160 minutes.



Remind the pupils  
that 60 minutes  
equals one hour.



Tell them to take  
away 60 from 160  
until there is not  
a whole hour left.



Count together  
the number  
of times you have  
taken away 60.



Ask the pupils to  
write the answer in  
hours and minutes.

15  
minutes

Flash cards

10  
minutes

25  
minutes

How

10  
minutes

## Daily practice

### Group task

Give each group the [day and week flash cards](#).

Ask them to arrange the cards so that the days are next to the matching weeks.

Tell the pupils to place the week cards face down on one side of the table and the day cards face down on the other side.

Tell each pupil, in turn, to pick up a card from both sides of the table. If they match, the pupil keeps them.

Continue until all of the cards are used up.

## Introduction

### Pair task

Explain that we know the number of minutes in one hour is 60.

Ask the pupils how many minutes there are in:  
one hour  
half an hour  
a quarter of an hour  
two hours

If we want to find the number of minutes in two hours we need to multiply 60 by 2.

Ask the pairs to work out how many minutes there are in 4 hours, 6 hours and 5 hours.

## Main activity

### Whole class teaching

Ask if anyone knows how we can change minutes to hours (divide by 60, using repeated subtraction).

Demonstrate changing 160 minutes into hours and minutes, as shown in [How? Division using repeated subtraction](#), left.

Repeat this process to change 99 minutes into hours and minutes.

### Pair task

Write '85 minutes' and '184 minutes' on the chalkboard.

Ask the pairs to change these into hours and minutes in their exercise books.

## Plenary

### Pair task

Tell the pairs to ask each other questions about the number of minutes in an hour and the number of days in a week that they learned in Week 8, Day 3 (yesterday).

## Week 8: Time

## Day 5: am and pm

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Write digital times.

Write times using am  
and pm.

### Preparation

**Before the lesson:**

Make a set of [analogue/digital/clock  
flash cards](#) for each group, as shown below  
in [How? Clock matching game](#).

Draw five different clock faces on  
the chalkboard to show times between  
1am and 11pm.

### How? Clock matching game



Remind pupils that  
a digital clock uses  
hours and minutes to  
tell the time.



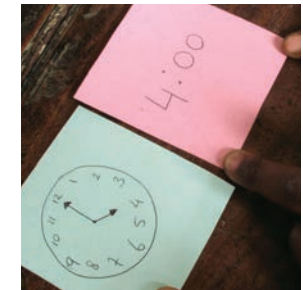
Explain that 4 o'clock  
is written as  
4:00 in digital time.



Explain that quarter  
past eight is  
written as 8:15 in  
digital time.



Give each group  
a set of digital  
and analogue  
time cards.



Ask the groups  
to match the digital  
time with the  
analogue time.

15  
minutes

How

Clock matching  
game/Flash cards

10  
minutes

25  
minutes

Clocks

10  
minutes

## Daily practice

### Group task

Remind the pupils that they have been learning to tell the time with analogue and digital clocks.

Give a set of [digital and analogue time cards](#) to each group.

Play the game as shown left in [How? Clock matching game](#).

## Introduction

### Whole class teaching

Look at the clock faces on the chalkboard.

Read and explain the morning (am) and afternoon (pm) diagrams.

Choose some pupils to say activities they do during am time and pm time.

## Main activity

### Group task

Draw clock faces showing the following times on the chalkboard:

Quarter past six and write 'morning' underneath.

Quarter to three and write 'afternoon' underneath.

twenty past eleven and write 'morning' underneath.

Ask the pupils to write the times using am or pm in their exercise books.

Tell the groups to make each time on their [hours and minutes clock](#) to help them complete the questions.

## Plenary

### Whole class teaching

Ask the pupils to answer questions about the units of time they have learned this week:

'How many days are there in a year?'

'How many hours are there in a day?'

