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

Shapes, fractions and time

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Introduction

Teaching and learning processes in Kwara State have improved as a result of the introduction of the new lesson plans developed by the State School Improvement Team (SSIT). The recent improvement in the quality of education in Kwara is a direct function of quality teaching.

Evidence of improved teaching quality includes an increase in the number of pupils completing basic education and a general improvement in the levels of literacy and numeracy.

Teachers in Kwara have experienced tremendous professional improvements through training and refresher programmes on the new lesson plans, facilitated by SSIT and school support officers (SSOs).

These lesson plans, designed and edited by Education Sector Support Programme in Nigeria (ESSPIN), have become Kwara teachers' classroom companion.

As teaching manuals, the lesson plans have been designed to provide a step-by-step guide in the teaching of literacy and numeracy. The lesson plans promote more collaborative, interactive, participatory and reflective learning to encourage children to become active learners.

I am sure that continuous use of these lesson plans by teachers will raise the standard of our education in Kwara State and also assist in consolidating the new administration's education reform.

I therefore appreciate the contribution of the UK Department for International Development (DFID), through ESSPIN, in designing, editing and producing the lesson plans.

Alhaji Saka Onimago
Honourable Commissioner for Education and Human Capital Development, Kwara State

Alhaji (Barr) Lanre Daibu
Executive Chairman
Kwara State Universal Basic Education Board

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:

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.

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.

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 postion 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.

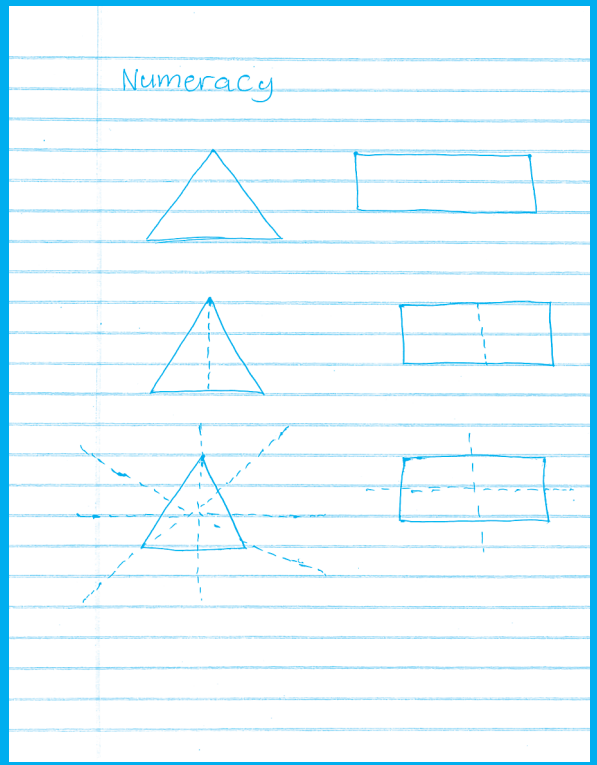
4
Ask individual pupils to tell you the postion of an object in the classroom using the compass points.

Example of a pupil's work

This pupil can:

Draw 2D shapes independently.

Show lines of symmetry for different 2D shapes.



Lesson title

Week 6: Shapes

Day 1: Compass points

Compass/
2D card shapes

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

10 minutes

25 minutes | How | Compass

10 minutes | Compass

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.

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'.

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.

Shout, 'Run to the north'. Only pupils who run in the correct direction remain in the game.

Repeat, changing directions, until there is a winner.

Go back to the classroom and ask the pupils to draw the compass points in their exercise books.

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.

Lesson title

Week 6: Shapes

Day 2: Symmetry

2D card shapes/
Symmetry chart/Mirror

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

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.

Introduction

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'.

Main activity

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.

Symmetry chart

Shape	Number of lines of symmetry
Rectangle	
Circle	
Triangle	
Square	

Plenary

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.

Lesson title

Week 6: Shapes

Day 3: Lines of symmetry

Leaves/Mirrors/
3D objects/

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

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.

Introduction

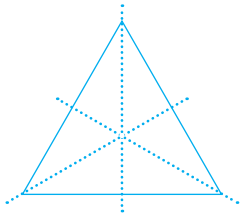
Individual task

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



Main activity

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.

Plenary

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.

Lesson title

Compass/Object/
3D shapes/Flash cards

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	10 minutes	Compass/ Object	25 minutes	How	10 minutes

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.

