



Numeracy lesson plans
Primary 5,
term 1, weeks 1—5

**Shape and solving word problems
through calculation**

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through calculation**

Introduction

It is pertinent to say that teacher training remains the key element in improving schools and increasing learning outcomes.

Jigawa State Ministry of Education Science and Technology (MOEST) and the State Universal Basic Education Board (SUBEB) are working with the United Kingdom (UK) Department for International Development (DFID) and Education Sector Support Programme in Nigeria (ESSPIN), to increase capacity of teachers and head teachers to be effective and accountable on literacy, numeracy and leadership in Primary schools.

This work has focussed on how to make teaching child centred, and the organisational structure needed to improve service delivery. With the introduction of the full lesson plans, which came after the initial pilot abridged version, the story of ineffective methods of teaching literacy and numeracy is changing.

The introduction of lesson plans was to ensure that classroom teachers' capacity was improved.

Among other things, the lesson plans sought to address the issue of poor methods of teaching by offering step-by-step guidance to teachers on how to deliver good quality lessons in literacy and numeracy.

The complete modules of lesson plans for Primary 1—5 were produced through the efforts of the State School Improvement Team (SSIT), with technical assistance from ESSPIN funded by the UK Department for International Development (DFID).

Alongside the plans the new structure and process ensures that teachers are continuously supported by both the SSITs and the Local Government Education Authority (LGEA) based School Support Officers (SSOs).

I am confident that with the correct implementation and targeted support, these lesson plans will raise standards and improve the quality of teaching and learning outcomes.

Salisu Zakar Hadejia
Executive Chairman,
SUBEB, Jigawa State

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

How

How?

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

Learning expectations

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

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 understand the ideas.

Plenary

Finishes the lesson with different ways of reviewing learning.

Weekly page

Primary 5, numeracy lesson plans

Week 1:

Number

Words/phrases

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

Thousands

Hundreds

Tens

Units

digits

equal

order

What is the value of this digit?

three-digit numbers

four-digit numbers

place value

ascending

descending

Learning expectations

By the end of the week:

All pupils will be able to:

Identify and order numbers up to 1000.

Most pupils will be able to:

Identify the place value of four-digit numbers.

Some pupils will be able to:

Read and write numbers up to 9999 in digits and words.

Assessment task

Instructions:

Ask the individual pupils to complete these tasks.

1

Hold up flash cards with different numbers from 0—9999 and ask individual pupils to call out the numbers.

2

Give individual pupils a set of five flash cards with four-digit numbers and ask them to place the cards in ascending order.

3

Point to numbers on the four-digit flash cards and ask, 'What is the value of this digit?'

4

Give two flash cards with a four-digit number to each individual pupil and ask them to write them in their exercise books, placing the correct value on top of each number.

Example of a pupil's work

This pupil can:

Identify, order and write a four-digit number.

Order four-digit numbers correctly.

Identify the place value of each digit in a four-digit number.

Write out the expansion of a four-digit number.

The image shows a student's handwritten work on a white background. At the top, three four-digit numbers are written in boxes: 2981, 5842, and 7431. Below these, the numbers are ordered from left to right: 2981, 5842, and 7431, with arrows indicating the sequence. At the bottom, two place value charts are shown. The first chart is for the number 3942, with columns labeled 'Th', 'H', 'T', and 'U' above the digits 3, 9, 4, and 2. The second chart is for the number 9856, with columns labeled 'Th', 'H', 'T', and 'U' above the digits 9, 8, 5, and 6.

Week 1: Number

Day 1: Revising place values

Learning outcomes

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

Recall the 2 and 4
times tables.

Identify the place value of
four-digit numbers.

Preparation

Before the lesson:

Have ready a set of 0—9 number cards
for each pair.

Read [How? Play the buzz game](#),
as shown below.

How? Play the buzz game



Ask the pupils to
stand in a circle.



Tell the pupils to
count round in turn,
from 1.



When a pupil
reaches a multiple
of 4, they should
say 'buzz'.



If anyone forgets
to say 'buzz', or says
it in the wrong
place, they are out.



This can be played
in small groups.

15
minutes

How

Daily practice

Whole class teaching

Choose some pupils to help you write the 2 times table on the chalkboard.

Ask them to help you write the 4 times table.

Ask, 'What do you notice about the 2 and 4 times tables?' (Answers in the 4 times table are double those in the 2 times table.)

Teach [How? Play the buzz game](#), as shown left.

10
minutes

Introduction

Whole class teaching

Write '3546' on the chalkboard and ask the class to say it with you.

Remind them that the position of the digit within a number is very important.

Ask, 'How many Thousands are in this number?', 'How many Hundreds?', 'How many Tens?', 'How many Units?'

Choose some pupils to come and write 'Th', 'H', 'T' and 'U' above each digit.

Write the number in its expanded form:
 $3546 = 3000 + 500 + 40 + 6$.

Repeat with 5821.

25
minutes

0—9 number cards

Main activity

Pair task

Give each pair a set of [0—9 number cards](#).

Ask the pairs to make four, four-digit numbers.

Ask them to write each number they make, and its expanded form, in their exercise books, eg:
 $3748 = 3000 + 700 + 40 + 8$.

Ask the pairs to choose four number cards and make the biggest and then the smallest number they can with the cards.

Tell them to repeat this task with four different number cards.

10
minutes

Plenary

Pair task

Write the following four-digit numbers on the chalkboard and underline the following digit in each number:

3546

2873

5832

9154

1432

Ask, 'What is the value of the underlined digit?'

Ask the pairs to explain the value of the underlined digit to each other.

Week 1: Number

Day 2: Revising place values to 9999

Learning outcomes

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

Halve and double numbers.

Identify the place
value of numbers up
to 9999.

Preparation

Before the lesson:

Draw the [place value grid](#)
from the main activity, shown right,
on the chalkboard.

Read [How? Place value](#),
as shown below.

How? Place value



Write '1000' in
the place value grid.



Choose some
pupils to read the
number. Ask, 'How
many digits are
in this number?'



Change one digit
and ask, 'Which
digit has changed?',
'What is the
number now?'



Write other numbers
in the place value
grid and ask pupils
to read them.



Ask, 'How many
Thousands are in
this number?' Repeat
with Hundreds,
Tens and Units.

15
minutes

Daily practice

Whole class teaching

Ask the pupils doubling questions, eg: 'What is double 3?'

Remind them that to 'double' is the same as multiplying by 2.

Ask the pupils how they will find half of 12.

Remind them to think about how many sets of 2 there are in 12.

Write some three- and four-digit numbers on the chalkboard and choose some pupils to read them.

10
minutes

Introduction

Pair task

Write some three-digit numbers on the chalkboard and choose some pairs to read the numbers.

Point to each number and ask the following questions:

'Which number is 10 more than this?'

'Which number is 10 less than this?'

'Which number is 100 more than this?'

'Which number is 100 less than this?'

Tell the pairs to discuss each answer, and choose different pairs to say the answers.

25
minutes

How

Main activity

Whole class teaching

Teach **How? Place value**, as shown left.

Write the following numbers on the chalkboard:

1923
6425
4281
3886

Choose some pupils to say the value of the underlined digit, eg: $1923 = 900$.

Ask the pupils to write the answers in their exercise books.

Place value grid

Th	H	T	U
1	0	0	0

10
minutes

Plenary

Pair task

Write, '48, 822, 460' on the chalkboard.

Ask the pairs to find half of each number.

Choose some pairs to explain their answers to the class.

Week 1: Number

Day 3: Multiply by 10 and 100

Learning outcomes

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

Find a quarter of a number.

Multiply numbers
by 10 and 100.

Preparation

Before the lesson:

Write the 4 times table on the chalkboard.

Display the [place value grid](#)
from yesterday.

Have ready [1—9 number cards](#) for
each pair of pupils.

