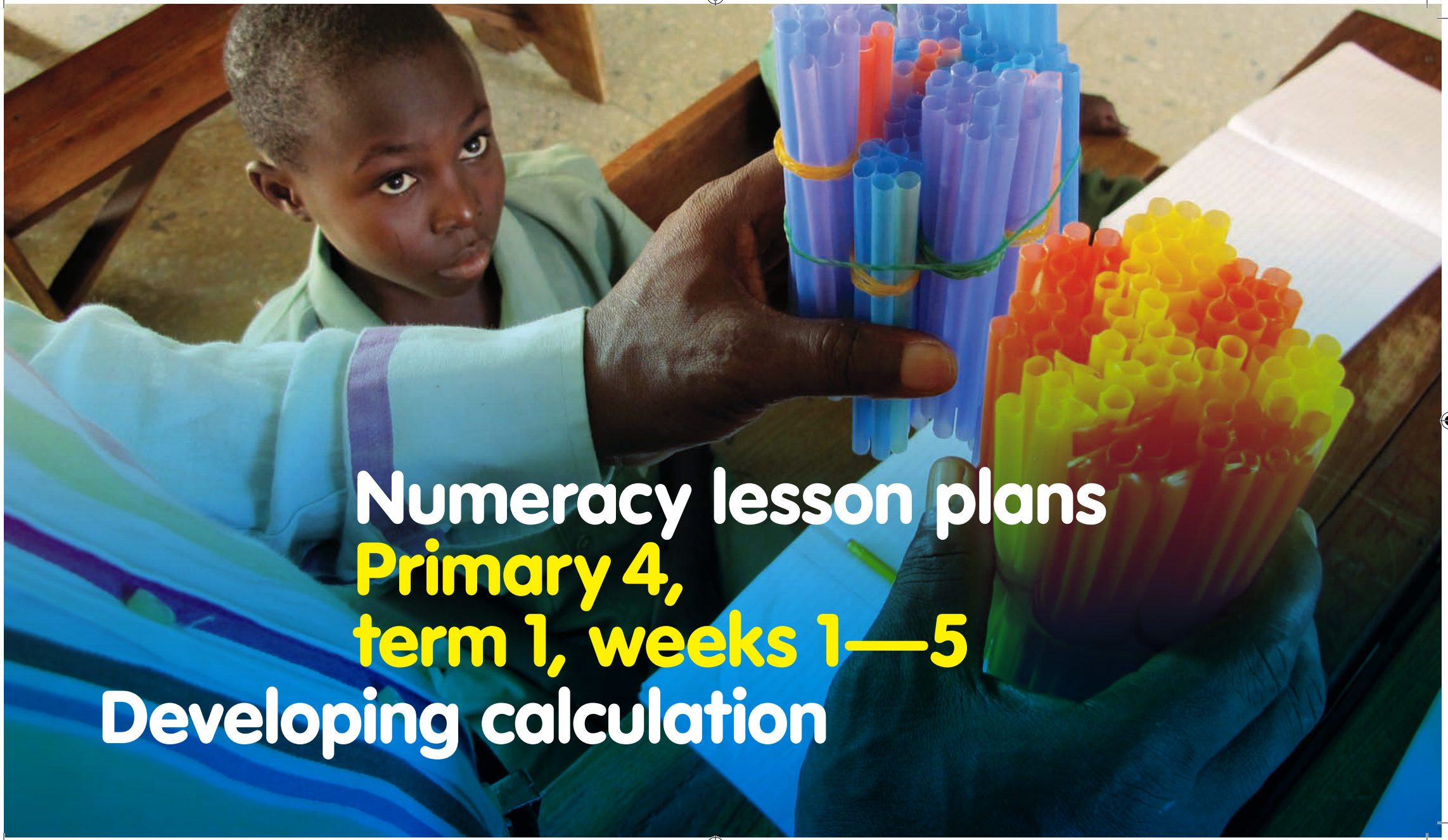


Numeracy lesson plans
Primary 4, term 1, weeks 1—5
Developing calculation

Numeracy lesson plans Primary 4, term 1, weeks 1—5

Developing calculation

Introduction

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

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

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

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

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

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

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

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

How?

How

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

Learning expectations

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

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

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

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

Assessment

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

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

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

Daily practice

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

Introduction

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

Main activity

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

Plenary

Finishes the lesson with different ways of reviewing learning.