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## Weekly page

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# Primary 4, numeracy lesson plans

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## Week 9:

---

# Addition and subtraction

### Words/phrases

Write these words on the chalkboard and leave them there for the week.

addition  
subtraction  
Hundreds boundary  
Thousands boundary  
sequences  
minus  
altogether  
calculation  
vertical method  
place value  
word problem

### Learning expectations

By the end of the week:

**All pupils will be able to:**

Add and subtract two-digit numbers crossing the Tens boundary using the vertical method.

**Most pupils will be able to:**

Solve addition and subtraction word problems using two-digit numbers and crossing the Tens boundary.

**Some pupils will be able to:**

Solve addition and subtraction word problems using three-digit numbers and crossing the Hundreds boundary.

## Assessment task

### Instructions:

Ask the individual pupils to complete these tasks in their exercise books.

1

Solve the following sums using the vertical method:

$$38 + 24 =$$

$$62 - 38 =$$

2

Solve these word problems:

Jumoke goes to the market and buys 29 yams and 18 oranges. How many pieces of fruit did she buy altogether?

Dayo sells 57 out of his 92 bananas. How many bananas does he have left?

3

Solve this word problem: Idris works in his mum's shop on a Saturday. In the morning he earns N850. In the afternoon he pays a delivery man N360. In the evening, he earns N285. How much money did he have in total at the end of the day?

## Example of a pupil's work

### This pupil can:

Write the word problem.

Translate the word problem into a horizontal sum.

Use the vertical method to find the answer to the word problem.

Numeracy

Stella sells 57 oranges on Saturday and 38 oranges on Sunday. How many did Stella sell?

$$57 + 38 =$$
$$\begin{array}{r} 50 + 30 = 80 \\ 7 + 8 = 15 \\ \hline 80 + 15 = 95 \end{array}$$

Stella sold 95 oranges



## Week 9: Addition and subtraction

## Day 1: Crossing the Hundreds boundary

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Continue number  
sequences crossing the  
Hundreds boundary.

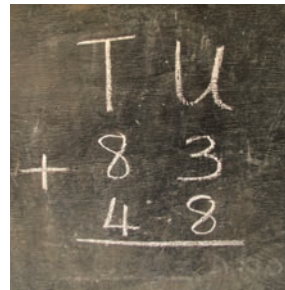
Add two-digit numbers  
crossing the Hundreds  
boundary.

### Preparation

**Before the lesson:**

Practise [How? Vertical addition  
crossing the Hundreds boundary](#), as  
shown below.

**How?**  
Vertical addition  
crossing the  
Hundreds boundary



Set the sum out  
vertically and write  
'T' and 'U' above  
the numbers.



Ask the pupils  
to help you expand  
the numbers.



Tell them to add  
up the Units  
and the Tens.



Ask them to label  
the answers with the  
correct place value  
and add up the two  
answers.



Remind them to  
answer the question.

15  
minutes

## Daily practice

### Pair task

Revise place value with the pupils.

Write '8760' on the chalkboard and ask the class to say the number.

Choose some pupils to say the value of each digit.

Repeat with 7602, 8003 and 9043.

Write the following number sequences on the chalkboard and ask the pairs to complete them in their exercise books:

176, 177, 178, ,  
, , .

395, 396, 397, ,  
, , .

894, 895, 896, ,  
, , .

10  
minutes

How

## Introduction

### Whole class teaching

Write '48 + 83' on the chalkboard.

Explain how to solve  $48 + 83$  using [How? Vertical addition crossing the Hundreds boundary](#), as shown left.

Ask the pupils to help you solve  $72 + 55 =$

Remind them that the numbers must be placed correctly under the H, T and U.

25  
minutes

## Main activity

### Individual task

Write the following addition calculations on the chalkboard and ask the pupils to complete them in their exercise books:

$$55 + 68 =$$

$$84 + 36 =$$

$$93 + 48 =$$

$$78 + 74 =$$

$$65 + 56 =$$

Remind the pupils to use the vertical method and line the digits up carefully.

If any pupils finish early, ask them to make up their own two-digit vertical addition sums using the digits 5, 6, 7, 8 or 9.

10  
minutes

## Plenary

### Pair task

Ask the pairs to share their work with each other and check their method and answers.