Practise [How? Card game](#), as
shown below.

How? Card game



Write '45, 74, 82' on
the chalkboard.



Multiply the numbers
by 10.



Multiply the numbers
by 100.



Give each pair a set
of 1—9 number
cards and tell them
to make a two-digit
number.



Ask the pupils to
multiply each
number they make
by 10 and 100.

15
minutes

Daily practice

Whole class teaching

Tell the pupils to join you in saying the 4 times table.

Ask, 'What is a quarter of 8?'

Explain how to use the 4 times table to solve this, by asking how many sets of 4 there are in 8.

Ask if anyone can remember how to write a quarter.

Write on the chalkboard:

$$\frac{1}{4} \text{ of } 16 =$$

$$\frac{1}{4} \text{ of } 24 =$$

$$\frac{1}{4} \text{ of } 20 =$$

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

10
minutes

Introduction

Whole class teaching

Ask the pupils to say the 10 times table, up to 12×10 .

Remind them that when we multiply by 10 the Unit moves one place to the left.

Ask, 'What happens to the 3 in 10×3 ?''

Ask, 'What happens when we multiply 3 by 100?' (The Unit moves two places to the left.)

Write '28, 45, 3, 58, 16' on the chalkboard.

Ask the pupils to multiply each number by 100 and write the answer in their exercise books.

30
minutes

How

Main activity

Whole class teaching

Teach **How? Card game**, as shown left.

Card game

Pair task

Tell the pupils to play the **card game**.

Tell them to write their results in their exercise books, eg: 32
 $32 \times 10 = 320$
 $32 \times 100 = 3200$

Tell them to repeat this activity four or five times.

5
minutes

Plenary

Whole class teaching

Call out a variety of numbers and ask the pupils to multiply them by 10 without using pencil and paper.

Week 1: Number

Day 4: Numbers in figures and words

Learning outcomes

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

Recall the 3 and 4 times
tables quickly.

Read and write numbers in
figures and words.

Preparation

Before the lesson:

Copy the [number words chart](#)
from the introduction, shown right,
on the chalkboard.

Have ready a set of [0—9 number cards](#)
for each pair of pupils.

Read [How? Numbers in figures and words](#),
as shown below.

How? Numbers in figures and words



Write some numbers
on the chalkboard.
Choose pupils to
read the numbers.



Choose some pupils
to write 'Th', 'H',
'T' and 'U' in the
correct place above
the numbers.



Ask the pupils to
read the number
words chart.



Choose some
pupils to write the
correct numbers to
match the words
on the chalkboard.

15 minutes | Buzz game

10 minutes | How

25 minutes | 0—9 number cards/
Number words chart

10 minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Play the **buzz game** with the 4 times table.

Tell the pupils to think as quickly as they can and ask them questions from the 4 times table, eg: 'What is 4 x 4?' 'What is a quarter of 32?'

Play the buzz game with the 3 times table.

Ask questions from the 3 times table and choose some pupils to answer as quickly as they can.

Pair task

Write the following numbers on the chalkboard: '2164, 821, 547, 9053'.

Remind the pupils that the 0 in 9053 shows that there are no Hundreds (nine thousand and fifty three).

Teach **How? Numbers in figures and words**, as shown left.

Number words chart

1	One	16	Sixteen
2	Two	17	Seventeen
3	Three	18	Eighteen
4	Four	19	Nineteen
5	Five	20	Twenty
6	Six	10	Ten
7	Seven	20	Twenty
8	Eight	30	Thirty
9	Nine	40	Forty
10	Ten	50	Fifty
11	Eleven	60	Sixty
12	Twelve	70	Seventy
13	Thirteen	80	Eighty
14	Fourteen	90	Ninety
15	Fifteen	100	Hundred

Pair task

Give a set of **0—9 number cards** to each pair.

Ask them to choose four cards to make a four-digit number.

Tell the pairs to write their number in a place value chart in their exercise books and write the number in words next to it.

Remind the pupils to look at the **number words chart** to help them spell their number in words and to take care with the zero if the number has one.

Repeat with four more four-digit numbers.

Whole class teaching

Choose some pupils to share their work with the whole class.

Ask the rest of the class if they are correct. If they are not, ask why.

Week 1: Number

Day 5: Order numbers

Learning outcomes

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

Recall the 3 and 6
times tables.

Order numbers up to 1000.

Preparation

Before the lesson:

Have ready [large number sequence
flash cards](#).

Copy the [number sets](#) from the main
activity, shown right, onto the chalkboard
and [large flash cards](#).

Read [How? Ordering numbers](#),
as shown below.

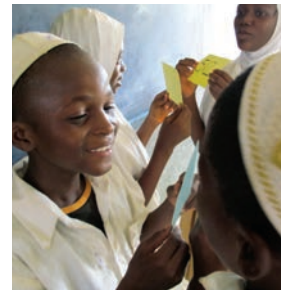
How? Ordering numbers



Give out the number
set flash cards to
a group of pupils.



Ask the pupils
to hold up the flash
cards and read
the numbers to
the class.



Ask the class to
discuss how to order
the numbers.



Ask the group to
arrange themselves
(with their flash cards)
in ascending number
order (going up).



Ask the rest of
the class if the
numbers are in the
correct order.

10
minutes

Daily practice

Whole class teaching

Choose some pupils to help you write the 3 times table on the chalkboard.

Ask them to help you to write the 6 times table next to it.

Ask the pupils what they notice about these times tables (the answers in the 6 times table are double the answers in the 3 times table).

Rub out the 6 times table and ask the pupils to write it in their exercise books.

15
minutes

How

Introduction

Whole class teaching

Teach **How? Ordering numbers**, as shown left.

20
minutes

Main activity

Individual task

Tell the pupils they are going to order numbers from smallest to largest (ascending order).

Look together at the following sets of numbers on the chalkboard:

- a) 473, 207, 512, 401, 675
- b) 111, 101, 247, 145, 243
- c) 332, 323, 121, 303, 369
- d) 132, 412, 217, 421, 142

Remind the pupils to look at the first digit in each number. If there is more than one number with the same first digit, they must look at the second digit.

15
minutes

Plenary

Whole class teaching

Write '6743' on the chalkboard.

Cover all the digits except the units and ask, 'What is this number?'

Uncover the Tens and ask, 'What is the number now?'

Uncover the Hundreds and ask, 'What is the number now?'

Uncover the Thousands and ask, 'What is the number now?'

Repeat with other four-digit numbers.

Weekly page

Primary 5, numeracy lesson plans

Week 2:

Addition

Words/phrases

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

square
circle
rectangle
triangle
pentagon
hexagon
octagon
sphere
cube
cuboid
cylinder
cone
square-based pyramid
kite
word problem
vertical method
calculation

Learning expectations

By the end of the week:

All pupils will be able to:
Expand two-digit and three-digit numbers.

Most pupils will be able to:
Use the vertical addition method to add two-digit and three-digit numbers.

Some pupils will be able to:
Solve word problems involving two-digit and three-digit numbers.

Assessment task

Instructions:

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

1

Solve these sums using the vertical method:

$$342 + 54 =$$

$$684 + 35 =$$

$$266 + 421 =$$

$$348 + 426 =$$

2

Solve this word problem:
On Monday, Asabe sells 426 yams. On Tuesday, she sells 121 yams.
How many yams did she sell in total?

Example of a pupil's work

This pupil can:

Write out an addition sum horizontally.

Place two- and three-digit numbers under the right headings.

Add up Hundreds, Tens and Units vertically.

Identify the key words to solve a word problem.

$$266 + 421 = 200 + 60 + 6 \\ 400 + 20 + 1$$

H	T	U	
2	6	6	
+	4	2	1
<hr/>			
	7	(6+1)	
	80	(60+20)	
6	00	(200+400)	
<hr/>			
6	8	7	

Week 2: Addition

Day 1: Adding two- and three- digit numbers

Learning outcomes

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

Recognise 2D shapes.