Grade/
Type of lesson plan

Lesson
title

Weekly page
Primary 4, numeracy lesson plans

Week 1:
Numbers

Words/phrases

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

Units
Tens
Hundreds
Thousands
order
increasing
decreasing
three-digit numbers
four-digit numbers
place value
round
greater than >
less than <

Learning expectations

By the end of the week:

All pupils will be able to:
Identify and order three-digit numbers.

Most pupils will be able to:
Identify, order and expand three-digit numbers.

Some pupils will be able to:
Identify, order and expand four-digit numbers.

Assessment task

Instructions:

Ask the individual pupils to complete these tasks.

1
Hold up flash cards with different numbers from 0—999 and ask individual pupils to call out the numbers.

2
Give individual pupils a set of five flash cards with three-digit numbers and ask them to order the cards on a number line.

3
Give a set of five flash cards with three-digit numbers to individual pupils and ask them to order the numbers on a number line.

4
If a pupil can do the above easily, repeat the tasks using four-digit numbers.

Example of a pupil's work

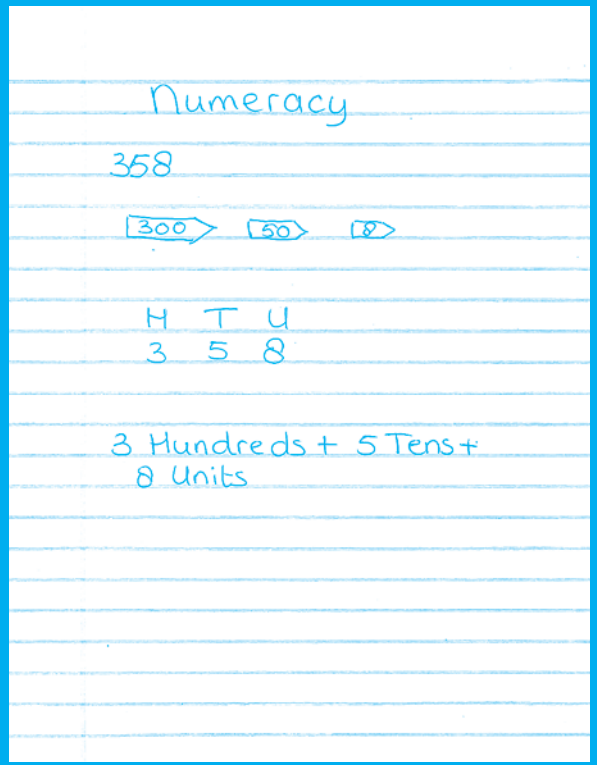
This pupil can:

Write a three-digit number.

Use place value to expand numbers.

Label a three-digit number, using Hundreds, Tens and Units.

Write out the expansion of a three-digit number.



Lesson title

Tens and Units bundles/
0—9 number cards/Bingo game

Week 1: Numbers

Day 1: Numbers 0—999

Learning outcomes

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

Add 10 to two-digit numbers.

Identify place value in numbers 0—999.

Preparation

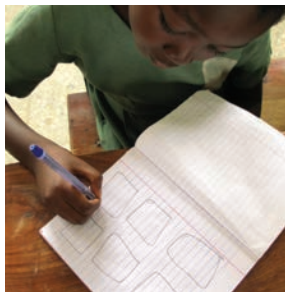
Before the lesson:

Have ready Tens and Units bundles and make enough 0—9 number cards for each pair.

Have ready six counters for each pupil.

Read the instructions for How? Addition bingo game, as shown below.

How? Addition bingo game



Give out six counters to each pupil and ask them to draw six boxes in their exercise books.

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

Read the questions in the Daily practice to the class. Tell the pupils to cover the correct answer with a counter.

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

Check that the correct numbers have been covered.

15 minutes	How	Bingo game	10 minutes	0—9 number cards	25 minutes	Tens and Units bundles	10 minutes	Tens and Units bundles

Daily practice

Whole class teaching

Ask the pupils to help you write multiples of 2 between 10 and 50 on the chalkboard.

Play the How? Addition bingo game, as shown left.

Have ready these questions for the game:

10 + 6 =
10 + 24 =
10 + 2 =
10 + 12 =
10 + 4 =
10 + 20 =
10 + 36 =
10 + 14 =
10 + 10 =
10 + 38 =
10 + 34 =
10 + 18 =
10 + 8 =
10 + 40 =
10 + 22 =
10 + 16 =

Introduction

Pair task

Ask the pupils to start counting backwards from 999 to 950.

Give out the 0—9 number cards.