## Week 9: Addition and subtraction

## Day 2: Solving word problems

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Continue number  
sequences crossing the  
Thousands boundary.

Solve word problems by  
adding two-digit numbers.

### Preparation

**Before the lesson:**

Practise [How? Solve addition word  
problems](#), as shown below.

### How? Solve addition word problems



Write the problem on the chalkboard.



Ask pupils to underline the key words to help decide the calculation needed.



Tell them to underline the numbers you will use.



Ask the pupils to write the sum.



Tell them to answer the question using vertical addition.

15  
minutes

## Daily practice

### Whole class teaching

Remind the pupils that they have been writing number sequences that cross the Hundreds boundary.

Choose some pupils to come and write on the chalkboard the number that comes after 799.

Repeat, asking for the numbers that come after: 800, 699, 500 and 399.

Write '999' and choose a pupil to write and say the next number (1000, one thousand).

Explain that they have now crossed the Thousands boundary.

Choose a pupil to say and write the number that comes after 1000 (1001).

Write these number sequences on the chalkboard and ask the pairs to complete them in their exercise books:

1002, 1003, 1004,  
, , , , , .

1092, 1093, 1094,  
, , , , , ,  
, , .

10  
minutes

How

## Introduction

### Whole class teaching

Explain **How? Solve addition word problems**, as shown left.

Write on the chalkboard: 'There are 34 pupils in Primary 4 and 77 pupils in Primary 5. How many pupils are there altogether?'

Choose some pupils to write the calculation needed to solve this problem.

25  
minutes

## Main activity

### Individual task

Write the following word problems on the chalkboard and ask the pupils to complete them in their exercise books:

'In the school library there are 37 books on animals and 95 books on cars. How many books are there altogether?'

'Yemi bought a pen for N45 and a book for N85. How much did he spend altogether?'

'On Monday, Tina read 53 pages of her book. Her book has a total of 98 pages. How many pages are there left for her to read?'

10  
minutes

## Plenary

### Whole class teaching

Tell the pupils to give their exercise book to their partner.

Tell them to put a tick if they think a sum is correct and a cross if they think it is wrong.

## Week 9: Addition and subtraction

## Day 3: Subtraction of two-digit numbers

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Complete four-digit number  
sequences.

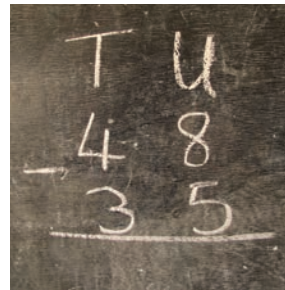
Use the vertical method to  
subtract two-digit numbers.

### Preparation

**Before the lesson:**

Read [How? Vertical subtraction](#),  
as shown below.

### How? Vertical subtraction



Set the sum out  
vertically, lining up  
the digits in their  
place value correctly.



Ask the pupils to  
help you expand the  
numbers. Subtract  
the Units and  
subtract the Tens.



Ask the pupils to  
add the Tens  
and Units together.



Remind them to  
answer the question.

15  
minutes

## Daily practice

### Whole class teaching

On the chalkboard, write:

9006, 9005, 9004,  
□, □, □, □, □, □.

Ask the pupils what is happening in this number sequence (the numbers are descending – going down).

Choose some pupils to write the missing numbers on the chalkboard.

Write these number sequences on the chalkboard and ask the pairs to complete them in their exercise books:

3004, 3003, 3002,  
□, □, □, □, □, □.

1203, 1202, 1201,  
□, □, □, □, □, □.

10  
minutes

How

## Introduction

### Whole class teaching

Remind the pupils of the method shown left in [How? Vertical subtraction](#).

Ask them to help you work out

$$\begin{array}{r} 48 \\ - 35 \\ \hline \end{array}$$

25  
minutes

## Main activity

### Pair task

Write the following subtraction calculations on the chalkboard and ask the pupils to complete them in their exercise books:

$$\begin{array}{r} T U \\ 56 \\ - 25 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ - 16 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ - 14 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ - 31 \\ \hline \end{array}$$

10  
minutes

## Plenary

### Whole class teaching

Arrange the class in a circle and explain that they are each going to continue a number sequence in ascending order (going up).