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.'

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?'

Ask the groups, in turn, questions involving compass directions:

'I face north and turn 90° to the left. Where am I now?'

'I face south and turn 180° to the left. Where am I now?'

'I face west and turn 270° to the left. Where am I now?'

'I face east and turn 360° to the left. Where am I now?'

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.

Lesson title

Week 6: Shapes

Day 5: Polygons

Polygon shapes/ 2D shapes

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 polygons 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

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.

Introduction

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°, or a 'square corner'.

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

Main activity

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.

Plenary

Pair task

Remind the pupils about the compass points.

Grade/
Type of lesson plan

Lesson
title

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

4
Solve this word problem:
Modupe has 40 sweets. He gives a quarter to his friend. How many sweets does his friend get?

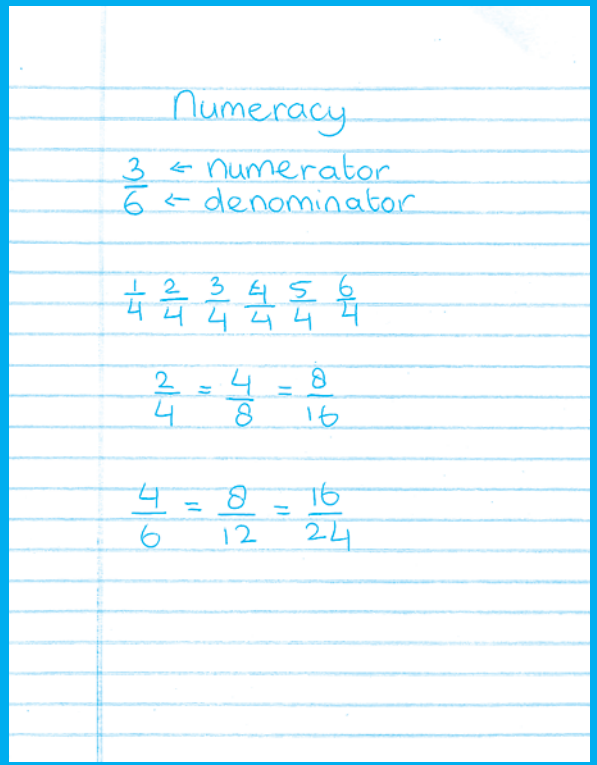
Example of a pupil's work

This pupil can:

Identify the numerator and denominator in a fraction.

Order fractions.

Find equivalent fractions using multiplication knowledge.



Lesson title

Week 7: Fractions

Day 1: Fraction strips

Paper 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	10 minutes	How	Paper strips	25 minutes	Fraction strips	10 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.

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.

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.

Plenary

Whole class teaching

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

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

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

Lesson title

Week 7: Fractions

Day 2: Numerator and denominator

Fraction strips/ Paper strips

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	10 minutes	Fraction strips/ Paper strips	25 minutes	How	10 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 x 2 = 28.

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

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.

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.

Plenary

Whole class teaching

Write these fractions on the chalkboard:

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

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

Lesson title

Week 7: Fractions

Day 3: Order fractions

Fraction strips

Learning outcomes

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

Find a quarter of a whole number.

Order fractions.

Preparation

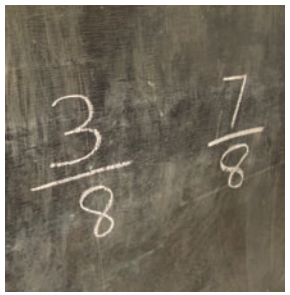
Before the lesson:

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	10 minutes	Fraction strips	25 minutes	How	10 minutes	Fraction strips

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:
$8 \div 4 =$

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:
$\frac{1}{2}$ 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.

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:

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

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

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

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

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.

Lesson title

Fraction strips

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 chalk-board, 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	10 minutes	How	Fraction strips	25 minutes	10 minutes

Daily practice

Pair task

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

Write on the chalkboard:

Double 40 = ☐

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

$\frac{1}{4}$ 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.

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.

Main activity

Pair task

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

Write these fractions on the chalkboard:

$\frac{2}{3}$ 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.

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.

Lesson title

Week 7: Fractions

Day 5: Equivalent fractions

Card circles

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	10 minutes	Card circles	25 minutes		10 minutes

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.

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.

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?'