Look together at three numbers, eg: 6, 9 and 4.

Ask each pair to make the lowest number and the highest number possible using their cards.

Repeat this activity five times, each time choosing a different set of three numbers.

Main activity

Pair task

Give each pair the Tens and Units bundles.

Ask them to use the bundles to complete these statements:

'One group of Ten = ☐ Units.'

'Two groups of Ten = ☐ Units.'

'10 groups of Ten = ☐ Units.'

'90 groups of Ten = ☐ Units.'

Ask, 'How many bundles of Ten are there in 100, 300 and 400?'

Write the following Tens and Units sentences on the chalkboard and ask the pupils to complete them in their exercise books:

80 = ☐ groups of Ten.
70 = ☐ groups of Ten.
40 = ☐ groups of Ten.
30 = ☐ groups of Ten.
700 = ☐ groups of Ten.
600 = ☐ groups of Ten.

Plenary

Pair task

Ask the pairs to make 79 with their Tens and Units bundles and ask, 'How many Tens are there in 79?'

Lesson title

0—20 number cards/
0—9 number cards

Week 1: Numbers

Day 2: Revision of place value

Learning outcomes

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

Say number bonds to 20.

Identify the place value of three-digit numbers.

Preparation

Before the lesson:

Make a set of 0—20 number cards.
Make two number 10 cards.

Have ready 0—9 number cards for each pair.

Practise How? Find the place value of a number, as shown below.

How? Find the place value of a number

Write three digits on the chalkboard.

Use the digits to make a number.

Ask the pupils to write Hundreds, Tens or Units (HTU) above each digit in the number.

Ask them to expand the number.

Tell them to put the number together again and read it to the class.

15 minutes	10 minutes	25 minutes	10 minutes
0—20 number cards		How	0—9 number cards

Daily practice

Pair task

Give out the 0—20 number cards to 22 pupils.

Tell the pupils to find someone with a card that makes 20 when added to their own card.

Ask pairs to say their numbers and ask the others if they are correct.

Ask the pupils to write as many sums as they can that add up to 20 in their exercise books.

Introduction

Individual task

Ask the pupils to write the number 783 in their exercise books.

Tell them to start at 783 and continue writing the next numbers for five minutes, eg: 784, 785.

Choose some pupils to say their highest numbers and write them on the chalkboard.

Main activity

Whole class teaching

Teach the pupils How? Find the place value of a number, as shown left.

Explain that 683 can be written in four different ways:

600 + 80 + 3

6 Hundreds, 8 Tens and 3 Units.

Six hundred and eighty three.

H	T	U
6	8	3

Ask the pupils to write each of these numbers in four different ways as above: 453, 687, 439.

Pair task

Give each pair 0—9 number cards.

Ask the pairs to choose three cards and make the biggest and the smallest number possible with them.

Ask the pairs to write each number in four different ways.

Repeat with three different cards.

Plenary

Pair task

Write other three-digit numbers on the chalkboard, underlining one digit in each, eg: 365, 741, 482, 713

Ask the pairs to explain the value of the underlined digit to their partner.

Lesson title

Week 1: Numbers

Day 3: Order numbers

0—9 number cards

Learning outcomes

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

Subtract single-digit numbers from two-digit numbers.

Order three-digit numbers.

Preparation

Before the lesson:

Have ready 0—9 number cards for each pair.

Practise How? Order three-digit numbers, as shown below.

How? Order three-digit numbers

Write three, three-digit numbers on the chalkboard.

Underline the Hundreds digit in all the numbers and ask, 'Which is the highest?'

The one with the highest Hundred is the largest number. If they are equal, look at the Tens.

The number with the highest Ten is the largest number. If they are equal, look at the Units.

If they are still equal, the number with the highest Unit digit is the largest.

15 minutes	0—9 number cards	10 minutes	0—9 number cards	25 minutes	How	10 minutes	Bingo game

Daily practice

Pair task

Give each pair the 0—9 number cards.

Ask the pairs to choose two cards to make a two-digit number and another card to make a single-digit number.

Tell them to subtract the single-digit number from the two-digit number.

Tell the pupils to repeat this with different cards and ask them to write the sums in their exercise books.

Choose some pairs to explain how they worked out their answers, eg: 'I counted back'.

Introduction

Whole class teaching

Ask the pairs to choose three numbers from their 0—9 number cards and make the lowest and highest possible numbers from those three numbers.

Repeat the activity three or four times with different numbers.

