Numeracy lesson plans Primary 4, term 3, weeks 21—25 Fractions, decimals, money and word problems

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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

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Numeracy lesson plans

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

How

How?

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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	Assessment
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	On each weekly page there is an assessment to 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.
What all pupils will be able to do.	Next to the task, there is an example of a pupil's work, which shows
What most pupils will be able to do.	have met the learning expectations.
What some pupils will be able to do.	If most pupils have not m the learning expectations you may have to teach so of the week again.

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Daily practice	Introduction	Main activity	Plenary
Helps the pupils to practise something they have previously learned. It should only last 15 minutes and move at a fairly fast pace.	Provides the focus for the lesson. Often involves a variety of fun, quick activities which prepare the pupils for the main topic.	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 understand the ideas.	Finishes the lesson with different ways of reviewing learning.

Grade/ Type of lesson plan

Lesson title

Weekly pageWeek 21:Primary 4,
numeracy
lesson plansFractions

Multiplication square

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Words/phrases

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

equivalent fractions multiples factors improper fractions mixed numbers oblong vertices right angle parallel symmetry vertical horizontal diagonal quadrilateral

Learning expectations

By the end of the week:

All pupils will be able to: Find fractions of numbers using counters.

Most pupils will be able to: Find fractions of a number when the numerator is 1, using division.

Some pupils will be able to:

Find fractions of a number when the numerator is more than 1, using division and multiplication.

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Assessment task		Example of a pupil's work	
Instructions:		This pupil can:	
Ask an individual pupil to: 1 Add and subtract the following fractions: $\frac{1}{4} + \frac{2}{4} =$ $\frac{5}{7} - \frac{2}{7} =$ 2	$\frac{3}{5}$ Solve the following sums: $\frac{3}{5}$ of 25 = $\frac{2}{6}$ of 12 = $\frac{4}{4}$ Write the following as mixed numbers: $\frac{4}{4}$	Add and subtract fractions with the same denominator.Find fractions of a number when the numerator is 1, using division.Find fractions of a number when the numerator is more then 1, using division	$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$ $\frac{5}{7} - \frac{2}{7} = \frac{3}{7}$ $\frac{1}{8} \text{ of } 64 = 8 (64 \div 8 = 8)$
Solve the following sums: $\frac{1}{3}$ of 15 = $\frac{1}{3}$ of 27 = $\frac{1}{8}$ of 64 =	$\frac{4}{3} = \frac{12}{4} =$	and multiplications. Convert fractions into whole numbers.	$\frac{3}{5} \text{ of } 25 = 15 \ \left(\frac{1}{5} \text{ of } 25 = 5 \rightarrow 3 \times 5 = 15\right)$ $\frac{12}{4} = 3 \ \left(\frac{4}{4} = 1 \rightarrow \frac{8}{4} = 2 \rightarrow \frac{12}{4} = 3\right)$

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Lesson title

Week 21: Day 1: **Fractions**

Counting stick fractions

	Tape/ Stick
Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson: Have ready some masking tape for
Use mathematical terms to describe 2D shapes.	labels and a long stick. Read How? Counting stick, as
Add and subtract fractions with the same denominator.	shown below.

How?





Using sticky tape, label one end of a counting stick 0 and the other end 1.

Ask a pupil to point to the halves and label them.

Choose some pupils to label the quarters.

Choose some pupils to label the eighths.



Ask the pupils to point to any equivalent fractions.

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15 minutes	10 How Tape/ minutes Stick	25 Stick minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Whole class teaching	Whole class teaching	Pair task	Pair task
Ask the class to name some 2D shapes.	Remind the class what a 'fraction' means.	Remove all the labels from the counting stick.	Explain to the pupils that we can add or subtract	Write the following word problems on the chalkboard:
Remind the pupils that an oblong is a rectangle	Teach How? Counting stick, as shown left,	Put on two eighths and ask, 'How many more	denominators are the same.	Bode eats a quarter of his dinner. What fraction
two short sides.	and the stick.	a whole?'	following example:	Tunde gave an eighth of
Draw an oblong on the chalkboard and ask some pupils to point to the sides and vertices (corners)	Remove the labels and repeat the activity using halves, fifths and tenths	Write on the chalkboard: $\frac{3}{8} + \frac{3}{8} = 1$	$\frac{2}{5} + \frac{1}{5} = \square$ $\frac{4}{5} + \frac{2}{5} = \square$	his cake to Temi, two eighths to his father and two eighths to his teacher. What fraction did he
Choose some pupils to draw on the parallel lines, right angles and lines of symmetry.		$\frac{2}{10} + \frac{4}{10} = \square$ Choose some pupils to help you to find the	6 6 Give the pupils further examples to complete in their exercise books, eg:	have left?' Read and explain the questions and ask the pairs to discuss the answers.
Draw another oblong and choose some		missing numbers using the counting stick.	$\frac{5}{8} + \frac{2}{8} = \square$	Choose some pairs to explain their answers on
pupils to draw horizontal, vertical and diagonal lines on it.		Remind the class that the numerator is the top number of a fraction and the denominator is the bottom number.	$\frac{3}{4} + \frac{1}{4} = \square$	the chalkboard.

Chart/Paper/ Multiplication square

Week 21: Day 2: Fractions

Lesson

title

Fractions and division

Learning outcomes	Preparation			
By the end of the lesson,	Before the lesson:			
Identify the properties of 2D shapes. Begin to relate fractions	Copy the shape chart in today's daily practice on to the chalkboard.			
	Copy the multiplication square from this week's weekly page on to the chalkboard.			
	Read How? Properties of 2D shapes, as shown below, and have ready a sheet of paper for each group.			

How? **Properties of 2D** shapes



Ask each group to draw a different 2D shape on their piece of paper.

Tell them to mark the shape with its properties: parallel lines,

lines of symmetry, right angles.

Ask each group to read out the properties of their shape, without showing the shape. Ask the rest of the class to guess the name of each shape.

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15 H minutes	ow Chart	10 Multiplication square minutes	25 minutes		10 Multiplication square minutes
Daily pro	actice	Introduction	Main activity		Plenary
Group to	ısk	Pair task	Whole class teaching	Individual task	Whole class teaching
Explain the cla How? Proshapes, of Shape chart	ne shape chart less and then teach operties of 2D as shown left. name square oblong triangle circle pentagon hexagon parallelogram trapezium	Show the class the multiplication square and remind them that it shows us the times tables multiples (answers). Ask the pairs to find different ways to make the multiple 30 (5 x 6, 10 x 3). Explain that 5, 6, 10 and 3 are 'factors of' 30 because they multiply together to make 30. Ask the pairs to find the factors of 12 and 24 and choose some pairs to write their factors on the chalkboard.	Write on the chalkboard: $\frac{1}{3}$ of 30 =Explain the link with division(30 ÷ 3 = 10)and multiplication(3 × 10 = 30).Ask:'What number will Idivide by to find a half?''What number willI have to divide by to finda fifth?'Write on the chalkboard: $\frac{2}{3}$ of 30 =Explain that we know that: $\frac{1}{3}$ of 30 = 10, so:	Write the following fraction problems on the chalk- board and ask the pupils- to complete them in their exercise books: $\frac{1}{3}$ of 12 = $\frac{2}{3}$ of 12 = $\frac{2}{4}$ of 20 = $\frac{2}{5}$ of 40 = $\frac{2}{3}$ of 18 = $\frac{2}{6}$ of 36 =	Ask the pupils to find fractions to divide 30 and write them on the chalkboard like this: $\frac{1}{6} = 5$ $\frac{1}{10} = 3$ $\frac{1}{5} = 6$ 30 $\frac{1}{3} = 10$ $\frac{1}{15} = 2$ $\frac{1}{2} = 15$ Remind them to use the multiplication square to find the fractions.
			$\frac{2}{3}$ of 30 = 10 x 2 = 20		

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Lesson title

Week 21:Day 3:FractionsFractions of
numbers

Learning outcomes	Preparation
By the end of the lesson,	Before the lesson:
Draw regular and irregular quadrilaterals.	Have ready the <u>shape chart</u> from Week 21, Day 3 (yesterday) but do not display it.
Find fractions of numbers.	Have ready a ruler for each group.
	Read How? Finding fractions with counters, as shown below, and collect 24 counters/stones for each group.

Chart/Rulers/

Counters

How? Finding fractions with counters



Ask the groups to divide 12 counters into different fractions.