Say '1989', tell the pupil next to you to say the next number (1990) and the next pupil to continue the sequence.

Repeat until everyone has had a turn.

## Week 9: Addition and subtraction

### Day 4: Solving word problems

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Read four-digit numbers.

Solve word problems  
by subtracting two-digit  
numbers.

#### Preparation

**Before the lesson:**

Practise [How? Solving word problems  
using vertical subtraction](#), as shown below.

#### How? Solving word problems using vertical subtraction



Write the problem on the chalkboard.



Ask pupils to underline the key words to help decide the calculation needed.



Tell them to underline the numbers you will use and write the sum.



Remind them to answer the question.



15  
minutes

## Daily practice

### Pair task

Write these numbers on the chalkboard:  
7, 2, 1, 8.

Ask the pupils to use the numbers to make the largest and the smallest four-digit numbers they can using these numbers and write them in their exercise books (8721 and 1278).

Choose some pairs to read the numbers they have written.

Repeat with:  
6, 3, 9, 5 and 2, 3, 9, 8.

Choose some pairs to read the numbers they have written.

10  
minutes

How

## Introduction

### Whole class teaching

Explain **How? Solving word problems using vertical subtraction**, as shown left.

Write on the chalkboard:  
'63 pupils sat the exam.  
Only 42 pupils passed.  
How many pupils failed the exam?'

Choose some pupils to write the calculation needed to solve this problem on the chalkboard.

25  
minutes

## Main activity

### Pair task

Write the following word problems on the chalkboard:

'Jamila collects 46 bananas. Her family eats 23 bananas. How many does she have left?'

'A man has a bag containing 52 mangoes. He sells 31. How many mangoes are left?'

'What are 45 oranges minus 23 oranges?'

'Abiola has to drive for 67 minutes. After 44 minutes he stops to have a break. How many minutes does he still need to drive?'

10  
minutes

## Plenary

### Whole class teaching

Tell the pupils to give their exercise books to their partner.

Tell them to put a tick if they think a sum is correct and a cross if they think it is wrong.

## Week 9: Addition and subtraction

## Day 5: Solving word problems

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Identify place value in four-  
digit numbers.

Solve word problems that  
involve adding and sub-  
tracting two-digit numbers.

### Preparation

**Before the lesson:**

Practise [How? Solving word problems  
using vertical addition](#), as shown below.

Write the following numbers on  
the chalkboard:

3645  
3471  
8642  
6513

### How? Solving word problems using vertical subtraction



Write the problem on  
the chalkboard.



Ask pupils to under-  
line the key words  
to help decide the  
calculation needed.



Tell them to under-  
line the numbers you  
will use.



Ask them to write  
the sum.



Remind the pupils  
to answer the  
question using  
vertical addition.

15  
minutes

## Daily practice

### Pair task

Remind the class that they have been using four-digit numbers.

Look together at the four digit numbers on the chalkboard.

Ask them to find the place value of the underlined digits and write the answers in their exercise books.

10  
minutes

How

## Introduction

### Whole class teaching

Explain **How? Solving word problems using vertical addition**, as shown left.

Write on the chalkboard, 'There are 58 pupils in P2 class and 64 in P3 class. How many pupils are there altogether?'

Ask the pupils which word tells them the calculation needed.

Ask them to help you write the calculation  
 $58 + 64 =$

Ask individual pupils to complete the sum in their exercise books.

25  
minutes

## Main activity

### Pair task

Write the following word problems on the chalkboard and ask the pupils to complete them in their exercise books:

'In the school library there are 23 book on animals and 98 books on cars. How many books are there altogether?'

'Segun bought a book for N57 and a pen for N92. How much did he spend altogether?'

'On Monday, Aminat read 71 pages of her book. Her book has a total of 99 pages. How many pages are there left for her to read?'

'In a school there are 86 children and 35 are girls. How many pupils are boys?'