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

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

Grade/
Type of lesson plan

Lesson
title

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

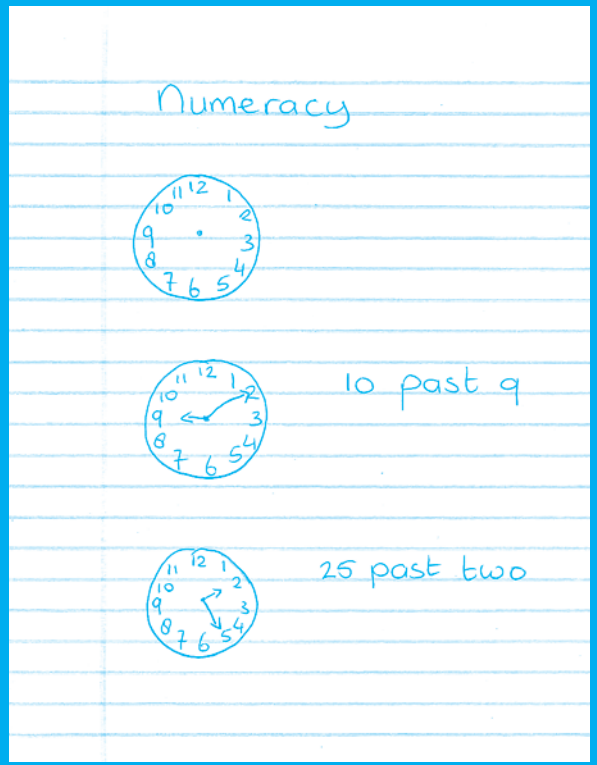
Example of a pupil's work

This pupil can:

Draw the anologue clock in the right proportions.

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

Tell the time according to an analogue clock.



Lesson title

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.

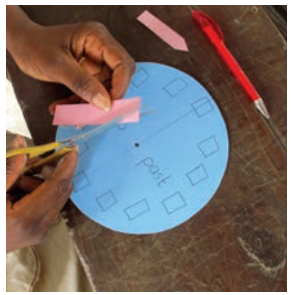
Have ready a real clock.

How? Making an hours and minutes clock

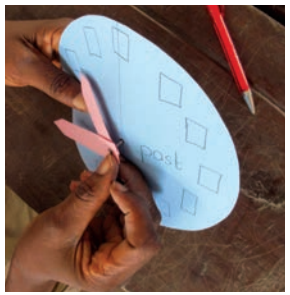
Cut out a cardboard circle.

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	10 minutes	Clock	25 minutes	Clock	10 minutes
Daily practice	**Introduction**		**Main activity**		**Plenary**
Whole class teaching	**Whole class teaching**		**Pair task**		**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.	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 csount minutes past the hour and minutes to the hour. Choose some pupils to help you write the missing numbers on the clock.		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.	Choose some pairs to say each time you make. Choose some pupils to move the hands on the clock to show 10 past 3 and 20 past 8.	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	10 minutes	Clocks	25 minutes	How	Clocks	10 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 ÷ 7 =)

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

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.

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.

Ask the groups to make these times on their clocks:
20 to 3
25 to 11
5 to 1
10 to 12

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

Lesson title

Clocks/
Digital clock

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 seperated 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	10 minutes	Clocks	25 minutes	How	Clocks/ Digital clock	10 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 x 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

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.

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).

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.

Plenary

Whole class teaching

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

Lesson title

Week 8: Time

Day 4: Changing units of time

Flash cards

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).

Lesson title

Week 8: Time

Day 5: am and pm

Flash cards/ Clocks

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.

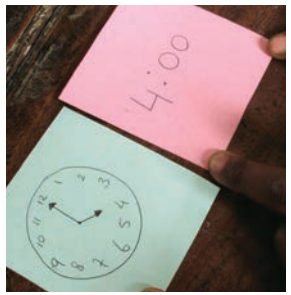
How? Clock matching game

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?'

Grade/
Type of lesson plan

Lesson
title

Weekly page

Primary 4, numeracy lesson plans

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?