Ask:

'How did you do that?'

'Which place value did you think about first?'

Main activity

Whole class teaching

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

Write these lines of numbers on the chalkboard:

68, 88, 99, 21

345, 566, 989, 745, 902, 346

609, 690, 604, 478, 874, 371

For each line, ask the pairs:

'Which number is the highest?'

'Which number is the lowest?'

'How do you know?'

Pair task

Ask the pupils to choose three numbers from the chalkboard, write them in their exercise books and underline one digit in each number.

Ask the pupils to explain the value of the underlined digit to their partners.

Ask the pupils to write each line of numbers in order, from the lowest to the highest, in their exercise books.

Plenary

Whole class teaching

Play the addition bingo game, in the same way as on Week 1, Day 1 (earlier this week).

Lesson title

Week 1: Numbers

Day 4: Expand four-digit numbers

Place value cards/
Hundreds, Tens and Units bundles

Learning outcomes

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

Round numbers to the nearest Ten.

Expand four-digit numbers.

Preparation

Before the lesson:

Have ready place value cards and Hundreds, Tens and Units bundles for each group.

Practise How? Read the place value of four-digit numbers, as shown below.

How? Read the place value of four-digit numbers

Ask the pupils how many bundles of Ten make a Hundred.

Ask them if they know what 10 bundles of a Hundred are called (a Thousand).

Write 'H T U' and tell the pupils that the next value is Th (thousands). It is written, 'Th H T U'.

Ask pupils to make a four-digit number with the place value cards.

Write the number and read it, eg: one thousand, nine hundred and twenty six.

15 minutes	10 minutes	25 minutes	How	Hundreds, Tens and Units bundles/ Place value cards	10 minutes

Daily practice

Whole class teaching

Draw a 0—20 number line on the chalkboard.

Choose a pupil to point to 0, 10 and 20.

Ask:
'Is 6 nearest to 0 or 10?'
'Is 8 nearest to 0 or 10?'
'Is 14 nearest to 10 or 20?'

Tell the pupils that this is called 'rounding' up or down to the nearest Ten.

Explain that numbers ending in 5 are rounded up. So 5 is nearest to 10, and 15 is nearest to 20.

Ask the pupils to round these numbers up or down to the nearest Ten:
12, 17, 3, 9, 2, 11, 16.

Introduction

Whole class teaching

Write '107, 701, 928, 746' on the chalkboard and choose some pupils to put the numbers in descending order (from the highest to the lowest).

Repeat with 564, 465, 725, 874.

Main activity

Whole class teaching

Show the pupils the Hundreds, Tens and Units bundles and give out the place value cards to each group.

Explain How? Read the place value of four-digit numbers, as shown left.

Group task

Write the following numbers on the chalkboard and ask the groups to make them using their place value cards:
6450
2185
9372
3682
7343

Each time they make a number, ask the pupils:

'What number have you made?'

'What is the value of the underlined digit?'

Ask the pupils to expand each number and write them in their exercise books.

Plenary

Whole class teaching

Write some four-digit numbers on the chalkboard, eg: 3216, 4532, 6794.

Choose some pupils to write 'Th H T U' above each number and say the number.

Lesson title

Week 1: Numbers

Day 5: Greater than, less than

Learning outcomes

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

Identify the place value of three- and four-digit numbers.

Use the signs for less than < and greater than >.

Preparation

Place value cards

Before the lesson:

Have ready the place value cards for each group.

Practise How? Signs for greater than and less than, as shown below.

How? Signs for greater than and less than

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

Write two, three-digit numbers on the chalkboard.

Tell pupils to underline the Hundreds digit in the numbers and ask them, 'Which number is the lowest?'

Ask them to put the sign between the numbers, with the narrowest end pointing to the lowest number.

Write the sums you have made, eg: '473 is less than 562.' '562 is greater than 473.'

15 minutes	10 minutes	Place value cards	25 minutes	How	Place value cards	10 minutes

Daily practice

Whole class teaching

Remind the pupils about the work they were doing on rounding yesterday.

Draw a number line from 50—80 on the chalkboard.

Tell the pupils to copy it in their exercise books and draw circles around the Tens.

Ask the pupils, 'Which Ten is nearest to 57?'

Repeat, using different numbers on the number line.

Introduction

Group task

Write these numbers on the chalkboard:
'382, 2356, 493, 6481, 745'.

Ask each group to make a different number using the place value cards.

Choose some pupils to read the numbers. Ask:

'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?'