10  
minutes

## Plenary

### Whole class teaching

Say some four-digit numbers for the pupils to write on the chalkboard, eg: 2678, 9009, 8099.

Grade/  
Type of lesson plan

Lesson  
title

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## Weekly page

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# Primary 4, numeracy lesson plans

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## Week 10:

---

# Multiplication and division

### Words/phrases

Write these words on the chalkboard  
and leave them there for the week.

grid method  
column  
repeated subtraction  
multiple  
division  
word problem  
multiplication  
divide  
four-digit numbers

### Learning expectations

By the end of the week:

**All pupils will be  
able to:**

Divide two-digit numbers  
by a single-digit number  
using repeated subtraction.

**Most pupils will be  
able to:**

Solve multiplication and  
division word problems.

**Some pupils will be  
able to:**

Solve multiplication  
and division word problems  
using three- and four-  
digit numbers.

## Assessment task

### Instructions:

Ask the individual pupils to complete these tasks in their exercise books.

1

Solve these sums:

$$24 \times 8 =$$

$$68 \times 3 =$$

$$81 \div 9 =$$

$$72 \div 8 =$$

2

Solve this word problem:

Hamza has four brothers. He wants to give each brother N36. How much does he have in total?

3

Solve this word problem: Fatima invites seven friends to her house. Her mother baked 49 pancakes. How many pancakes can they each eat?

4

If they can do the above tasks easily, ask them to solve the following word problem: Arik transports 872 passengers a day. They have four planes. Each plane takes 109 passengers. How many times does each plane have to fly each day?

## Example of a pupil's work

### This pupil can:

Translate the word problem into a horizontal sum.

Use the grid method to find the answer to the word problem.

Numeracy

yaCob celebrates his birthday. He treats all his 7 friends to Candy. He gives all of his friends 24 Sweets. How many Sweets does yaCob need all together?

$$24 \times 7 =$$
$$20 \times 7 =$$
$$4 \times 7 =$$

	20	4
7x	140	28

$$140 + 28 = 148$$
$$24 \times 7 = 148$$

yaCob needs 148 Sweets

## Week 10: Multiplication and division

## Day 1: Multiplication using the grid method

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Say answers in the  
7 times table.

Multiply two-digit numbers  
by a single-digit number  
using the grid method.

### Preparation

**Before the lesson:**

Practise [How? Multiplication using the grid method](#), as shown below.

### How? Multiplication using the grid method



Write the sum  
on the chalkboard.



Draw a grid and set  
the sum out.



Ask the pupils to  
multiply the numbers  
in the grid.



Tell them to add up  
the answers and  
complete the sum.

15  
minutes

Buzz game

## Daily practice

### Pair task

Remind the class that they have been learning the seven times table.

Choose some pupils to help you write the 7 times table on the chalkboard.

Play **buzz** using the 7 times table.

10  
minutes

How

## Introduction

### Whole class teaching

Explain **How? Multiplication using the grid method**, as shown left.

Write '36 x 7 =' on the chalkboard.

Ask the pupils to help you as you demonstrate drawing the grid and setting the calculation out.

25  
minutes

## Main activity

### Pair task

Write these calculations on the chalkboard for the pairs to complete in their exercise books, using the grid method:

$$32 \times 7 =$$

$$44 \times 6 =$$

$$27 \times 7 =$$

$$19 \times 6 =$$

$$27 \times 5 =$$

Choose some pairs to explain their working out on the chalkboard.

10  
minutes

## Plenary

### Whole class teaching

Ask the class to say the 7 times table with you.

Ask questions from the 7 times table and choose some pairs to answer, eg:

$$7 \times 7 =$$

$$21 \div 7 =$$



## Week 10: Multiplication and division

## Day 2: Multiplication of three- digit numbers

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Say the 9 times table.

Multiply three-digit  
numbers by a single-  
digit number using the  
grid method.

### Preparation

**Before the lesson:**

Practise [How? Multiplication of three-  
digit numbers](#), as shown below.

### How? Multiplication of three- digit numbers



Write the sum on  
the chalkboard and  
expand the three-  
digit number.