Write the fractions on the chalkboard. Ask groups to make the biggest fraction with

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their counters.

Tell the groups to use 24 counters to find two eighths of 24.

Ask them to name the fraction that is left. Tell them to use the counters to find three quarters of 24.

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Tell them to use the counters to

15 Chart/ minutes Rulers	10 How Counters	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Give the groups 5	Group task	Whole class teaching	Group task	Whole class teaching
minutes to draw and name as many 2D	fractions with counters, as shown left. If there is time, ask the groups to find other fractions with the counters.	can I find a fifth of 20?' (Divide by 5).	complete the following problems in their	to help you solve the following question:
Display the shape chart and read the shapes with the pupils.		Demonstrate on the chalkboard how to find three quarters of 60:	exercise books: $\frac{3}{8}$ of $\frac{1}{2}$ of 1 hour $\frac{1}{2}$ of 12 months	$\frac{3}{8}$ of 48 apples =
Remind the class that a 'polygon' is any closed 2D shape with straight sides.		$\frac{1}{4} = 60 \div 4$ $60 \div 4 = 15$ $\frac{1}{4} = 15$	$\frac{7}{10}$ of 60 seconds $\frac{3}{2}$ of 48 apples	
Explain that a 'quad- rilateral' is any polygon with four sides.		$\frac{3}{4} = 15 \times 3 = 45$	$\frac{1}{10}$ of 80 sweets	
Give out the rulers and ask the groups to draw and label regular and irregular quadrilaterals in their exercise books.		$\frac{3}{4} = 45$		

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Lesson title

Week 21: **Day 4: Fractions Fraction word** problems

Learning outcomes

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

Identify 3D shapes according to their properties.

Solve word problems involving fractions.

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Before the lesson:

3D shapes/

Preparation

Counters

Have ready these 3D shapes: a cube, a cuboid, a sphere, a cylinder, a cone, a triangular prism and a squarebased pyramid.

Read How? More fractions with counters, as shown below, and have ready the counters from Week 21, Day 3 (yesterday).

More fractions with counters



Demonstrate with the counters how to find one fifth of 20.



Take one fifth away from 20 and explain that four fifths remain.

Ask the groups to find three fifths of 20 and say the remaining fraction.

Ask them to find two tenths of 20 and say the remaining fraction.

How?

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15 3D shapes minutes	10 How Counters	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Group task	Whole class teaching	Group task	Whole class teaching
Hold up the <u>3D shapes</u> and ask the class to name them.	Teach How? More fractions with counters, as shown left.	Write this problem on the chalkboard and ask the groups to discuss it: 'Segue bad 48 goats	Write the following problems on the chalk- board, and read and explain them to the class:	Choose two groups to explain the answers to two different problems.
Give each group a shape but do not let the others see which one.		He sold three quarters of them. How many did he have left?'	She sells $\frac{3}{4}$	Ask the class if they think they have chosen the quickest method.
Write 'vertices, edges, faces' on the chalkboard	_	Write this method:	How many are left?'	
and ask each group to use these words to		$\frac{1}{4}$ of 48 goats = 12 goats	'Yemi has 24 eggs. He sells <u>1</u>	
describe their shape.	_	$\frac{3}{4}$ of 48 = 3 x 12 = 36 goats	6 How many are left?'	
each shape.		48 – 36 = 12 goats left.	'There are 30 pupils in	
Write 'right angles, parallel lines, symmetry' on the chalkboard and ask each group to use these words to	_	Ask, 'If Segun sold three quarters of his goats, what fraction has he kept?' (one quarter)	$\frac{a \text{ crass. } \frac{2}{5} \text{ are rate.}}{5}$ How many are on time?' Ask the groups to work out the answers in their	
describe one of the faces on their shape.		Write: $\frac{1}{4}$ of 48 goats = 12 goats.	exercise books.	

Compass/Object/ Fraction cards

Week 21: Day 5: Fractions Improper fractions

Lesson

title

Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson:
Follow directions using	Make a card compass, as shown right, and hide an object in the classroom.
Convert improper fractions to mixed numbers.	Make fraction cards for the following: $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{8}$

Read How? Improper fractions, as shown below.

How?





Demonstrate adding three halves.

Put the halves together to make a mixed number.

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Demonstrate adding 10 eighths.



Put the eighths together to make a mixed number.

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15 Compass/ minutes Game/Object	10 How Fraction cards	25 minutes	Man Primary Mathematics 4	10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching Ask the class to say the compass points with you. Place the compass on the floor where all the pupils can see it and line it up with north. Explain to the pupils that they are going to play a treasure hunt game. Ask the pupils to stand by the door and, using the compass points, direct them to the hidden object, eg: 'Go four steps north, two steps east.'	Whole class teachingWrite these fractions on the chalkboard: $\frac{3}{4}$ $\frac{5}{5}$ $\frac{9}{10}$ $\frac{1}{4}$ $\frac{5}{5}$ $\frac{9}{10}$ Ask some pupils to point to the numerators and the denominators.Write the following fractions on the chalkboard: $\frac{4}{3}$ $\frac{10}{8}$ $\frac{6}{4}$ $\frac{4}{3}$ $\frac{10}{8}$ $\frac{6}{4}$ Explain that these are called 'improper fractions' because the numerator is greater than the denominator.Teach How? Improper fractions, as shown left, using the fraction cards.	Whole class teachingExplain that an improper fraction can be changed into a 'mixed number' by dividing the numerator by the denominator.Demonstrate on the chalkboard: $\frac{8}{5} = 8 \div 5 =$ $8 \div 5 = 1 \text{ R3}$ $\frac{8}{5} = 1\frac{3}{5}$	Pair task Ask the pairs to open Man Primary Mathematics 4, page 57, exercise D and complete questions 1a—1k in their exercise books.	Whole class teachingWrite the following problemon the chalkboard:'Each day Segun drinks1of a litre of water.4How much does he drinkHow much does he drinkin nine days?'Choose some pupils tohelp you calculate the answeron the chalkboard: $\frac{9}{4} = 2 \frac{1}{4}$

Grade/ Type of lesson plan

Lesson title

Weekly pageWeek 22:Primary 4,
numeracy
lesson plansFractions
and decimals

Words/phrases

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

mixed numbers improper fractions numerator denominator tenths hundredths equivalent decimal fractions zero less than < greater than >

Learning expectations

By the end of the week:

All pupils will be able to: Change tenths into decimal fractions.

Most pupils will be able to: Change fractions into equivalent fractions.

Some pupils will be able to: Add and subtract mixed fractions.

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Assessment task		Example of a pupil's work	
Instructions:		This pupil can:	
$\frac{1}{1}$ Change these fractions into mixed numbers: $\frac{7}{3} =$	$\frac{3}{3}$ Add or subtract these fractions: $\frac{2}{3} + \frac{4}{6} =$	Change fractions into equivalent fractions. Change tenths into decimal fractions and vice versa.	$\frac{7}{3} = 2\frac{1}{3}$ $\frac{15}{4} = 3\frac{3}{4}$
$\frac{15}{4} =$	$\frac{6}{10} - \frac{1}{5} =$	Add and subtract mixed fractions.	$\frac{1}{2} = \frac{3}{6} \text{ or } \frac{4}{8}$
$\frac{22}{6} = \frac{2}{2}$ Change these fractions into equivalent fractions:	$\frac{4}{2}$ Change these fractions into decimal numbers: $\frac{7}{10} =$		$\frac{2}{8} = \frac{1}{4} \text{ or } \frac{4}{16}$ $\frac{2}{3} + \frac{4}{6} = \frac{8}{12} + \frac{8}{12} = \frac{16}{12} = \frac{14}{12} = \frac{11}{12}$ $\frac{6}{12} - \frac{1}{5} = \frac{3}{5} - \frac{1}{5} = \frac{2}{5}$
$\frac{1}{2} =$	$\frac{24}{10} =$		$\frac{7}{10} = 0.7$
$\frac{2}{8} =$	$\frac{57}{100} =$		$\frac{24}{10} = 2.4$ 57 = 0.57
$\frac{3}{6}$ =	$\frac{88}{100} =$		100

	Lesson title	Paper/ Scissors	
Week 22:	Day 1:	Learning outcomes	Preparation
Fractions and decimals	Word problems	By the end of the lesson, most pupils will be able to:	Before the lesson:
		Use times tables to solve division calculations.	Have ready scissors for each group.
		Add fractions with different denominators.	Read How? Making mixed numbers, as shown below.
		ditterent denominators.	