Use the vertical method
to add two- and three-
digit numbers.

Preparation

Before the lesson:

Write the [addition calculations](#)
from the main activity, shown right,
on the chalkboard.

Have ready a set of [large 2D shapes](#)
(a triangle, square, rectangle, kite, pentagon,
hexagon and octagon).

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

How? Vertical addition



Remind the pupils
to keep digits in the
correct place when
writing calculations.



Remind them to
expand the
numbers first.



Remind the pupils
to add the Units,
then the Tens, then
the Hundreds.



Set out a calculation
for pupils to do in
their exercise books.



Tell the pupils
to exchange books
and mark each
other's work.

15
minutes

Large 2D shapes

Daily practice

Whole class teaching

Show the pupils the **large 2D shape cards**.

Remind them that a 2D-shape has two measurements or dimensions (length and width).

Ask if they can remember the names of the shape as you hold up each card.

Show the cards again and ask the pupils to point to the matching words on the chalkboard.

Tell the pupils to draw and name three 2D shapes in their exercise books.

15
minutes

How

Introduction

Whole class teaching

Teach **How? Vertical addition**, as shown left.

20
minutes

Main activity

Pair task

Ask the pairs to complete the following sums in their exercise book:

$$\begin{array}{r} \text{H T U} \\ 326 \\ + 83 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 285 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 432 \\ + 46 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 652 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 355 \\ + 41 \\ \hline \end{array}$$

10
minutes

Plenary

Whole class teaching

When all the pupils have finished, tell the pairs to exchange books.

Ask one pupil to read out the answers. If the class agrees, they should mark it with a small tick (✓).

Week 2: Addition

Day 2: Adding with renaming

Learning outcomes

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

Recognise the properties
of 3D shapes.

Use the vertical method
to add two- and three-
digit numbers.

Preparation

Before the lesson:

Have ready the **large 2D shapes**
from yesterday and a set of **3D shapes**
(a cube, cuboid, sphere, cylinder
and square-based pyramid).

Write the **calculations** from the main
activity, shown right, on the chalkboard.

Read **How? What am I?**, as shown below.

How? What am I?



Write the names of
some shapes on the
chalkboard.



Show the pupils some
shapes and ask
them to name them.



Choose a shape
but don't let
the pupils see it.
Ask, 'What am I?'



Give clues to help
them answer,
eg: 'I am a 2D shape,
I have six edges.'



Or, 'I am a 3D shape.
I have no edges,
no corners and
one curved face.'

15 minutes

How

Large 2D shapes/
3D shapes

10 minutes

25 minutes

10 minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Show the pupils the **large 2D shapes** in turn and ask, 'What is this shape?'

Hold up the **3D shapes** and choose some pupils to write the names of the shapes on the chalkboard.

Remind the pupils that 3D shapes have three dimensions (width, length and height).

Teach **How? What am I?**, as shown left.

Whole class teaching

Revise vertical addition with the class. Remind the pupils to expand the numbers and make sure the digits are in the correct place value.

Write '328' on the chalkboard.

Ask the pupils to help you expand each digit:
 $328 = 300 + 20 + 8$

In pairs, ask the pupils to expand the following numbers:

459
784
501

Whole class teaching

Write, '426 + 15 =' on the chalkboard and demonstrate the vertical addition method.

Ask, 'What do we have to take care with when writing calculations in the vertical method?' (Expanding the numbers and lining up the digits in their correct place value.)

Write, '226 + 47 =' on the chalkboard.

Choose some pairs to complete the sum, asking them to explain each step.

Individual task

Ask the pupils to complete the following calculations in their exercise books:

$$\begin{array}{r} \text{H T U} \\ 426 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 472 \\ + 47 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 542 \\ + 76 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 764 \\ + 56 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 521 \\ + 87 \\ \hline \end{array}$$

Pair task

Tell the pupils to exchange books with a partner and mark each other's work.

Week 2: Addition

Day 3: Adding three- digit numbers

Learning outcomes

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

Identify 2D and 3D shapes.

Use the vertical method
to add three-digit numbers.

Preparation

Before the lesson:

Have ready the [large 2D shapes](#)
and [3D shapes](#).

Write the [addition calculations](#)
from the main activity, shown right,
on the chalkboard.

Read [How? Differences between
2D and 3D shapes](#), as shown below.

How? Differences between 2D and 3D shapes



Hold up some 2D
and 3D shapes.
Ask the pupils to
name them.



Ask the pupils to
point out 2D shapes
in the classroom.



Ask them to point
out 3D shapes in the
classroom.



Ask the pupils to
look for 2D shapes in
3D shapes.



Repeat with other
3D shapes.

15
minutes

How



15
minutes

25
minutes

5
minutes

What am I? game

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Teach [How? Differences between 2D and 3D shapes](#), as shown left.

Ask the pupils to explain to a partner the difference between 2D and 3D shapes.

Whole class teaching

Remind the pupils that they have been doing addition calculations using the vertical method.

Tell them that today they are going to add two three-digit numbers.

Demonstrate the method on the chalkboard.

Remind them to expand the numbers carefully and line up the digits in the correct place value.

Pair task

Ask the pairs to complete the following addition calculations in their exercise books:

$$\begin{array}{r} \text{H T U} \\ 2 \ 4 \ 7 \\ + \ 1 \ 3 \ 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 4 \ 3 \ 2 \\ + \ 2 \ 5 \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 5 \ 4 \ 2 \\ + \ 3 \ 3 \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 4 \ 5 \ 8 \\ + \ 4 \ 3 \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 7 \ 4 \ 1 \\ + \ 1 \ 9 \ 7 \\ \hline \end{array}$$

When the pairs have finished, tell them to give their exercise books to their partner.

Tell them to put a small tick if they think the calculation is correct.

Choose some pupils to solve one of the calculations on the chalkboard.

Ask them to explain each step of the calculation.

Whole class teaching

Play [What am I?](#) using 2D and 3D shapes.

Week 2: Addition

Day 4: Solving word problems

Learning outcomes

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

Identify 2D and 3D shapes.

Solve word problems
by adding two- and three-
digit numbers.

Preparation

Before the lesson:

Write the [word problems](#) from
the main activity, shown right, on
the chalkboard.

Have ready some everyday [3D shapes](#).

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

How? Solving word problems



Read the word problem and ask, 'What do we need to do first?'



Ask a pupil to underline the key words in the problem.



Ask a pupil to write the calculation on the chalkboard.



Choose another pupil to expand the numbers.



Ask a pupil to finish the calculation.

15
minutes

3D shapes

10
minutes

25
minutes

How

10
minutes

What am I? game

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Show the pupils the **3D shapes** and ask them to say the names of each shape.

Ask them to name some 2D shapes.

Tell them to look at the 3D shapes and ask if they can see any 2D shapes on them, eg: a circle on a cylinder, a square on a cube.

Pair task

Write '5, 6, 2' on the chalkboard.

Tell the pairs to use these digits to make the biggest three-digit number they can.

Choose one pair to write their number on the chalkboard and read it to the class.

Ask the pair to expand the number and ask the class if they are correct.

Repeat, asking pairs to use the digits to make the smallest three-digit number they can.

Whole class teaching

Remind the pupils that they have been adding two- and three-digit numbers using the vertical method.

Teach **How? Solving word problems**, as shown left.

Pair task

Read through the following word problems and tell the pupils to complete them in their exercise books:

'What is the sum of 436 yams and 89 yams?'

'Mrs Suleiman drives 467km to visit her sister. She then drives a further 64km to visit her mother. How far did she travel altogether?'