Draw a grid and set  
the sum out.



Ask the pupils to  
multiply the numbers  
in the grid.



Tell them to add up  
the answers and  
complete the sum.

15  
minutes

## Daily practice

### Pair task

Ask the pupils to help you write the 9 times table on the chalkboard.

Ask them what they notice about the answers.

Explain that the digits in the answers add up to 9, eg:

$$2 \times 9 = 18 \quad (1 + 8 = 9)$$

$$3 \times 9 = 27 \quad (2 + 7 = 9)$$

Ask the pupils to write the 9 times table in their exercise books.

10  
minutes

How

## Introduction

### Whole class teaching

Explain **How? Multiplication of three-digit numbers**, as shown left.

25  
minutes

## Main activity

### Pair task

Write these sums on the chalkboard:

$$234 \times 2 =$$

$$432 \times 2 =$$

$$149 \times 3 =$$

$$134 \times 7 =$$

Ask the pairs to complete them in their exercise books, using the grid method.

10  
minutes

## Plenary

### Whole class teaching

Write this word problem on the chalkboard, 'Every week, a school used 144 pieces of chalk. How many chinks would be used after five weeks of the term?'

Read the problem and ask, 'What are the key words to help you work out the calculation?'

Solve the problem together, showing the working out on the chalkboard.

## Week 10: Multiplication and division

## Day 3: Multiplication word problems

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Say answers from the  
9 times table.

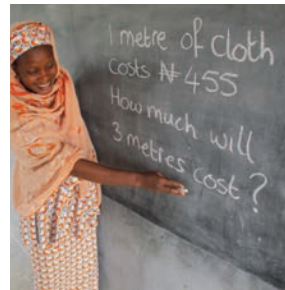
Solve multiplication  
word problems using the  
grid method.

### Preparation

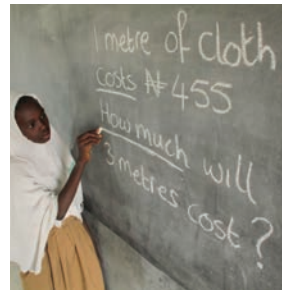
**Before the lesson:**

Practise [How? Solving multiplication word problems](#), as shown below.

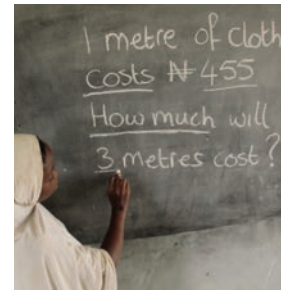
### How? Solving multiplication word problems



Write the problem on the chalkboard.



Ask pupils to underline the key words to help decide the calculation needed.



Tell them to underline the numbers you will use and write the sum.



Ask them to set up the grid method and remind them to answer the question.

15  
minutes

Buzz game

## Daily practice

### Whole class teaching

Remind the class that they have been learning the 9 times table.

Choose some pupils to help you write the 9 times table on the chalkboard.

Play **buzz** using the 9 times table.

10  
minutes

How

## Introduction

### Whole class teaching

Use this word problem to teach pupils **How? Solving multiplication word problems**, as shown left: 'One metre of cloth costs N455. How much will three metres of cloth cost?'

25  
minutes

## Main activity

### Pair task

Write the following word problems on the chalkboard and ask the pairs to complete them in their exercise books:

'A crate of cola contains 24 bottles. How many bottles are in five crates?'

'A packet of sweets contains 120 pieces. How many pieces are in six packets?'

'There are 24 pencils in a packet. How many pencils are there in eight packets?'

'In a school, there are 45 pupils in each class. If there are six classes, how many pupils are in the school?'

10  
minutes

## Plenary

### Whole class teaching

Ask the class to say the 9 times table with you.

Ask questions from the 9 times table and choose some pairs to answer, eg:

$$7 \times 9 =$$

$$54 \div 9 =$$

## Week 10: Multiplication and division

### Day 4: Division of three- digit numbers

#### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Use times tables to solve  
simple division problems.

Use repeated subtraction  
to divide three-digit numbers.