How? Making mixed numbers

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Tell the groups to cut two strips of paper into quarters and write $\frac{1}{4}$ on each part.

Tell them to add two of the quarters and three of the quarters. Ask them to put

the quarters

together to make

a mixed number.

Tell groups to cutTelltwo strips of paperseveinto tenths andandwrite $\frac{1}{10}$ on each.and

Tell them to add seven tenths and eight tenths and make a mixed number. ۲

15 minutes	10 How Paper/ minutes Scissors	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Pair task	Group task	Whole class teaching	Group task	Group task
Ask the pupils to help you write the 4, 5 and 6 times tables on the chalkboard.	Teach How? Making mixed numbers, as shown left, using the paper strips and scissors.	Remind the class how to change an improper fraction into a mixed number by dividing the numerator	Write the following word problems on the chalk- board and explain: 'Nura eats 1 an apple a day.	Choose some groups to write their calculations on the chalkboard and ask the class if they
Ask the class, 'If we know that 8 x 6 = 48, what division calculations do we know?' (48 \div 6 = 8 and 48 \div 8 = 6).		by the denominator. Demonstrate on the chalkboard: $\frac{9}{6} = 9 \div 6 =$	How many apples does he eat in 15 days?' 'Garba uses $\frac{1}{2}$ of a metre	Are correct. Ask the groups to complete the calculations in their exercise books.
Ask the pairs to write five division calculations in their exercise books		6 9 ÷ 6 = 1 R3 $\frac{9}{6} = 1 \frac{3}{6}$	to make a scarf. How many metres does he need to make 8 scarves?'	
the chalkboard.		0 0	Lami works $\frac{1}{3}$ of every day.	
Tell the pairs to swap their books. Ask them to write the multiplication			She works for a week. How many days does she work altogether?'	
calculation to help solve each division calculation and the answer.			Ask the groups to write the calculation needed for each problem in their exercise books.	

Lesson title

Week 22:Day 2:Fractions
and decimalsMaking
equivalent
fractions

Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson:
Multiply Tens using times tables.	on the chalkboard and leave them there for the rest of the week.
Change fractions into equivalent fractions.	Have ready large pieces of paper for the groups.
	Read How? Adding fractions, as shown below.

Times tables

How? Adding fractions

Adding fractions



Show pupils that adding fractions with the same denominator can be simple.



Then demonstrate adding fractions with different denominators.

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Multiply the numerator and denominator by 4.



Add the fractions together.



Repeat with different fractions.

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15 Times tables minutes	10 How minutes	25 minutes	Man Primary Mathematics 4	10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Group task	Whole class teaching	Group task	Whole class teaching
Read the 4, 5 and 6 times tables with the pupils.	Teach How? Adding fractions, as shown left.	Explain that we often need to change fractions	Ask the groups to open Man Primary Mathematics	Choose some pupils to write their pairs of equivalent
Write '70 x 3 =' on the chalkboard.	_	into equivalent fractions when we are doing calculations.	4, page 77, exercise B and complete questions 2a—2f in their exercise books.	fractions on the chalk- board and draw pictures for each fraction.
Ask, 'What is 7 x 3?' (21). Explain that 70 is 10 times bigger, so 70 x 3 = 210.	_	On the chalkboard, demonstrate dividing the	_	
Repeat with 40 x 4 =	_	denominator of a fraction		
Write the following calculations on the chalk- board for the pairs to complete in their exercise books: $40 \times 6 =$ $70 \times 5 =$ $90 \times 6 =$ $30 \times 4 =$ $50 \times 5 =$		to make an equivalent fraction: $\frac{6}{10} = \frac{6 \div 2}{10 \div 2} = \frac{3}{5}$ Demonstrate multiplying the numerator and the denominator of a fraction: $\frac{3}{5} = \frac{3 \times 3}{5 \times 3} = \frac{9}{15}$		

Remind the pairs to use the times tables to help them.

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Lesson title

Week 22:Day 3:Fractions
and decimalsAdd and subtract
fractions

Learning outcomes	Preparation
By the end of the lesson,	Before the lesson:
Divide multiples of 10.	Read How? Mixed number fractions, as shown below.
Add and subtract mixed fractions	

How? Mixed number fractions

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Write some improper and proper fractions on the chalkboard.

Ask some pupils to circle the improper fractions.

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Ask some pupils to change some of the improper fractions into mixed numbers. Look at the improper fraction on the chalkboard and ask, 'How many halves are there?' Remind pupils that to make a mixed number fraction you divide the numerator by the denominator.

15 Times tables	10 How minutes	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Pair task	Whole class teaching	Pair task		Whole class teaching
Read the 4, 5 and 6 times tables with the pupils.	Teach How? Mixed number fractions, as shown left.	Write the following sums on the chalkboard	Write the following word problems on the chalk-	Choose some pairs to write their calculations on the
Write '210 ÷ 3 =' on the chalkboard.	_	and ask the pairs to complete them in their	board and explain them: 'This is how Taibat spent	chalkboard and ask the class if they are correct.
Ask, 'What is 21 ÷ 3?' (7). Explain that 210 is 10 times bigger, so 210 ÷ 3 = 70.	_	$\frac{1}{2} + \frac{1}{8} =$	her money:Ask the1 on food, 1 on clothes.complexity26makingWhat fraction of her moneydenomedid she spend?'the fraction	Ask the class to help you complete the calculations, making the same denominators and adding
Repeat with 360 \div 6 =	_	$\frac{5}{8} - \frac{1}{2} =$		the fractions.
Write the following sums on the chalkboard for the pairs to complete in their exercise books: $450 \div 5 =$	_	$\frac{1}{5} - \frac{1}{10} = \frac{1}{6} + \frac{3}{12} = \frac{1}{12}$	'This is what Hassan did with his money: He gave 2 to his mother. 3 He gave 1 to his sister	
$180 \div 3 =$ $360 \div 4 =$ $540 \div 6 =$		$\frac{3}{4} - \frac{1}{8} =$	What fraction of his money did he give to his family?'	
Remind the pairs that they can use the times tables to help with division.	_	$\frac{2}{5} - \frac{3}{10} =$	Ask the pairs to solve each problem in their exercise books.	_

	Lesson title		Times tables
Week 22:	Day 4:	Learning outcomes	Preparation
Fractions and decimals	Decimal fractions	By the end of the lesson, most pupils will be able to: Multiply Hundreds.	Before the lesson: Write the 8 and 9 times tables on the chalkboard.
		Use decimal notation for tenths.	Read How? Fraction number line, as shown below.





Draw a number line on the chalkboard and divide it into tenths.

Ask the pupils to mark the fractions on the number

line from 0—1.

Remind the pupils that 10 tenths is the same as a whole.

Ask pupils to point to other divisions and to say them as improper fractions and mixed numbers. Ask the pupils to write them on the chalkboard.

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15 Times tables minutes	10 How minutes	25 minutes	Man Primary Mathematics 4	10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Whole class teaching	Pair task		Whole class teaching
Read the 8 and 9 times tables with the pupils.	Teach How? Fraction number line, as shown left.	Draw a number line as shown in How? Fraction	Ask the pairs to open Man Primary Mathematics	Draw a fraction number line from 0—10.
Write '600 x 8 =' on the chalkboard.	Explain that one tenth can also be written	Point to different positions	- complete questions 2a—2e	Say some decimal fractions
Ask, 'What is 6 x 8?' (48).as 0.1 (ze and thatExplain that 600 isa 'docime'	 as 0.1 (zero point one) and that this is called a 'decimal fraction' 	e) on the number line d and ask the pairs to name each point as a fraction or mixed number, and also as a decimal. Ask some pairs to come and point to these decimal fractions on the number line: 1.7	In their exercise books.	point to them on the number line, eg: 3.7, 5.2.
100 times bigger, so 600 x 8 = 4800.	Choose some pupils			Remind the class of the meaning of > and <.
Repeat with 400 x 8 =	 to write decimal fractions on the number line. 			Write the following sets
Write the following sums on the chalkboard for the pairs to complete in their exercise books:	Explain that the decimal point separates the whole and the fraction number.			of numbers on the chalkboard and ask some pupils to write the correct symbol between them:
800 x 8 =	The first number before	0.2		5.8 2.5
400 × 9 =	the point is the Unit,	1		0.8 1.3
700 × 8 =	and after the point the	0.5		1.8 🗍 1.5
900 X 9 =	numbers are tenths.	1.5		89 98
$300 \times 8 =$		0.9		
$700 \times 9 =$		1.4		

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Times tables/ Hundred square

Week 22:Day 5:Fractions
and decimalsTwo decimal
places

Lesson title

Learning outcomes	Preparation	
By the end of the lesson, most pupils will be able to:	Before the lesson:	
Divide multiples of	the chalkboard.	
Use decimal notation for hundredths.	Read How? Fraction number square, as shown below, and draw the blank Hundred square on the chalkboard.	