'Last season, Enyimba FC scored 253 goals and this season they scored 74 goals. How many goals have they scored in two seasons?'

'Mr Bala has 143 goats and 74 chickens. How many animals does he have altogether?'

Whole class teaching

Play **What am I?** using 2D and 3D shapes.

Week 2: Addition

Day 5: Word problems

Learning outcomes

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

Know the properties of
2D and 3D shapes.

Solve word problems by
adding three-digit numbers.

Preparation

Before the lesson:

Write the [word problems](#) from
the main activity, shown right, on
the chalkboard.

Have ready the [large 2D shapes](#)
and [3D shapes](#).

Read [How? Naming 2D and 3D shapes](#),
as shown below.

How? Naming 2D and 3D shapes



Draw two large circles
on the chalkboard.



Write '2D' above one
circle and '3D'
above the other.



Choose some pairs
to come and write
the names of 2D
shapes in the circle.



Choose some pairs
to come and write the
names of 3D shapes
in the other circle.



Ask the class if they
are correct.

15
minutes

How

Large 2D shapes/
3D shapes

10
minutes

25
minutes

10
minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Ask the pupils to think about the differences between 2D and 3D shapes.

Teach [How? Naming 2D and 3D shapes](#), as shown left.

Whole class teaching

Write the following problem on the chalkboard: 'There are 516 pupils at school A and 162 at school B. How many pupils are there in both schools?'

Discuss the calculation needed to solve this problem.

Choose some pupils to help you demonstrate the sum.

Remind them to take care to line up the digits in the correct place.

Pair task

Read the word problems on the chalkboard with the pupils.

Ask, 'What do we need to do to solve these problems?'

Tell the pairs to complete the word problems in their exercise books using the vertical method:

'Sabo has 428 marbles. His friend gives him 187 more. How many does he have altogether?'

'On Monday Amina read 153 pages of her book. On Tuesday she read 174 pages. How many pages did she read altogether?'

'Mr Musa baked 764 large loaves and 153 small loaves. How many did he bake altogether?'

'Mrs Aboki picked 346 mangoes and her son, Nura, picked 76 mangoes. How many mangoes did they pick altogether?'

Whole class teaching

Mark the work together as a class.

Grade/
Type of lesson plan

Lesson
title

Weekly page

Primary 5,
numeracy
lesson plans

Week 3:

Subtraction

Words/phrases

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

multiple
subtract
subtraction
calculation
estimate
nearest Ten
expand
rename
take away
how many are left/left over?
difference between
what is the difference?

Learning expectations

By the end of the week:

All pupils will be able to:

Subtract two-digit numbers
without renaming.

Most pupils will be able to:

Subtract two- and three-
digit numbers with renaming
of Tens and Units.

Some pupils will be able to:

Solve subtraction
word problems using
mental as well
as written methods.

Assessment task

Instructions:

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

1

Solve these sums using the vertical method:

$$68 - 34 =$$

$$689 - 234 =$$

2

Solve these sums using the vertical method:

$$365 - 137 =$$

$$873 - 459 =$$

3

Solve this word problem: Jamila saved N836. She buys some gifts for her friends. This will cost her N479. How much money does she have left?

Example of a pupil's work

This pupil can:

Write out a subtraction calculation horizontally.

Subtract the Tens and the Units.

Expand numbers and place them under the correct place value.

Add up the expanded or renamed number.

Write out the answer horizontally as a final result.

$$365 - 137 =$$

$$\begin{array}{r} \text{HTU} \\ 365 \\ - 137 \\ \hline \end{array}$$

$$\begin{array}{r} 300 + 60 + 5 \\ 100 + 30 + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 300 + 50 + 15 \\ - 100 + 30 + 7 \\ \hline 200 + 20 + 8 = 228 \end{array}$$

$$365 - 137 = 228$$

Week 3: Subtraction

Day 1: Estimating answers

Learning outcomes

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

Recall the 5 and 6 times
tables quickly.

Estimate answers to help
solve subtraction problems.

Preparation

Before the lesson:

Write the **6 times table** on the chalkboard
without the answers.

Write the **subtraction calculations**
from the main activity, shown right, on
the chalkboard.

Read **How? Estimating**, as shown below.

How? Estimating



Write the sum on the
chalkboard.



Tell the pupils to
round the numbers
to the nearest Ten.



Tell them to estimate
the answer.



Next, tell the pupils to
expand the digits.



Tell them to subtract
the Units, then
the Tens, then the
Hundreds.

10 minutes Times table/
Buzz game

Daily practice

Whole class teaching

Choose some pupils to help you write the answers to the **6 times table** on the chalkboard.

Ask them to say the 5 times table with you.

Play the **Buzz game** with the 6 and 5 times tables.

10 minutes

Introduction

Whole class teaching

Explain to the pupils that if they know their number bonds to 100 it will help them to solve calculations quickly without using paper and pencil.

Choose some pupils to help you write the number bonds to 100 on the chalkboard.

Demonstrate how to find:

$$100 - 72 =$$

$$100 - 70 = 30$$

$$30 - 2 = 28$$

$$100 - 72 = 28$$

Write six more calculations on the chalkboard and ask the pupils to write the answers in their exercise books.

30 minutes

How

Main activity

Whole class teaching

Explain that estimating an answer can often help us check if the answer is correct.

Teach **How? Estimating**, as shown left.

Individual task

Ask the pupils to estimate first, then solve the following subtraction calculations in their exercise books:

$$\begin{array}{r} \text{H T U} \\ 276 \\ - 155 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 678 \\ - 476 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 451 \\ - 330 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 869 \\ - 647 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T U} \\ 579 \\ - 338 \\ \hline \end{array}$$

10 minutes Find my friend game

Plenary

Whole class teaching

Go through the answers together as a class.

Ask some pupils to explain to the class how they worked out some of the calculations.

Week 3: Subtraction

Day 2: Three-digit numbers without renaming

Learning outcomes

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

Say the 7 times table.

Use the vertical
method to subtract three-
digit numbers.

Preparation

Before the lesson:

Write the [subtraction calculations](#)
from the main activity, shown right, on
the chalkboard.

Practise [How? Clock times tables](#),
as shown below.

How? Clock times tables



Draw a clock face
and write the
numbers 1—12
inside it.



Write the times table
you want to use
inside the clock.



Point to a number
on the outside of
the clock and ask
one pupil to answer
the sum.



Point to a different
number on the
outside of the clock
each time.



Each pupil answers
in turn until
one pupil answers
incorrectly.

10
minutes

How

Daily practice

Whole class teaching

Ask the pupils to write the 7 times table in their exercise books.

Tell the pupils to check the times table in their partner's book.

Play [How? Clock times tables](#), as shown left.

10
minutes

Introduction

Whole class teaching

Remind the pupils they can do some calculations without using paper and pencil.

Choose some pupils to write the number bonds to 100 on the chalkboard.

Look together at $800 - 400 =$

Ask, 'What do you already know that can help you to work out the answer?' (number bonds, rounding and estimating).

Tell the pupils to write the answers to the following sums in their exercise books:

$$500 - 300 =$$

$$600 - 250 =$$

$$700 - 400 =$$

$$800 - 450 =$$

25
minutes

Main activity

Whole class teaching

Remind the pupils that they have been subtracting using the vertical method.

Write ' $356 - 235 =$ ' on the chalkboard.

Teach [How? Estimating](#), from Week 3, Day 1 (yesterday).

Individual task

Ask the pupils to complete the following sums in their exercise books:

$$395 - 280 =$$

$$389 - 217 =$$

$$382 - 107 =$$

$$887 - 516 =$$

15
minutes

Buzz game

Plenary

Whole class teaching

Play the [buzz game](#) with the 6 and 7 times tables.

Week 3: Subtraction

Day 3: Solving word problems

Learning outcomes

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

Recall the 6 and 7
times tables.