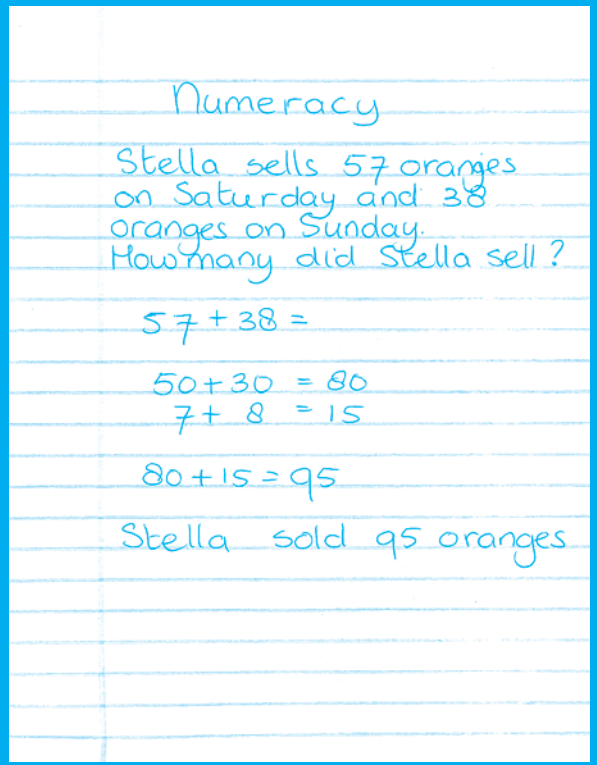
Example of a pupil's work

This pupil can:

Write the word problem.

Translate the word problem into a horizontal sum.

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



Lesson title

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.

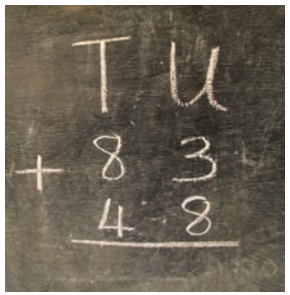
Add two-digit numbers crossing the Hundreds boundary.

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	10 minutes	How	25 minutes	10 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, ☐, ☐, ☐, ☐, ☐.

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.

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.

Plenary

Pair task

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

Lesson title

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	10 minutes	How	25 minutes	10 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 chalk-board and ask the pairs to complete them in their exercise books:

1002, 1003, 1004, ☐, ☐, ☐, ☐, ☐, ☐.

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

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.

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?'

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.

Lesson title

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.

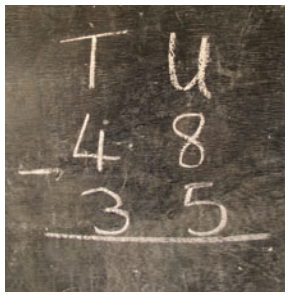
Use the vertical method to subtract two-digit numbers.

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	10 minutes	How	25 minutes	10 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,
□, □, □, □, □, □.

Introduction

Whole class teaching

Remind the pupils of the method shown left in How? Vertical subtraction.

Ask them to help you work out

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

Main activity

Pair task

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

$$\begin{array}{r} \text{T U} \\ 56 \\ -\ 25 \\ \hline \end{array} \qquad \begin{array}{r} 49 \\ -\ 37 \\ \hline \end{array} \qquad \begin{array}{r} 58 \\ -\ 16 \\ \hline \end{array} \qquad \begin{array}{r} 77 \\ -\ 14 \\ \hline \end{array} \qquad \begin{array}{r} 35 \\ -\ 31 \\ \hline \end{array}$$

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.

Lesson title

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	10 minutes	How	25 minutes	10 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.

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.

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?'

Ask the pairs to choose the correct calculation for each word problem and complete them in their exercise books.

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.

Lesson title

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 subtracting 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 underline the key words to help decide the calculation needed.

Tell them to underline the numbers you will use.

Ask them to write the sum.

Remind the pupils to answer the question using vertical addition.

15 minutes	10 minutes	How	25 minutes	10 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.

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.

Main activity

Pair task

Write the following word problems on the chalk-board 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?'

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

Weekly page
Primary 4, numeracy lesson plans

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 x 8 =
68 x 3 =
81 ÷ 9 =
72 ÷ 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?