How? Fraction number square



Shade in one square on the blank Hundred square.

e Ask a pupil to write the fraction.

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Explain that one hundredth is 0.01 as a decimal fraction.

10.0

Shade in 10 squares and write the fractions. Choose some pupils to shade in

other amounts and write the decimal fractions.

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15 Times tables minutes	10 How Hundred square	25 minutes		10 Hundred square minutes
Daily practice	Introduction	Main activity		Plenary
Pair task Write '4800 \div 8 =' on the chalkboard. Ask, 'What is 48 \div 8?' (6). Explain that 4800 is 100 times bigger, so 4800 \div 8 = 600. Repeat with 8100 \div 9 = Write the following sums on the chalkboard for the pairs to complete in their exercise books: 4000 \div 8 = 1800 \div 9 = 5600 \div 8 =	Whole class teaching Write the following on the chalkboard: 1 10 13 10 5 10 Choose some pupils to write them as decimal fractions. Teach How? Fraction	Whole class teaching Write the following decimal fractions on the chalkboard: 0.46 0.05 0.34 0.6 Ask the pupils to read them with you. Make sure they read the numbers correctly, eg: 0.46 is zero point four six, not zero point forty-six.	Pair task Write the following fractions on the chalkboard and ask the pairs to change them into decimal fractions in their exercise books: $ \frac{3}{100} $ $ \frac{20}{100} $	Whole class teaching Say some decimal fractions and ask the pupils to point to their position on the blank Hundred square. Remind the class of the meaning of > and <. Write the following sets of decimal fractions on the chalkboard and ask some pupils to write the correct symbol between them: 0.8 0.46 2.2 0.2
$5400 \div 9 =$ Remind the pairs that they can use the times tables to help with division.	left, using the blank Hundred square.	write the decimal fractions as fractions.	$ \frac{36}{100} \\ \frac{9}{100} \\ \frac{1}{100} $	0.05 0.5 0.59 0.9

Grade/ Type of lesson plan

Weekly page Week 23: Primary 4, Money numeracy lesson plans

Nords/phrases	Learning ex
Write these words on the chalkboard and leave them there for the week.	By the end
multiples	All pupils w
actors	Give the cor
nonev	notes to pay
Naira	
Kobo	
oank notes	able to:
price	
abels	Some pupi
change	able to:
seller	Find the toto
shopping list	of a shoppii
vertical addition	three items.
arid method	

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xpectations

of the week:

vill be rrect bank / for an item.

will be change.

ls will be al cost ng list with

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Assessment task		Example of a pupil's work	
Assessment task Instructions: Ask an individual pupil to: 1 Explain which bank note they will use for the following products: Book N35 Bottle of water N80 Cloth N485 2 Find the total cost of the next 3 items:	 3 Calculate the following sums: I spend N2370. What is my change from N2500? I spend N765. What is my change from N1500? 4 Ask pairs to show you how to use the shopping corner and price list in class to buy items. The 	Example of a pupil's workThis pupil can:Identify the correct bank notes to pay for an item.Count back change.Find the total cost of a shopping list with three items.	A book for N35 with notes: * N20 and N10 and N5 * N50 * N50 * N500 N85 + N345 + N380 = N810 $\frac{85}{345} \frac{80+5}{300+40+5}$ + <u>380</u> $\frac{20+5}{200+80+0}$ 10 (5+5) 200 (80+40+80) + 600 (200+300)
Tomato N85 Slippers N345 Towels N380	shopkeeper should give the correct change.		$\frac{+ 000}{810} (300+300)$ $N 1500 - N 765 = N 735$ $\frac{-765}{-765} = -0+700+500+5 = -2 - 0+700+60+5$ $-700+500 = -200+500+5 = -200+500+5$



Lesson

title

	Money/Paper
Learning outcomes	Preparation
By the end of the lesson,	Before the lesson:
Identify factors of multiples.	Have ready some real N100, N200 and N500 notes.
Choose the correct bank notes to buy food items.	Have ready a large piece of paper.
	Read How? N100, as shown below, and make the paper money listed in step 1.

Paper money/





Make paper money for each group – two N50 notes, five N20s, 10 N10s and 10 N5s.



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Tell them to record

their results in their

exercise books.



Ask them to show you how to make N100 with the least number of notes.

Ask them to show you how to make N100 with four notes.

Ask the groups to find different ways to make N100 with the paper money.

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15 minutes	10 minutesHow Paper money/ Paper money	25 Paper minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Group task	Whole class teaching	Group task	Whole class teaching
Ask the pupils to say the 8 and 9 times tables as you write them on	Ask the pupils to list the Naira notes that people use.	Choose some pupils to draw on the chalkboard.	Ask the groups to write and draw some items from the price list in their	Ask each group to say the Naira notes they would use for one of their items
the chalkboard.	Show them the real Naira notes and ask them	can buy in markets.	exercise books.	Ask the class to say if they could use different Naira notes.
Remind the pupils that 'multiples' are answers in the times tables and 'factors' are the numbers needed to make	to say the other bank notes that people use.	Ask the groups to discuss how much each item costs.	Ask them to write the names of the Naira notes	
	Choose some groups to say their ideas and ask	for each item underneath the the	Keep the price list for the next day.	
the answers.	Teach How? N100,	- the class if they agree.	_	
Say, '72 is a multiple. 8 and 9 are the factors	 as shown left, using the paper money. 	Decide on a price for each item.		
hat make 72.'		Create a price list for	_	
Ask the pairs to write a list of any 10 multiples from the 8 and 9 times tables in their exercise books.	_	the 10 tood items on the large piece of paper.		
Tell the pairs to swap books and ask	_			

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write the factors next to each multiple.

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Price list/Paper money/ Shopping items/Labels

Week 23: **Day 2:** The shop Money

Lesson

title

Learning outcomes	Preparation	
By the end of the lesson, most pupils will be able to:	Before the lesson:	
	Display the price list from Week 23, Day 1.	
division calculations.	Have ready the paper money from Week 23, Day 1 (yesterday) and make	
Give the correct money	one N1000, two N500, five N200	
for items and count back change.	and 10 N100 notes for each group.	
	Read How? Shopping, as shown	

below and have ready items and labels for a shopping corner.

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Set up a shopping corner near the price list with packets and tins.



Ask the pupils to help you make price labels for the items in the shop.

Ask the pupils to

take turns to

the seller.

be the buyer and



Tell the buyer

and give the

the seller.

paper notes to

to choose an item

Tell the seller to count back the change with the paper money.

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15 minutes	10 Paper money minutes	25 Paper money minutes	How Paper money/Paper/ Shopping items	10 Shopping corner minutes	
Daily practice	Introduction	Main activity		Plenary	
Pair task	Group task	Whole class teaching	Group task	Whole class teaching	
Ask the pupils to help you write the 8 and 9 times tables on the chalkboard	Ask the class to name the bank notes people use today, ea: N1000, N500	Revise giving change with the paper money.	Teach How? Shopping, as shown left, using the paper money paper	Ask the class to watch a pupil from each group buying an item from	
Ask the class. 'If we	Give each aroup a full	Demonstrate giving change from N1000 when you have bought an item for N750.	and shopping items.	the shopping corner.	
know that $8 \times 9 = 72$, what division calculations do we know?' ($72 \div 9 = 8$ and $72 \div 8 = 9$) Solve calculations today and yesterday. Ask the groups to find as many ways as they can	set of paper money from today and yesterday.			Ask them to check the buyer gives the correct	
	Count on from N750, ie: give N50 and say,	_	money and the seller gives the correct change.		
Ask the pairs to write five division calculations	to make N1000.	'N800', give N200 and say 'N1000'.		Keep the shopping corner for the next day.	
in their exercise books using the times tables on the chalkboard.	Tell them to record their results in their exercise books.	Repeat with an item costing N70, giving change	-		
Tell them to swap their books and write the multiplication sum and the answer for each	Choose a group to show the smallest amount of notes that are needed to make N1000.	amount eeded			
division calculation.	Ask the other groups to say different ways to make N1000.				