Use the vertical
method to subtract three-
digit numbers.

Preparation

Before the lesson:

Draw a **Hundred square** on a large
piece of paper or card, and keep it for
the week.

Write the **word problems** from
the main activity, shown right, on
the chalkboard.

Read **How? Using a Hundred square**,
as shown below.

How? Using a Hundred square



Explain it can be used
for counting in 7s
or any other number.



Use to round
numbers, eg: look
at 56 and ask,
'What is the nearest
whole Ten?'



Counters can be
used to find the
difference between
75 and 100.



Use to add numbers,
eg: '63 + 19 =',
starting at 63 count
on 19.



Use to subtract
numbers, eg: '63 -
19 =', starting at
63 count back 19.

15
minutes

How

Hundred square

10
minutes

25
minutes

10
minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

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

Ask the class to say the 6 times table with you.

Demonstrate how useful a **Hundred square** is to the pupils.

Teach **How? Using a Hundred square**, as shown left.

Whole class teaching

Write the following on the chalkboard:

$$800 - 500 =$$

$$650 - 250 =$$

$$240 - 120 =$$

$$240 - 180 =$$

$$490 - 420 =$$

Ask the pupils to discuss the answers in pairs, without writing anything.

Choose some pairs to share their answers and explain how they worked them out.

Pair task

Read the following problem on the chalkboard:

'Mrs Umar has N750 when she goes to the market. She spends N420 on yams and bananas. How much does she have left?'

Ask, 'What are the key words? What calculations do we need to do?'

Look together at the sum $750 - 420 =$

Remind the pupils to estimate an answer, then expand the numbers, then subtract the Units, Tens and Hundreds.

Ask the pairs to do the calculation and solve the word problem.

Individual task

Ask the pairs to solve the following word problems in their exercise books using vertical subtraction:

'Tola picked 786 oranges but 125 were rotten. How many good oranges did she have?'

'Yusef has saved N875. He went to the bookshop and spent N450. How much did he have left?'

'Mr Anas has a plank of wood that is 959cm long. He wants a piece of wood which measures 625cm. How much does he need to cut off the plank?'

'There are 857 pupils in the local school. 421 are girls. How many boys are there at the school?'

Whole class teaching

Go through the answers together as a class.

Ask some pupils to explain to the class how they worked out some of the calculations.

Week 3: Subtraction

Day 4: Renaming

Learning outcomes

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

Recall the 7 and 8
times tables.

Subtract three-digit
numbers using renaming
of Tens and Units.

Preparation

Before the lesson:

Have ready a [Hundred square](#).

Write the [subtraction calculations](#)
from the main activity, shown right, on
the chalkboard.

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

How? Subtracting three- digit numbers



Write the sum on the
chalkboard.



Remind the pupils
to round the
numbers to estimate
the answer.



Invite some pupils
to expand
the numbers.



Explain that 8 Units
cannot be taken
away from 3,
so we rename.



To complete the
calculation, add the
Hundreds, Tens
and Units together.

5 minutes | [Hundred square](#)

10 minutes

30 minutes

How

15 minutes | [Clock times tables game](#)

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Show the pupils the [Hundred square](#).

Ask them to discuss how the Hundred square can help with sums.

Point to a number on the Hundred square and ask, 'What Ten do we round this number to?'

Choose some pupils to look for the 5 times table pattern in the Hundred square.

Whole class teaching

Write the following three-digit numbers on the chalkboard: '831, 279, 164, 973, 263'.

Tell the pupils they are going to practise renaming the Tens and Units, eg:

H T U

8 3 1

8 Hundreds +
3 Tens +
1 Unit

8 Hundreds +
2 Tens +
11 Units

Choose some pupils to help you rename the Tens and Units in the remaining three-digit numbers.

Whole class teaching

Teach [How? Subtracting three-digit numbers](#), as shown left.

Ask the pupils to help you solve $273 - 190 =$ in the same way.

Individual task

Ask the pupils to complete the following in their exercise books:

$$563 - 248 =$$

$$840 - 213 =$$

$$871 - 636 =$$

$$594 - 268 =$$

$$775 - 366 =$$

Remind them they should remember to estimate, expand and rename the numbers.

Whole class teaching

Play [clock times tables](#), as described in Week 3, Day 2, with the 7 and 8 times tables.

Week 3: Subtraction

Day 5: Solving word problems

Learning outcomes

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

Recall the 7 and 8 times tables quickly.

Solve word problems using subtraction.

Preparation

Before the lesson:

Have ready a [Hundred square](#).

Write the [7 and 8 times tables](#) on the chalkboard without answers.

Write the [word problems](#) from the main activity, shown right, on the chalkboard.

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

How? Solving word problems



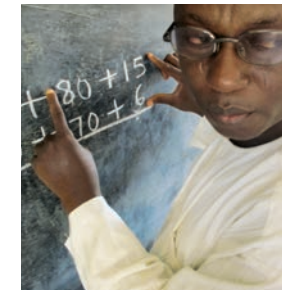
Read a word problem and ask a pupil to underline the key words.



Ask a pupil to estimate the answer to the nearest Ten.



Invite some pupils to expand the numbers.



Remind the pupils that 6 Units cannot be taken away from 5, so we rename.



To complete the calculation, add the Hundreds, Tens and Units together.

10
minutes

Hundred square

15
minutes

25
minutes

How

10
minutes

Daily practice

Whole class teaching

Look together at the [Hundred square](#).

Remind the pupils how to make number bonds to 100.

Point to a number, eg: 62.

Ask, 'How many more do we need to make 100?'

Repeat with another number.

Introduction

Whole class teaching

Remind the pupils that they have been renaming Tens and Units for subtraction calculations.

Write '343, 280, 566, 781' on the chalkboard.

In pairs, tell the pupils to rename the Tens and Units and write them in their exercise book.

Ask some pairs to give one of their answers. Ask the class if they are correct.

Main activity

Whole class teaching

Read the following word problem on the chalkboard: 'In the school library there are 895 books. 676 are story books. How many are not story books?'

Teach [How? Solving word problems](#), as shown left.

Individual task

Ask the pupils to solve the following problems:

'A bus is carrying 182 people. 68 people get off. How many are left?'

'Mrs Umaru is travelling to Jigawa from Kano. It is 655km. She has travelled 236km. How much further does she have to travel?'

'A baker can bake 935 loaves a day. If he sells 728 loaves, how many does he have left?'

'A school is collecting vouchers. They need 755. They have 449. How many more do they need?'

Plenary

Whole class teaching

Go through the answers together as a class.

Ask some pupils to explain to the class how they worked out some of the calculations.

Grade/
Type of lesson plan

Lesson
title

Weekly page

**Primary 4,
numeracy
lesson plans**

Week 4:

Multiplication

Words/phrases

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

digits
times
multiply
multiplication
multiplied by
rounding to the nearest Hundred
grid method
Tens of thousands

Learning expectations

By the end of the week:

**All pupils will be
able to:**

Use the grid method to
multiply a two-digit number
by a single-digit number.

**Most pupils will be
able to:**

Use the grid method to
multiply a two-digit number
by a two-digit number.

**Some pupils will be
able to:**

Use the grid method to
solve word problems.

Assessment task

Instructions:

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

1

Multiply these numbers using the grid method:

$$58 \times 33 =$$

$$76 \times 48 =$$

2

Solve this word problem: Yakubu has 46 classmates. He wants to give 236 counters to each friend. How many counters does he have to collect in total?

Example of a pupil's work

This pupil can:

Identify the key information to solve a word problem.

Set out a multiplication calculation using the grid method.

Multiply the expanded numbers and write the answers in the correct boxes.

Add up the numbers.