#### Preparation

**Before the lesson:**

Read [How? Division of three-digit numbers](#), as shown below.

#### How? Division of three- digit numbers



Write the sum  
on the chalkboard  
and identify the  
place value of  
the first number.



Ask the pupils to  
think of a multiple of  
100 nearest to 580  
in the 5 times table.



Tell them to subtract  
500 from 580 (80).  
Think of a multiple of  
10 nearest to 80  
in the 5 times table.



Ask them to subtract  
50 from 80 (30).  
Think of a multiple  
nearest to 30  
in the 5 times table.



Explain that  
 $100 + 10 + 6 = 116$ ,  
so  $580 \div 5 = 116$ .

15  
minutes

## Daily practice

### Whole class teaching

Ask the class to help you write the 7 and 9 times tables on the chalkboard.

Remind the pupils that they can use the times tables to help work out division problems, eg:

$$49 \div 7 = 7$$

$$7 \times 7 = 49$$

Write these sums on the chalkboard:

$$54 \div 9 =$$

$$28 \div 7 =$$

$$72 \div 9 =$$

$$56 \div 7 =$$

$$63 \div 9 =$$

Tell the pupils to use the times tables on the chalkboard to help them complete the sums in their exercise books.

10  
minutes

## Introduction

### Whole class teaching

Remind the pupils that they have been dividing bigger numbers using repeated subtraction.

25  
minutes

How

## Main activity

### Whole class teaching

Teach the pupils **How? Division of three-digit numbers**, as shown left.

Write these sums on the chalkboard:

$$784 \div 7 =$$

$$936 \div 9 =$$

$$981 \div 9 =$$

$$763 \div 7 =$$

Ask the pairs to use repeated subtraction to solve these division sums in their exercise books.

10  
minutes

## Plenary

### Whole class teaching

Choose some pairs to explain their working out on the chalkboard.

## Week 10: Multiplication and division

## Day 5: Solving word problems

### Learning outcomes

**By the end of the lesson,  
most pupils will be able to:**

Answer questions from  
the 7 and 9 times tables.

Solve word problems.

### Preparation

**Before the lesson:**

Find a **ball** or **another object** to throw.

Read, [How? Solving word problems using division](#), as shown below.

### How? Solving word problems using division



Write the problem on the chalkboard.



Ask pupils to underline the key words to help decide the calculation needed.



Tell them to underline the numbers you will use and write the sum.



Ask them to set up the division sum.



Remind them to answer the question.



15 minutes | Ball

## Daily practice

### Whole class teaching

Take the pupils outside and ask them to form a circle.

Call out a multiplication sum from the 7 or 9 times table and throw the ball to a pupil.

Tell the pupil to say the answer.

Tell the pupil with the ball to say another multiplication sum from the 7 or 9 times table and throw the ball to another pupil.

Repeat until everyone has had a turn.

10 minutes | How

## Introduction

### Whole class teaching

Use this word problem to teach pupils **How? Solving word problems using division**, as shown left, 'A farmer has 250 yams. He shares them between five traders. How many yams will each trader get?'

25 minutes

## Main activity

### Pair task

Write the following word problems on the chalkboard and ask the pupils to complete them in their exercise books.

Ask the pairs to say what calculation is needed for each problem (1 and 2 are division and 3 is multiplication):

'How many tubers of yam will each farmer get if seven of them share 126 tubers of yams?'

'There are 252 pupils in a school and there are six classes. How many pupils are in a class?'

'A box contains 112 biscuits. How many biscuits are there in nine boxes?'

10 minutes

## Plenary

### Whole class teaching

Ask the class to say the 7 and 9 times tables with you.

Ask questions from the 7 and 9 times tables and choose some pairs to answer, eg:

$$7 \times 6 =$$
$$81 \div 9 =$$

## Credits

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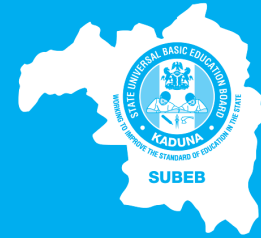
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