Flash cards/Shopping corner/ Paper money

Week 23:Day 3:MoneyShopping lists

Lesson title

Learning outcomes	Preparation
By the end of the lesson,	Before the lesson:
most pupils will be able to:	Make sets of flash cards for the
Answer questions from the 8 and 9 times tables.	multiples of 8 and 9 for each group and shuffle each set well.
Work out the total price of three items in a shop.	Have ready the shopping corner and paper money from Week 23, Day 2 (yesterday).
	Read How? Multiplication relay, as shown below.

How? Multiplication relay



Mark a starting line outside and place the sets of flash cards at intervals.



Tell the groups to SI stand in lines behind the the starting line. a

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Shout, 'Go!' and tell the pupils to run, in turn, to collect a card.

Tell each group to arrange their cards into the 8 and 9 times tables. Tell them to put the multiples in order. The first group ready is the winner.

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15 How Flash cards	10 minutes	25 Shopping corner/ Paper money		10 Paper money minutes
Daily practice	Introduction	Main activity		Plenary
Group task Ask the class to say the 8 and 9 times tables with you. Ask each group two questions from the 8 and 9 times tables. Teach How? Multiplication relay, as shown left, using the flash cards.	Froup taskWhole class teachingsk the class to say e 8 and 9 times tables ith you.Revise vertical addition.sk each group two yestions from the 8 and 9 nes tables.Write on the chalkboard: $N250 + N75 + N35 =$ H T U 2 5 0 7 5 $2 5 0$ 7 5Fach How? Multiplication lay, as shown left, sing the flash cards. $+ \frac{3 5}{1 0 (5 + 5)}$ $+ 1 5 0 (50 + 70 + 30)$ $\frac{2 0 0}{3 6 0}$ Choose some pupils to help you solve N470 +	Group task Ask a pupil to choose three items from the shopping corner. Ask another pupil to write the price of each item on the chalkboard. Demonstrate how to find the total price using the vertical addition method. Give each group a set of the paper money. Ask the groups to hold	Tell them to draw the Naira notes needed to pay the total price under- neath their calculation. When they have finished, tell them to choose three different items and repeat the process.	Whole class teaching Ask each group to say one of their total prices and show the class the paper money they needed. Ask the class if they could have used different notes and if they needed any change.
	chalkboard.	Tell the groups to choose three items from the shopping corner and write the total price for them in their exercise books.		

Times table/Shopping corner/ Paper money

Week 23: Day 4: Money change

Lesson title

The correct

Learning outcomes	Preparation		
By the end of the lesson,	Before the lesson:		
Answer questions from the 7 times table. Find the total price of items and give the correct change.	Write the 7 times table on the chalkboard.		
	Have ready the shopping corner		
	and paper money from Week 23, Day 3 (yesterday).		
	Read How? Spending N500, as shown below.		

How? **Spending N500**

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Give each group a set of paper money and tell them they have N500 to spend.

Tell them to choose

some items from the shopping corner.

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Ask them to find the total of their items and any change they have. Ask them to arrange their items and the paper money change on their desks.

Tell the groups to check if the other groups' totals and change are correct.

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15 Times table minutes	10 How Paper money minutes Paper money	25 minutes	Paper money	10 Shopping corner minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Group task	Whole class teaching	Group task	Whole class teaching
Ask the pupils to read the 7 times table with you.	Teach How? Spending N500, as shown left,	Remind the pupils that when they give change	Write the following money problems on the chalkboard:	Ask the class, 'What could I buy if I had N1000
Choose some pupils to	using the paper money.	they count on from the total spent.	'I spend N1800. What is my change from N2000?'	Tell the pupils to choose items from the shopping corner and add up the
they already know from the other times tables.		Write on the chalkboard: 'I spend N750. What is	 I spend N565. What is items from my change from N2000?' I spend N2560. What is prices on form standard from N4000?' 	
Ask, 'What is 7 x 7, 9 x 7		my change from N2000?'		prices on the chalkboard.
Ask the pupils to read the 7 times table going forwards	_	Explain we can work this out using a number line, using the following steps: 750 to 800 = 50 800 to 1000 = 200	'I spend N35. What is my change from N1000?'	
and backwards.			Ask the groups to	
Rub it off the chalkboard.		1000 to 2000 = 1000	their exercise books.	
Write 10 multiplication and division calculations from the 7 times table for the pupils to complete in their exercise books, eg: $4 \times 7 =$, $49 \div 7 =$		Tell the pupils the answer = N1250.	- Tell them to use the paper money and number lines to help them.	

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questions from the 7

and 8 times tables.

Multiply amounts of

money less than N1000.

Flash cards/Books/ Fruit/Shopping corner

Day 5: Learning outcomes **Multiplying** By the end of the lesson, most pupils will be able to: money Give answers to

Preparation

Before the lesson:

Make a set of flash cards for the multiples of 7 and 8 for each group.

Put seven books and three apples (or other fruit) in the shopping corner used on Week 23, Day 4 (yesterday).

Read How? Money multiplication, as shown below, and How? Multiplication relay, from Week 23, Day 3.

How? Money multiplication

Week 23:

Money



Lesson title

Say, 'One book costs N750. How much do seven books cost?' Ask a pupil to

write the calculation needed on the chalkboard.

Help the pupils to use the grid method to work out the answer.

Say, 'One apple costs N35. How much do three apples cost?'

Choose some pupils to work out the answer on the chalkboard.

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15 Game minutes	10 How minutes	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Group task	Whole class teaching	Whole class teaching	Group task	Group task
Ask the class to say the 7 and 8 times tables with you.	Teach How? Money multiplication, as shown left.	Write this problem on the chalkboard: 'Samson pays N330 for one bus journey. How much	Write the following problems on the chalkboard for the groups to complete in their exercise books:	Choose one group to explain on the chalkboard how they calculated one of the problems.
questions from the 7 and 8 times tables.		do six journeys cost him?' Read and explain the problem and ask the pupils	_ 'Tola earns N650 for one day's work. How much does she	Choose some pupils to draw the Naira notes needed for the total.
with multiples of the 7 and 8 times tables, as shown on Week 23, Day 3.	to say w is neede Write 'N ask som	to say what calculation is needed. Write 'N330 x 6 =' and ask some pupils to help	earn in five days?' 'A headtie costs N250. How much do six headties cost?'	
		you work it out using the grid method.	'One book costs N750. How much do six books cost?'	
			'Petrol for one journey costs N485. How much does the petrol cost for seven journeys?'	

Grade/ Type of lesson plan

Weekly page **Week 24:** Primary 4, numeracy lesson plans

Money word problems

Nords/phrases	Learning expectations
Arite these words on the chalkboard and leave them there for the week. Drofit oss gain tem rader selling price (SP) cost price (CP) otal calculation round numbers wo-step	By the end of the week: All pupils will be able to: Calculate profit and loss. Most pupils will be able to: Use a range of calculations to solve money problems. Some pupils will be able to: Solve two-step money problems.

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Assessment task		Example of a pupil's work	
Instructions:		This pupil can:	
Ask an individual pupil to solve these word problems:	3 Yousuf works 7 days a week. He get N350 — a day How much	Calculate profit and loss. Use multiplication to solve money problems.	N450 - N390 = N60 450 400+50+0 - 300+150+0
1 Mahmud buys a book for N450. He sells the book for N390. How much is his loss?	does he have at the end of the week? 4 Zafina buys 50 oranges	Solve two-step money problems.	$\frac{-390}{60} \text{ or } \frac{300+90+0}{0+60+0=60} \xrightarrow{-300+40+0}_{0+60+0=60}$ $7 \times \text{ N } 350 = \text{ N } 2450$
2 Hadiza buys a bucket for N225. She sells the bucket for N250. How much is her profit?	offit? for N1000. She sells each orange for N40. How much profit does she make after selling all of the oranges?		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
			$50 \times N40 = N2000$
			N 2000 - N 1000 = <u>N 1000</u>

Lesson title

Week 24:Day 1:Money wordProfitproblems

Learning outcomes	Preparation
By the end of the lesson,	Before the lesson:
most popils will be uble to.	Read How? Subtraction revision,
Read and write numbers higher than 999.	as shown below.
Calculate the profit made	

selling an item.