Write the answer horizontally.

$$76 \times 48 =$$

x	70	6
40	2800	240
8	560	48

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{U} \\ 2 \quad 8 \quad 0 \quad 0 \\ \quad \quad 2 \quad 4 \quad 0 \\ \quad \quad \quad 5 \quad 6 \quad 0 \\ + \quad \quad \quad \quad 4 \quad 8 \\ \hline 3 \quad 6 \quad 4 \quad 8 \end{array}$$

answer $76 \times 48 = 3648$

Week 4: Multiplication

Day 1: Grid method

Learning outcomes

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

Round numbers to the
nearest Ten and Hundred.

Use the grid method to
multiply three-digit numbers
by single-digit numbers.

Preparation

Before the lesson:

Draw a **0—1000 number line**
on the chalkboard.

Practise **How? Grid method**,
as shown below.

How? Grid method



Write the calculation
on the chalkboard.



Draw a grid and write
in '325 x 6'.



Ask the pupils,
'What do you do first?'



Choose some pupils
to help fill the
answers in the grid.



Ask a pupil to
calculate the answer.

10
minutes

Number line

Daily practice

Pair task

Ask the pairs to round the following numbers to the nearest Ten:

28
67
16
47
51
85
99

Choose a pupil to point to where they think 470 is on the [number line](#).

Ask, 'What is the nearest Hundred?' (500)

Remind the pupils that this is called 'rounding to the nearest Hundred'. Numbers ending in 50 are rounded up to the next Hundred, eg: 250 is rounded to 300.

Choose some pairs to use the number line to round some numbers to the nearest Hundred, eg:

280
560
440
750
930
190

15
minutes

How

Introduction

Whole class teaching

Remind the pupils that they have used the grid method for multiplication.

Teach [How? Grid method](#), as shown left.

Ask the pupils to use the grid method to help you calculate $236 \times 7 =$ on the chalkboard.

25
minutes

Main activity

Individual task

Write the following on the chalkboard:

$175 \times 6 =$
 $246 \times 3 =$
 $562 \times 4 =$
 $297 \times 4 =$
 $632 \times 5 =$

Ask the pupils to complete these calculations, using the grid method, in their exercise books.

Ask the pupils to share their work with a partner and check that they have used the correct method.

10
minutes

Buzz game

Plenary

Whole class teaching

Play the [buzz game](#) using the 5 and 6 times tables.

Week 4: Multiplication

Day 2: Two-digit numbers

Learning outcomes

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

Recall the nine times
table quickly.

Use the grid method to
multiply two-digit numbers
by two-digit numbers.

Preparation

Before the lesson:

Have ready six **counters** for each pupil.

Read **How? Grid method** from Week 4,
Day 1 (yesterday).

Read **How? Multiplication bingo**,
as shown below.

How? Multiplication bingo



Write multiples of
9 on the chalkboard.



Give out six counters
to each pupil and
ask them to draw
a 2 x 3 grid in their
exercise books.



Ask the pupils to
choose six numbers
from the chalk-
board and write one
in each square.



Ask questions from
the 9 times table
and tell pupils to
cover the answer if
it is in their grid.



The first pupil to
cover all their
numbers correctly
shouts 'bingo'.

15
minutes

How

Daily practice

Whole class teaching

Play [How? Multiplication bingo](#), as shown left.

10
minutes

Introduction

Whole class teaching

Remind the pupils that they have used the grid method for multiplication.

Write ' $325 \times 6 =$ ' on the chalkboard.

Choose some pupils to draw a grid and set the calculation out.

Ask, 'What do you do first?', 'What happens next?'

Complete the calculation together and work through another sum, eg: $43 \times 24 =$

25
minutes

Main activity

Individual task

Write the following sums on the chalkboard:

$$43 \times 48 =$$

$$34 \times 25 =$$

$$23 \times 14 =$$

$$29 \times 36 =$$

$$63 \times 24 =$$

Ask the pupils to complete these calculations using the grid method in their exercise books.

Go through the answers together as a class.

10
minutes

[Clock times tables game](#)

Plenary

Whole class teaching

Play [clock times tables](#) with the 4 and 7 times tables.

Week 4: Multiplication

Day 3: Multiplication using the grid method

Learning outcomes

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

Read numbers up
to 99999.

Use the grid method to
multiply two-digit numbers
by two-digit numbers.

Preparation

Before the lesson:

Read [How? Grid method](#) from
Week 4, Day 1.

Display the [number words chart](#)
from Week 1, Day 4.

Read [How? Titanic game](#), as
shown below.

How? Titanic game



Make a space for
the pupils to move
around, either
inside or outside.



Explain they are
on a boat that is
sinking and the life-
boats only take
four people each.



Explain that when you
say 'go', pupils will
have to make groups
of four to survive.



Pupils that are
not in a group are
out and need to
stand to the side.



The game is over
when only one boat
is left.

10
minutes

Daily practice

Whole class teaching

Write the following on the chalkboard:

Th H T U
45 6 7 1

Ask, 'Can anyone say this number?'

Point to each digit in turn and ask, 'What is this worth?' (4 = forty thousand).

Tell the pupils to write a five-digit number in their exercise books for their partner to read.

Choose some pupils to write their numbers on the chalkboard.

Ask the pupils, 'What is this digit worth?'

10
minutes

Introduction

Whole class teaching

Remind the pupils that if they know the answer to 7×5 they also know the following:

$$7 \times 50 =$$

$$70 \times 50 =$$

$$5 \times 7 =$$

$$5 \times 70 =$$

Write ' $4 \times 3 =$ ' on the chalkboard.

Ask, 'What else do I know?'

Write ' $72 \times 51 =$ ' on the chalkboard.

Invite some pupils to help you calculate the sum using the grid method.

25
minutes

Main activity

Pair task

Write the following on the chalkboard:

$$61 \times 43 =$$

$$44 \times 36 =$$

$$84 \times 32 =$$

$$32 \times 57 =$$

$$51 \times 37 =$$

Ask the pairs to complete these calculations in their exercise books using the grid method.

Mark this work together as a class.

15
minutes

How

Plenary

Whole class teaching

Play [How? Titanic game](#), as shown left.

Week 4: Multiplication

Day 4: Solving word problems

Learning outcomes

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

Identify place value up
to 99999.

Use the grid method to solve
word problems.

Preparation

Before the lesson:

Make a set of [arrow cards](#) for each
group (Tens of thousands, Thousands,
Hundreds, Tens and Units).

Write the [word problems](#) from
the main activity, shown right, on
the chalkboard.

Read [How? Using arrow cards](#),
as shown below.

How? Using arrow cards



Show the pupils
the sets of
arrow cards.



Ask the groups to
take a Unit, Ten,
Hundred, Thousand
and a Tens of
thousands cards.



Tell the groups to
place the cards on
top of each other.



Ask the pupils
to say the
numbers made.



Repeat with a
different set of cards.

15
minutes

How

Arrow cards

10
minutes

20
minutes

15
minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Teach **How? Using arrow cards**, as shown left.

Write some five-digit numbers on the chalkboard, eg: 10834, 72012, 57345.

Use the **arrow cards** to demonstrate expanding the numbers, eg:
 $10834 =$
 $10000 + 800 + 30 + 4$

Ask the pupils to write the expanded numbers in their exercise books.

Pair task

Remind the pupils to use what they already know to work out multiplication facts, eg: If they know that $6 \times 6 = 36$, they also know that:
 $60 \times 6 = 360$
 $60 \times 60 = 3600$
 $600 \times 60 = 36000$

Tell the pairs to write what the following helps them to know:
 $5 \times 5 = 25$
 $9 \times 6 = 54$

Choose some pupils to share their answers with the class.

Ask the pairs to mark each other's work.

Whole class teaching

Look at the first word problem on the chalkboard together. Ask, 'What are the key words?', 'What calculation is needed?'