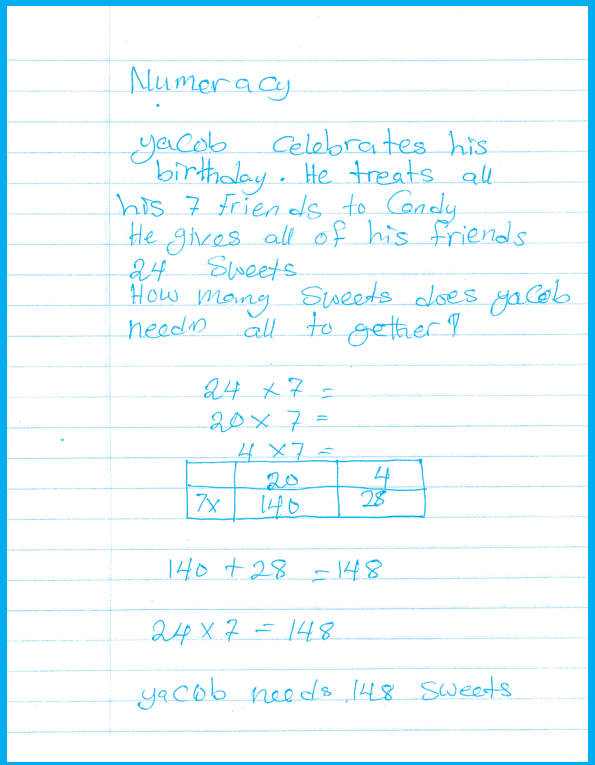
4
If they can do the above tasks easily, ask them to solve the following word problem:
Arik transports 872 passengers a day. They have four planes. Each plane takes 109 passengers. How many times does each plane have to fly each day?

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 needn all to gether?

24 x 7 =
20 x 7 =
4 x 7 =

	20	4
7x	140	28

140 + 28 = 148

24 x 7 = 148

Yacob needs 148 Sweets

Lesson title

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	10 minutes	How	25 minutes	10 minutes

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.

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.

Main activity

Pair task

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

32 x 7 =
44 x 6 =
27 x 7 =
19 x 6 =
27 x 5 =

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

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 x 7 =
21 ÷ 7 =

Lesson title

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	10 minutes	How	25 minutes	10 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 x 9 = 18 (1 + 8 = 9)
3 x 9 = 27 (2 + 7 = 9)

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

Introduction

Whole class teaching

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

Main activity

Pair task

Write these sums on the chalkboard:
234 x 2 =
432 x 2 =
149 x 3 =
134 x 7 =

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

Plenary

Whole class teaching

Write this word problem on the chalkboard,
'Every week, a school used 144 pieces of chalk. How many chalks 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.

Lesson title

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.

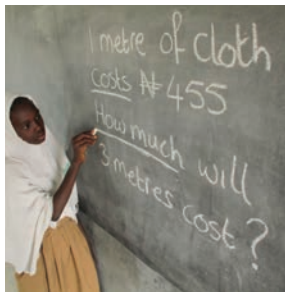
Preparation

Before the lesson:

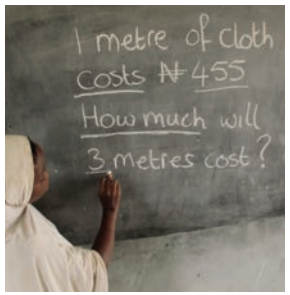
Practise How? Solving multiplication word problems, as shown below.

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	10 minutes	How	25 minutes	10 minutes

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.

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?'

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?'

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 x 9 =

54 ÷ 9 =

Lesson title

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 ÷ 5 = 116.

15 minutes	10 minutes	25 minutes How	10 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 ÷ 7 = 7
7 x 7 = 49

Write these sums on the chalkboard:
54 ÷ 9 =
28 ÷ 7 =
72 ÷ 9 =
56 ÷ 7 =
63 ÷ 9 =

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

Introduction

Whole class teaching

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

Main activity

Whole class teaching

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

Write these sums on the chalkboard:
784 ÷ 7 =
936 ÷ 9 =
981 ÷ 9 =
763 ÷ 7 =

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

Plenary

Whole class teaching

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

Lesson title

Week 10: Multiplication and division

Day 5: Solving word problems

Ball

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.

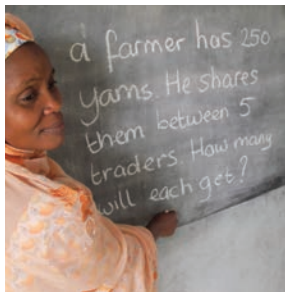
Preparation

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	10 minutes	25 minutes	10 minutes
Ball	How		

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.

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?'

Main activity

Pair task

Write the following word problems on the chalk-board 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?'

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

Many different stakeholders have contributed to the development and production of these lesson plans.

Much of the work was done by the Kwara State School Improvement Team.

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every child counts

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