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How? Subtraction revision





Write '788 – 475 =' on the chalkboard and revise the vertical method.

Remind the pupils to expand the numbers.

Ask a pupil to write '363 – 318 =' vertically on the chalkboard.

Remind the pupils that we sometimes have to rename numbers.



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10 How minutes	25 minutes		10 minutes
Introduction	Main activity		Plenary
Whole class teaching	Whole class teaching	Group task	Group task
Teach How? Subtraction revision, as shown left.	Explain that a 'trader' is someone who buys and sells items.	Explain that a 'trader' is someone who buys and sells items.Write the following word problems on the chalkboard:Chose some grou to say their answer and ask the others if they agree.Explain that the 'cost price' (CP) is the price the trader pays for an item.'I buy cloth for N255 and sell it for N480. What is my profit?'Chose some grou to say their answer and ask the others 	Chose some groups to say their answers and ask the others
	Explain that the 'cost		if they agree.
-	trader pays for an item.		Ask the groups, "Which item made the most profit?' (the cloth).
	The 'selling price' (SP) is the price the trader sells		
	the item for.	_ 'I buy a book for N665	
	nore than the cost	and sell it for N/80. What is the profit?' Ask the groups to say the calculations peeded for	
	price, the trader makes money, or a 'profit'.		-
	The profit is calculated	each word problem.	
	the SP.	Tell the groups to set the calculations out vertically in their exercise books.	
	10 minutes Introduction Whole class teaching Teach How? Subtraction revision, as shown left.	10 minutes25 minutesIntroductionMain activityWhole class teachingWhole class teachingTeach How? Subtraction revision, as shown left.Explain that a 'trader' is someone who buys and sells items.Explain that the 'cost price' (CP) is the price the trader pays for an item.Explain that the 'cost price' (CP) is the price the trader pays for an item.The 'selling price' (SP) is the price the trader sells the item for.If the selling price is more than the cost price, the trader makes money, or a 'profit'.The profit is calculated by subtracting the CP from the SP.The SP.	10 minutes 25 minutes Introduction Main activity Whole class teaching Whole class teaching Teach How? Subtraction revision, as shown left. Explain that a 'trader' is someone who buys and sells items. Group task Explain that the 'cost price' (CP) is the price the trader pays for an item. 'I buy cloth for N255 and sell it for N480. What is my profit?' The 'selling price' (SP) is the price the trader sells the item for. If the selling price is more than the cost price, the trader makes money, or a 'profit'. 'I buy a book for N665 and sell it for N780. What is the profit is calculated by subtracting the CP from the SP. Tell the groups to set the calculations out vertically in their exercise books. Tell the groups to set the calculations out vertically in their exercise books.

Lesson title

Week 24:Day 2:Money word
problemsProfit and loss

earning outcomes	Preparation
By the end of the lesson,	Before the lesson:
nost pupils will be able to:	Find a long stick and cut pieces of
ound numbers to	masking tape for labels.
ne nearest len and the	Copy the profit and loss chart from
	the introduction, shown oppposite, on
alculate profit and loss.	to the chalkboard.
	Read How? Rounding, as
	shown below.

Stick/Tape/





Show the pupils a labelled 0—100 counting stick, with 10 equal divisions.



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Ask some pupils to label 50, 10, 80 and the other multiples of 10.

Ask the pupils to use the counting stick to round numbers to the nearest Ten. Remove the labels and replace with multiples of 100.



to round numbers to the nearest Hundred.

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15 How	10 minutes	Chart					25 minutes	10 minutes
Daily practice	Introduc	ction					Main activity	Plenary
Whole class teaching	Pair tas	k					Group task	Group task
Tell the class they are going to revise rounding numbers. Teach How? Rounding, as shown left.	Ask the or at the pr on the cl Remind Meaning Ask the which ite a profit of made a	class to I ofit and halkboar them of t g of CP a pairs to s ems mac and whic loss.	ook loss chart rd. the nd SP. say le h items	Asl for exe Asl gre wh gre Asl rec mc	k them to co total profit each item i ercise book k the pairs t ich item mo eatest profit ich item mo eatest loss. k them to th asons why t ade the gree	alculate or loss n their s. o say ade the and ade the ink of he oranges atest loss.	 Read the following word problems on the chalkboard: 'A basket of pawpaws was sold for N1250 at a profit of N200. What was the cost price?' 'Mr Ojo sold a generator for N12000. He made a profit of N3000. How much did he buy it for?' 'Adamu made a loss of N500 when he sold his bicycle for N4000. How much did he pay for it?' 	Draw four different sizes of pineapple on the chalkboard. Ask each group to say what the CP and the SP might be for a different pineapple and work out the profit.
	Profit and Ic	oss chart					Ask the groups to write the	roups to write the
	Item	СР	SP	Profit	Loss		calculations needed for	
	Headtie	N250	N300				each word problem in their	
	Plantains	N500	N450				Ask the groups to	
	2 yams	N1000	N1100				complete the calculations	
	Rice	N800	N1000				in their exercise books.	
	Oranges	N600	N170					

Lesson title

Week 24: **Day 3: Dividing money** Money word problems

Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson:
Read and order four- digit numbers.	numbers, as shown below.
Use division to solve money word problems.	

How? **Dividing three-digit** numbers



Write '275 ÷ 5 =' on the chalkboard. Ask the pupils to think of a multiple of 5 nearest to 275.

Tell them to subtract 100 from 275.

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multiples.

Continue subtracting the factors.

Write in the answer.

Ask a pupil to count

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15 minutes	10 How minutes	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Pair task	Whole class teaching	Whole class teaching	Group task	Group task
Write '3, 8, 9, 6' on the chalkboard. Ask the pairs to make the biagest and the	Tell the class they are going to revise how to divide using repeated subtraction.	Write the following word problem on the chalkboard: 'Adamu pays N80 for five breakfasts. How much	Write the following word problems on the chalkboard and read and explain them:	Choose one group to explain on the chalkboard how they solved one of the problems.
smallest numbers they can with these four digits (9863 and 3689).	Teach How? Dividing three-digit numbers, as shown left.	Read the problem and ask the class to discuss the	'Eight eggs cost N240. How much does one egg cost?'	Remind the pupils that they have used division to solve some money
Repeat with other sets of four digits, eg: 9, 2, 8, 7 and 4, 0, 5, 2.	Repeat with 492 ÷ 4 =	 calculation needed to solve it, ie: division. Choose some pupils to write the division calculation and help you solve it using repeated subtraction. 	'Petrol for six journeys costs N320. How much does one journey cost?'	word problems.
Ask the pairs to write four numbers greater than 999 in their exercise books.			write the division calculation and help you solve it using repeated subtraction. 'Adamu is paid N2100 for five days of work. How much is he paid for one day?'	'Adamu is paid N2100 for five days of work. How much is he paid for one day?'
choose some pairs to say their numbers.			'Four rulers cost N240.	
Ask the pairs to write four numbers less than 999 in their exercise books.			How much does one ruler cost?' Ask the groups to discuss	_
Choose some pairs to say their numbers.			the calculations needed and work out the answers in their exercise books.	

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Week 24:	Day 4:	Learning outcomes	Preparation
Money word problems	Two-step money	By the end of the lesson,	Before the lesson:
	problems	most pupils will be able to:	Make sets of flash cards with the
	•	Order numbers to two decimal places.	following decimal numbers for each group: 0.02, 0.12, 0.6, 0.2, 0.48, 0.5
		Solve two-step money	1.5, 2.53, 2.35, 5.0.
		problems.	Read How? Order decimal numbers, as shown below.

Order decimal numbers



Flash the decimal number cards and ask the pupils to say them.



Check that they say them correctly, eg: 2.53 is two point five three. Choose some pupils to write the place values above some of the numbers. Ask the groups to order the decimal number cards from the smallest to the largest. Ask each group to read their numbers.