Write ' $37 \times 32 =$ ' on the chalkboard and draw a multiplication grid.

Tell the pupils to expand the numbers and use their times tables knowledge to work out the answers.

Tell them to write the answers in the grid and add them up to get the final answer, eg: 'Rakiya will take 1184 paces in 32 minutes.'

Individual task

Ask the pupils to solve the following problems:

'Rakiya takes 37 paces in a minute. How many paces will she take in 32 minutes?'

'There are 35 eggs in a box. How many eggs are there in 47 boxes?'

'A train travels 64km in one hour. What distance does it cover in 15 hours?'

'If there are 32 pupils in each of the 15 classes in a school, how many pupils are in the whole school?'

'Find the cost of 24 lemons at N55 each.'

Whole class teaching

Go through the answers together as a class.

Ask the pupils to make up a word problem for $8 \times 20 =$

Choose some pupils to share their word problem with the class.

Week 4: Multiplication

Day 5: Multiplication to find square numbers

Learning outcomes

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

Use times tables knowledge
to write sums.

Use the grid method to find
square numbers.

Preparation

Before the lesson:

Draw 2×2 , 3×3 and 4×4
[multiplication grids](#) on the chalkboard.

Practise [How? Square numbers](#),
as shown below.

How? Square numbers



Show the pupils
the square grid
for 3×3 .



Ask, 'How many
squares are there
across?', 'How
many squares are
there down?'



Choose a pupil
to count the
number of squares
altogether.



Ask a pupil to
draw the next
square number in
the pattern.



Ask a pupil
to draw the next
square number.

10
minutes

Daily practice

Pair task

Ask the class, 'If the answer is 42, what could the question be?'

Tell the pupils to write a calculation using +, −, × or ÷, eg:
 $30 + 12 = 42$
 $2 \times 21 = 42$

Record the pupils' answers on the chalkboard.

Give each pair a two-digit number.

Tell them to write as many calculations using that number as they can in their exercise books, in 2 minutes.

15
minutes

How

Introduction

Whole class teaching

Teach [How? Square numbers](#), as shown left.

Ask, 'Can anyone explain what a square number is?' (It is the answer we get when we multiply a number by itself.)

25
minutes

Main activity

Pair task

Tell the pupils they are going to find the square numbers of large numbers by using the grid method.

Demonstrate how to calculate 25×25 using this method.

Remind the pupils to estimate the answer first, eg: $30 \times 30 = 900$

Ask the pairs to multiply any two-digit number by itself to make their own square numbers.

Tell them to write their calculations in their exercise books.

10
minutes

[Titanic game](#)

Plenary

Whole class teaching

Play the [Titanic game](#).

This time, call out a simple multiplication sum instead of a number, eg: '2 x 3' (pupils must form groups of 6) or '5 x 1' (pupils must form groups of 5).

Weekly page

Primary 4, numeracy lesson plans

Week 5:

Division

Words/phrases

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

decimal
fraction
place value
double
divide
division
repeated subtraction
share

Learning expectations

By the end of the week:

All pupils will be able to:

Divide a two-digit number by a single-digit number.

Most pupils will be able to:

Divide a three-digit number by a single-digit number, using repeated addition.

Some pupils will be able to:

Solve problems using repeated subtraction.

Assessment task

Instructions:

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

1

Solve these sums using repeated subtraction:

$$78 \div 6 =$$

$$64 \div 8 =$$

$$192 \div 4 =$$

$$476 \div 7 =$$

2

If they can do the above calculations easily, ask them to solve the following word problem: Umar saved 104 milk cans to play a game. He needs eight cans for every game. How many games can Umar play with his saved cans?

Example of a pupil's work

This pupil can:

Set out the calculation vertically using the Hundreds, Tens and Units headings.

Subtract larger multiples of a number.

Follow the steps for repeated subtraction.

Add up the answers for repeated subtraction.

Write the answer horizontally.

$$192 \div 4 =$$

H	T	U	
1	9	2	
-	1	0	0 (25 × 4)
<hr/>			
	9	2	
-	8	0	(20 × 4)
<hr/>			
		12	
		-	12 (3 × 4)
<hr/>			
			0

$$25 + 20 + 3 = 48$$

answer $192 \div 4 = 48$

Week 5: Division

Day 1: Using repeated subtraction

Learning outcomes

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

Identify the place value
of decimals.

Divide a two-digit number
by a single-digit number.

Preparation

Before the lesson:

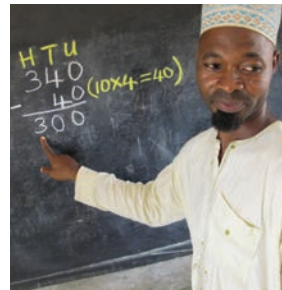
Draw the [decimal place value grid](#)
from today's daily practice, opposite,
on the chalkboard.

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

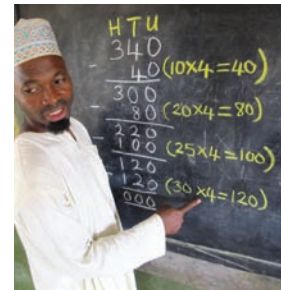
How? Repeated subtraction



To solve $340 \div 4$,
ask the pupils
to think about the
4 times table.



Remind the pupils
how to set out the
calculation, sub-
tracting multiples
of 4.



Explain that larger
multiples of 4
can be subtracted.



Remind pupils
to add the answers
together.



Ask the pupils to write
the answer.

10
minutes

Decimal place value grid

Daily practice

Whole class teaching

Write '1.46' in the [decimal place value grid](#) (shown below).

Remind the pupils that $1.46 = 1 \text{ Unit} + 4 \text{ tenths} + 6 \text{ hundredths}$.

Repeat with 2.89, asking the pupils to help you write it in the decimal place value grid.

Write these numbers on the chalkboard, tell pupils to write them in a chart in their exercise books:

6.95
4.30
5.03

Decimal place value grid

T	U	.	t	h
	1	.	4	6

10
minutes

How

Introduction

Whole class teaching

Remind the pupils that they can divide numbers using repeated subtraction and that knowing the times tables is very useful when dividing.

Teach [How? Repeated subtraction](#), as shown left.

Repeat with $98 \div 7 =$

Remind the pupils that it is important to line up the digits in their correct place value.

30
minutes

Main activity

Pair task

Write the following sums on the chalkboard:

$91 \div 7 =$
 $92 \div 4 =$
 $84 \div 6 =$
 $96 \div 8 =$

Ask the pairs to complete these in their exercise books using repeated subtraction.

Discuss the following word problem with the pupils: 'Mrs Ibrahim shares 48 sweets between her three children. How many sweets do they get each?'

Ask, 'What are the key words to help you solve the problem?'

Ask the pairs to solve the problem using any method.

Ask one pair to explain how they worked out their answer.

Ask, 'Did anyone do it a different way?'

Discuss other methods used.

10
minutes

Titanic game

Plenary

Whole class teaching

Play the [Titanic game](#).

Call out any simple number sums, eg:

$5 + 3 =$
(pupils form groups of 8)
 $12 - 7 =$
(pupils form groups of 5)
 $2 \times 3 =$
(pupils form groups of 6)

Week 5: Division

Day 2: Times tables for repeated subtraction

Learning outcomes

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

Double decimal numbers.

Divide a three-digit number
by a single-digit number
using repeated subtraction.

Preparation

Before the lesson:

Read [How? Repeated subtraction](#),
from Week 5, Day 1 (yesterday).

Draw a [decimal place value grid](#)
on the chalkboard.

Read [How? Double decimals](#),
as shown below.

How? Double decimals



Write '4.38' in the
correct place in
the decimal place
value grid.



Write each place
value as a fraction
and double them.



Write the doubled
fractions as decimals.



Choose a pupil to
add these decimals
together to
find the answer.