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15 How Flash cards	10 minutes	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Group task	Whole class teaching	Group task		Group task
Teach How? Order decimal numbers, as shown left, using the flash cards.	Write on the chalkboard: 'Kande has N1000. She buys food for N600 and books for N250.	Write the following word problems on the chalk- board and read them to the class:	Ask the groups to discuss the calculations needed for each of the word problems.	Choose different groups to explain the answers to the last two word problems.
	How much money has she got left?'	n money has it?''Adamu earns N750 a day. He works five days. He spends N500 on food. How much money has he got left?'Choose some groups to explain the calculation eg: for number one, you need to multiply N750 by 5 and take N50 from this total.at this word eeds two ns.'Eggs cost N35 each. Taibat has N500. She buys six eggs. How much change does she get?'Ask the groups to comp the calculations in their exercise books.eed to add the e spends and y she has.''Sani has N100 every week. Breakfast costs N15. He buys five.Remind them to use the methods they have learned for subtraction,	Choose some groups	
	Ask some pupils to read the question and say the calculation needed.		eg: for number one, you need to multiply N750 by 5 and take N500	
	Explain that this word problem needs two calculations.		Ask the groups to complete the calculations in	
	Say, 'We need to add the money she spends and take this total away from the money she has.'		Remind them to use the methods they have learned for subtraction,	
	Ask some pupils to work out the calculations on the chalkboard, ie: N600 + N250 = N850 N1000 - N850 = N150 Answer = N150	 How much money has he got left?' 	multiplication and division, and to count on when calculating change or money left.	

Week 24:Day 5:Money word
problemsAdamu goes
to Abuja

Lesson

title

Learning outcomes	Preparation		
By the end of the lesson, most pupils will be able to:	Before the lesson: Have ready N2000 in paper money,		
Order numbers to two	with notes of various value.		
Identify the calculations needed to solve money problems.	Read How? Adamu goes to Abuja, as shown below.		

Paper money

How? Adamu goes to Abuja

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Adamu's mother gives him N2000.

In the morning he gets on a bus to Abuja and pays

N700.

In Abuja he pays

N50 for a snack

and N10 for a drink.



Later he gets the

and pays N700.

bus to Kano

When he gets home he gives his sister N40.

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15 minutes	10 How Paper money minutes	25 minutes		10 minutes	
Daily practice	Introduction	Main activity		Plenary	
Pair task	Group task	Whole class teaching	Group task	Group task	
Write these sets of decimal numbers on the chalk- board and ask the pupils to road thom:	Explain the story in How? Adamu goes to Abuja, as shown left.	Write this word problem on the chalkboard: 'One egg costs N35 but the soller offers six eggs	Write the following word problems for the groups to solve in their	Choose representatives from each group to explain how they	
Set 1 1.3, 2.4, 1.9, 0.9	Ask the groups, 'Do you think Adamu has enough money left to go to Abuig aggin?'	the seller offers six eggs for N180. Is this a good deal? How much money will I save?' Tell the class to read the word problem carefully and think about the calculations needed for each step. Choose some pupils to help you work out the answer on the chalkboard: N180 \div 6 = N30 (30 x 6 = 180) N35 - N30 = N5 You will save N5 on each egg, making a saving of 6 x 5 = N30 in total. exercise books: 'Sani has N200. A costs N10. He bu snacks. How mo snacks can he b 'Nura has N1750 petrol. Each jour costs N500. He get three journeys. H he got enough r for another journ 'Taibat has N250 A skirt costs N60 she got enough to buy four skirts Help each group the correct calcu	for N180. Is this a good deal? How much money will I save?'	'Sani has N200. A snack costs N10. He buys 12 snacks How many more	the word problems.
Set 2 2.5, 2.0, 2.4, 0.95	Give some pupils the		e class to read the problem carefully nink about the ations needed for costs N500. He goes on		
Set 3 1.99, 2.98, 3.51, 3.5	paper money and ask them to role play Adamu going to Abuja.				
Set 4 4.25, 4.02, 4.15, 4.90	Ask the groups to check that the correct		three journeys. Has he got enough money for another journey?'		
Choose some pairs to say the place value of the digits in the last set of numbers.	change is given in each part of the story. Ask: 'How much money has Adamu got at		answer on the chalkboard: $N180 \div 6 = N30$ (30 x 6 = 180) si N35 = N30 = N5	'Taibat has N2500. A skirt costs N600. Has she got enough money	
Ask the pairs to write in their exercise books the decimal numbers in each set in order, from the highest to the lowest.	the end of the story?'		Help each group to choose the correct calculations.	_	

Grade/ Type of lesson plan

Lesson title

Weekly page Primary 4, numeracy lesson plans

Week 25: Multiplication and division

Words/phrases	Lear
Write these words on the chalkboard	By th
multiply	All p able
times product	Say t times
factor groups of divide share grid method	Most able Use t multi to on
repeated subtraction decimal number tenths	Some able Divid repea

Learning expectations

By the end of the week:

All pupils will be able to: Say the 6, 7, 8 and 9 times tables.

Most pupils will be able to: Use the grid method to multiply decimal numbers to one place.

Some pupils will be able to: Divide larger numbers using repeated subtraction.

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Assessment task	Example of a pupil's work	
Instructions:	This pupil can:	
Ask an individual pupil to:	Use the 6, 7, 8 and 9 times tables.	67×8=536 нти
1 Solve the following sums using grid method:	Use the grid method to multiply decimal numbers to one decimal place.	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
23 × 6 = 67 × 8 =	Divide larger numbers using repeated subtraction.	$631.5 \times 6 = 3789$ Th H T U. th
2 Solve the following sums using grid method: 24.6 x 3 = 631.5 x 6 =		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
3 Solve the following sums using repeated subtraction: 182 ÷ 7 = 516 ÷ 6 =		$ \begin{array}{r} 182 \\ - 70 \\ 112 \\ - 70 \\ 42 \\ - 42 \\ 7 \times 6 \\ 0 \\ 10+10+6=26 \end{array} $

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	Lesson title		Ball
Week 25:	Day 1:	Learning outcomes	Preparation
Multiplication and division	The grid method	By the end of the lesson, most pupils will be able to: Say the answers in the 8 and 9 times tables. Use the grid method to multiply three-digit numbers.	Before the lesson: Have ready a ball for the daily practice. Read How? Grid method with HTU, as shown below.

How? Grid method with HTU



Ask the pupils to help you expand some three-digit numbers on the chalkboard. Write '233 x 8 =' on the chalkboard.

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233 × 8 = 253 8 1600240 24 16002

Ask the pupils to help you calculate the answer using the grid method. Repeat with 253 x 9 =

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15 Ball minutes	10 minutes	25 How minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Pair task	Whole class teaching	Pair task	Whole class teaching
Ask the pupils to help you write the 8 and 9 times tables on the	Write '6 x 9 =' on the chalkboard and ask a pupil to say the answer.	Teach How? Grid method with HTU, as shown left.	Write the following sums on the chalkboard for the pairs to complete in	Choose some pairs to explain on the chalkboard how they completed
Ask the class to say them forwards and backwards.	 Remind the class that if they know that 6 x 9 = 54 they can calculate 60 x 9 = 540 by moving the digits one place to the left. Explain that to work out 600 x 9 = 5400 we need to move the digits 		their exercise books: 422 x 9 = 862 x 8 = 843 x 9 = 543 x 9 =	two of the calculations.
Take the class outside and ask them to form a circle.				
Throw the ball to a pupil and say, 'Zero'.				
Ask the pupil to add	two places to the left.			
and throw the ball to the next pupil.	Write these calculations for the pairs to complete in their exercise books:			
Continue until 80 is reached.	70 x 9 =			
Repeat, but this time count in 9s.	- 800 x 8 = 50 x 8 = 700 x 9 =			
Do this several times.	40 × 9 = 300 × 8 =			

Lesson title

Week 25:Day 2:Multiplication
and divisionMultiplying
decimal numbers

Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson: Write the 8 and 9 times tables on
Use the times tables to solve division calculations.	the chalkboard. Read How? Grid method with decimal
Multiply decimal numbers using the grid method.	numbers, as shown below.

| Times tables

How? Grid method with decimal numbers



Write '0.4' and ask a pupil to write on the place value of the 4. Write '0.4 x 8 =' and explain that

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we now have

32 tenths.





Ask some pupils to help you solve 0.6 x 9.