Ask a pupil to write
the answer in
the decimal grid.

10
minutes

How

Decimal place
value grid

15
minutes

25
minutes

10
minutes

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Call out the following numbers and choose some pupils to write them in the correct place in the [decimal place value grid](#):

30.78

4.88

13.02

45.09

Teach [How? Double decimals](#), as shown left.

Ask the pairs to use this method to double 1.48 in their exercise books.

Whole class teaching

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

Explain that they are now going to divide three-digit numbers by single-digit numbers.

Write ' $294 \div 6 =$ ' on the chalkboard.

Ask, 'What times table will we need to use?'

Demonstrate how to solve this using repeated subtraction.

Pair task

Write ' $266 \div 7 =$ ' on the chalkboard.

Choose some pairs to work out the answer using repeated subtraction:

$$\begin{array}{r} \text{H T U} \\ 2 \ 6 \ 6 \\ - \ 5 \ 6 \quad (8 \times 7 = 56) \\ \hline 2 \ 1 \ 0 \\ - \ 2 \ 1 \ 0 \quad (30 \times 7 = 210) \\ \hline 0 \ 0 \ 0 \end{array}$$

$$30 + 8 = 38$$

$$266 \div 7 = 38$$

Whole class teaching

Write the following on the chalkboard:

$$244 \div 4 =$$

$$165 \div 5 =$$

$$246 \div 6 =$$

$$364 \div 7 =$$

$$216 \div 6 =$$

Ask the pairs to complete the calculations in their exercise books.

Tell them to check their method and answers with their partner.

Whole class teaching

Give each group a number between 1 and 100.

Tell them to write down as many calculations as they can where the answer is the number they have.

Tell the groups they can use +, -, x and \div

Week 5: Division

Day 3: Solving a word problem

Learning outcomes

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

Double decimal numbers.

Divide a three-digit number
by a single-digit number
using repeated subtraction.

Preparation

Before the lesson:

Draw a [decimal place value grid](#)
on the chalkboard.

Read [How? Double decimals](#) from
Week 5, Day 2 (yesterday).

Read [How? Titanic game](#), as
shown below.

How? Titanic game



Make a space for
the pupils to move
around, either
inside or outside.



Call out a simple
multiplication, eg:
' 2×4 '. Tell pupils
to get into groups of
that number.



Call out a simple
division sum, eg:
' $12 \div 4$ '. Tell pupils
to get in groups of
that number.



Invite the pupils
to take turns calling
out the sums.



Any pupils not
in groups are out.
The winners are
the last group
left in the game.

10
minutes

Decimal place value grid

10
minutes

25
minutes

15
minutes

How

Daily practice

Introduction

Main activity

Plenary

Whole class teaching

Write the following on the chalkboard:

7.09
22.38
30.48

Demonstrate how to double 3.29 using the [decimal place value grid](#).

Ask the pupils to double the numbers on the chalkboard in their exercise books using a decimal place value grid.

Whole class teaching

Remind the pupils that they have been dividing using repeated subtraction and times tables.

Write '275 ÷ 5 =' on the chalkboard.

Choose some pupils to help you answer the sum.

Remind them that it is important to line up the digits in their correct place value.

Pair task

Write the following on the chalkboard:

$348 \div 3 =$
 $390 \div 6 =$
 $336 \div 7 =$

Ask the pairs to complete these sums in their exercise books using repeated subtraction.

Write the following word problem on the chalkboard: 'Farmer Dalliti shares 357 yams equally among seven goats. How many yams will each goat get?'

Discuss the key information with the pupils.

Ask the pairs to solve the problem using any method.

Choose some pairs to explain how they solved the problem to the rest of the class.

Whole class teaching

Play the game explained in [How? Titanic game](#), shown left.

Week 5: Division

Day 4: Dividing numbers

Learning outcomes

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

Halve decimal numbers.

Divide numbers by
10 and 100 and explain
what happens.

Preparation

Before the lesson:

Draw the [decimal place value grid](#),
from Week 5, Day 2 (earlier this week)
on the chalkboard.

Write the [division calculations](#)
from the main activity, shown right,
on the chalkboard.

Read [How? Divide decimals](#),
as shown below.

How? Divide decimals



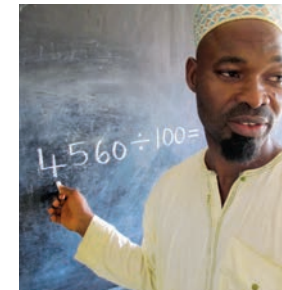
Write '4560' in the
decimal place
value grid on the
chalkboard.



Ask, 'What happens
when we
divide by 10?'



Choose a pupil
to write the
answer: 456.0



Ask, 'What happens
when we
divide by 100?'



Choose a pupil
to write the
answer: 45.60

10
minutes

Daily practice

Whole class teaching

Ask, 'How do we find half of a number?' (divide it by 2).

Write the following decimal numbers on the chalkboard:

4.86
2.68
8.64
6.84

Demonstrate how to halve 4.86 on the chalkboard.

Tell the pupils to halve the other decimal numbers in their exercise books using a decimal place value grid.

15
minutes

How

Introduction

Whole class teaching

Ask the pupils, 'What happens when we divide a number by 10?'

Teach **How? Divide decimals**, as shown left.

25
minutes

Main activity

Individual task

Read the following division calculations on the chalkboard with the pupils:

$678 \div 10 =$
 $2345 \div 10 =$
 $983 \div 100 =$
 $3840 \div 100 =$
 $5067 \div 100 =$

Ask the pupils to complete these calculations in their exercise books.

Remind them that they can use either repeated subtraction or a place value grid.

10
minutes

Plenary

Whole class teaching

Write this problem on the chalkboard: 'There are 3400 books in a library. The teacher arranges them on shelves. Each shelf holds 100 books. How many shelves are needed?'

Discuss the problem with the class.

Ask the pupils to explain the quickest method to solve this problem (move the digits two places).

Work out the answer.

Week 5: Division

Day 5: Solving division problems

Learning outcomes

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

Halve decimals.

Use repeated subtraction
to answer division
word problems.

Preparation

Before the lesson:

Write the word problems from
the main activity, shown right, on
the chalkboard.

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

How? Solving word problems



Choose a pupil
to read out
the word problem.



Ask the pupils,
'What are the key
words to help
us work out the
calculation?'



Demonstrate
using repeated
subtraction to solve
the problem.



Invite a pupil
to complete the
calculation.



Remember to
write the answer.

15
minutes

Daily practice

Whole class teaching

Remind the pupils that they have been halving decimal numbers (dividing them by 2).

Write the following numbers on the chalkboard:

687.22

865.48

843.20

Tell the pupils to draw a place value grid in their exercise books.

Ask them to halve the decimal numbers.

15
minutes

How

Introduction

Whole class teaching

Teach **How? Solving word problems**, as shown left.

25
minutes

Main activity

Pair task

Read through the word problems on the chalkboard with the pupils.

Ask the pupils to complete these problems in their exercise books using repeated subtraction.

Choose some pairs to come to the chalkboard to explain how they worked out the answer.

5
minutes

Plenary

Whole class teaching

Call out numbers between 1 and 100 and ask the pupils to tell you a calculation which has that number as its answer.

If you call out the number 100, these are some of the possible answers:

$$75 + 25 = 100$$

$$200 - 100 = 100$$

$$25 \times 4 = 100$$

$$400 \div 4 = 100$$

Individual task

Ask the pupils to solve the following problems:

'328 cakes have been delivered to a primary school. There are eight classes. How many cakes are there for each class?'

'There are 296 people. There are eight seats in a row. How many rows are needed for everyone?'

'Kande knows there are 91 days until her birthday. How many weeks is that?'

'328 oranges have been picked. They are sold in packs of four. How many packs will there be?'

Credits

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