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15 Times tables minutes	10 Times tables	25 minutes		10 minutes
Daily practice	Introduction	Main activity		Plenary
Pair task	Whole class teaching	Whole class teaching	Pair task	Whole class teaching
Remind the class that we can use times tables to work out division sums.	Teach How? Grid method with decimal numbers, as shown left.	Write '54.3 x 8 =' on the chalkboard.	Write the following sums on the chalkboard for — the pairs to complete in	Choose some pairs to explain on the chalkboard how they completed
Write '40 ÷ 8 =' on the chalkboard.	Write the following sums on the chalkboard for — the pupils to complete in their exercise books: 0.7 x 9 = 0.6 x 8 = 0.5 x 9 =	you expand the number, draw the grid underneath	their exercise books: two of the co 83.6 x 8 = 65.5 x 9 = 86.5 x 9 = 23.3 x 8 =	two of the calculations.
Ask the pupils what multiplication fact they can use to solve this, ie: $8 \times 5 = 40$, so $40 \div 8 = 5$.		Choose some pupils to multiply the tenths, Units and Tens.		
Write the following sums on the chalkboard for the pairs to complete in their exercise books: $81 \div 9 =$ $48 \div 8 =$ $54 \div 9 =$ $64 \div 8 =$ $63 \div 9 =$	Remind them to look at the 8 and 9 times tables if they need to.	 Ask me class to dud the tenths, Units, Tens and Hundreds. Ask a pupil to put the number together: 400 + 32 + 2.4 = 434.4 		
Remind them to use the 8 and 9 times tables				

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to help them.

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Lesson title

Week 25: Day 3 Multiplication and division Div rep SU

iy 3:	
vision using	
peated	
btraction	

Learning outcomes	Preparation
By the end of the lesson, most pupils will be able to:	Before the lesson: Have ready a ball.
Say the answers in the 6 and 7 times tables.	Read How? Dividing larger numbers, as shown below.
Divide larger numbers using repeated subtraction.	

Ball

How? **Dividing larger** numbers



Demonstrate the sign that we can use to divide larger numbers.

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Tell the pupils to find multiples and subtract them until no more multiples can be found.

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Add the factors and write in the answer.



Repeat with 684 divided by 6.

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15 Ball minutes	10 Times tables minutes	25 How minutes	Times tables	10 minutes
Daily practice	Introduction	Main activity		Plenary
Whole class teaching	Group task	Whole class teaching	Pair task	Whole class teaching
Ask the pupils to help you write the 6 and 7 times tables on the	Ask the pupils to read the 6 and 7 times tables on the chalkboard.	Teach How? Dividing larger numbers, as shown left.	Write the following calculations on the chalkboard for the pairs	Choose some pairs to show on the chalk- board how they
chalkboard. Ask the class to say them	Ask the pupils, 'What is 20 x 7?'		What is to complete in their exercise books: 791 ÷ 7 –	to complete in their exercise books: 791 ÷ 7 =
torwards and backwards. Take the class outside and ask them to form	Remind them that 2 x 7 = 14, so 20 x 7 = 140.		$690 \div 6 =$ 154 ÷ 7 = 168 ÷ 6 =	
a circle. Throw the ball to a pupil	Ask the pupils, 'What is 200 x 6?'	Vhat is t lations exercise	Remind them to look at the 6 and 7 times	
Ask the pupil to add 6	Remind them that $2 \times 6 = 12$, so		tables on the chalkboard if they need to.	
to the new number and throw the ball to the next pupil.	$200 \times 6 = 1200.$ Write these calculations for the groups to		Tell them to make the multiples as big as they can.	
Continue until they reach 60.	complete in their exercise books:			
Repeat, but this time count in 7s.	70 x 6 = 800 x 7 = 50 x 7 =			
Do this several times.	700 x 6 =			

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Lesson title

Week 25:Day 4:Multiplication
and divisionMultiply
or divide?

Learning outcomesPreparationBy the end of the lesson,
most pupils will be able to:Before the lesson:
Write the 7 and 8 times tables on
the chalkboard.Say the answers in the 7,
8 and 9 times tables.Read How? Multiplication bingo,
as shown below.

Times tables

How? Multiplication bingo



Ask the pupils to write multiples from the 7, 8 and 9 times tables. Ask the pairs to write 10 of the multiples in their exercise books.

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Call out questions from the 7, 8 and 9 times tables.

and division problems.

If a pupil has the correct answer to a question, tell them to cross it out in their exercise book. Tell them to shout 'Bingo' when all their numbers are crossed out.

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15 How minutes	10 minutes	20 minutes	Times tables	15 minutes
Daily practice	Introduction	Main activity		Plenary
Pair task	Whole class teaching	Whole class teaching	Group task	Whole class teaching
Teach How? Multiplication bingo, as shown left.Write on the chalkboard: $36 \ \Box \ 6 = 6$ $7 \ \Box \ 6 = 42$ Choose some pupils to write in the missing signs.Ask the pupils to say other words for multiply, ie: times, product of, multiple of, groups of.Ask the pupils to say other words for divide, ie: share, put in groups.Write the following 	Write on the chalkboard: $36 \ 6 = 6$ $7 \ 6 = 42$	Write the following word problems on the chalk- board and explain them to the pupils:	Ask each group to write the sign needed by one of the word problems (x or ÷).	Choose some groups to write their calculations on the chalkboard and ask the class if they agree.
	Choose some pupils to write in the missing signs.	'Grace spends N200 each day. How much does she spend in a week?'	Ask the groups to complete the word problems in their exercise books.	Ask some pupils to help you calculate a division problem.
	words for multiply, ie: times, product of, multiple of, groups of.	'A tray contains eight eggs. How many trays are needed to pack - 896 eggs?' 'A teacher gives eight pens to each pupil	Remind them to use the method to divide and multiply that they have learned this week and to look at the 7 and 8 times tables on the chalkboard if they need to.	
	Ask the pupils to say other words for divide, ie: share, put in groups.			
	Write the following calculations and ask the pupils to complete them in their exercise books:	in a class of 44 pupils. How many pens are there altogether?'		
	$42 \ \boxed{7} = 6$ $8 \ \boxed{8} = 64$ $54 \ \boxed{9} = 6$ $72 \ \boxed{8} = 9$			

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Lesson title

Week 25:Day 5:Multiplication
and divisionFunmi's story

By the end of the lesson,	Before the lesson:
most pupils will be able to:	Write Funmi's story, as shown
Answer questions from the 6, 7, 8 and 9 times tables.	opposite in the introduction, on the chalkboard.
	Have ready some paper money.
Identify methods for multiplication and division.	Read How? Bucket game, as shown below, and have ready four buckets, 10 small balls and some labels.

Story/ Paper money/

Buckets/Balls/Labels

How? Bucket game



Label the buckets with the numbers 6, 7, 8 and 9.

Tell each of the groups to throw 10 balls into any of the buckets. Look into each of the buckets and count the number of balls.

Tell the groups to multiply the number of balls by the numbers on the bucket.

roups to Add he The of balls the mbers wins

Add up the scores.

Add up the scores. The group with the highest score wins the game.

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15 How Buckets/ minutes Balls	10 Story/ minutes Paper money		25 minutes	10 minutes
Daily practice	Introduction		Main activity	Plenary
Group task Teach How? Bucket game, as shown left, using the buckets and balls.	Whole class teaching Read Funmi's story to the class: Funmi works in a shop for 5 days of the week. She is paid N750 every day. Every week she spends N50 on snacks and N700 on travel. At the end of the week she shares the money she has left equally between herself, her mother and her father.' Give some of the pupils the paper money and ask them to role play Funmi receiving her pay, buying the snacks and getting her change.	Ask some pupils to calculate on the chalkboard how much money Funmi gets at the end of the week, how much she spends and how much she has left. Ask some of the pupils to calculate how much money Funmi keeps at the end of the week.	Group task Write the following calculations on the chalkboard: $465 \times 6 =$ $58.6 \times 6 =$ $58.5 \div 5 =$ $80 \times 6 =$ $400 \times 7 =$ $250 \div 10 =$ Ask the groups to discuss and say the methods they can use for each calculation, ie: the grid method, repeated subtraction and moving the place value. Ask the groups to complete the calculations in their exercise books.	Whole class teaching Choose some pupils to say the 6, 7, 8 and 9 times tables backwards. Ask 10 questions from the 6, 7, 8 and 9 times tables and ask the pupils to write the answers in their exercise books, eg: 7 x 6, 9 x 8.

Credits

Special thanks go to

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