Main activity

Whole class teaching

Explain How? Signs for greater than and less than, as shown left.

Write two numbers on the chalkboard and ask the pupils to put the right < or > sign between them.

Group task

Ask the groups to make two different numbers using the place value cards.

Tell the pupils to write the numbers in their exercise books and to put the right < or > sign between them.

Ask each group to repeat the activity several times, choosing different numbers.

Ask each group to write a sum containing 'greater than' or 'less than' on the chalkboard and read it to the class.

Plenary

Whole class teaching

Write a number between 0 and 900 on the chalkboard.

Ask the pupils:

'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?'

Repeat with a different number.

Grade/
Type of lesson plan

Lesson
title

Weekly page

Primary 4, numeracy lesson plans

Week 2:

Addition of two-digit numbers

Words/phrases

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

add
addition
calculation
vertical method
place value
two-digit number
three-digit number
double
multiples
sequences
Tens boundary
Hundreds boundary
word problem

Learning expectations

By the end of the week:

All pupils will be able to:
Use the vertical method to add two-digit numbers.

Most pupils will be able to:
Add two-digit numbers crossing the Tens boundary.

Some pupils will be able to:
Solve word problems that involve adding two-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:
13 + 12 =
24 + 35 =
66 + 21 =
48 + 26 =
25 + 37 =
55 + 28 =

2
Solve this word problem:
On Monday, Bola sells 34 yams. On Tuesday, she sells 21 yams.
How may yams did she sell in total?

Example of a pupil's work

This pupil can:

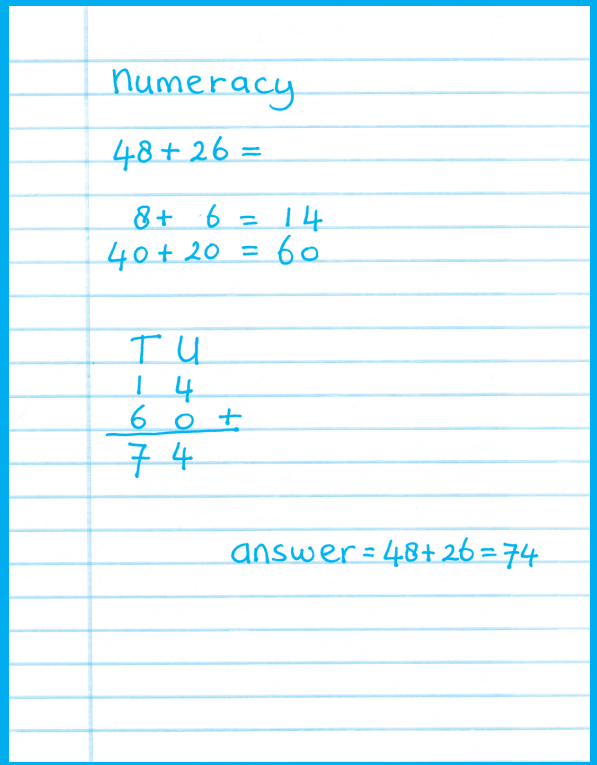
Write out an addition sum horizontally.

Expand the two-digit numbers and add up the Tens and Units.

Place the numbers vertically under the right headings.

Add up the Tens and Units vertically.

Write out the answer horizontally as a final result.



Lesson title

Week 2: Addition of two-digit numbers

Day 1: Vertical addition

Learning outcomes

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

Count in twos and fives.

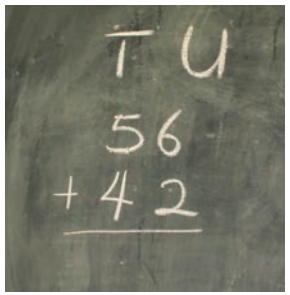
Use the vertical addition method to add two-digit numbers.

Preparation

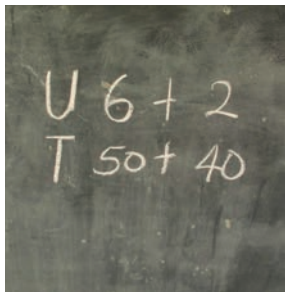
Before the lesson:

Practise How? Vertical addition, as shown below.

How? Vertical addition



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



Expand the numbers.

Explain that we can now add up the Units (6 + 2) and the Tens (50 + 40).

Add up this sum and use it to answer the question.

15 minutes	10 minutes	How	25 minutes	10 minutes

Daily practice

Whole class teaching

Ask the pupils to stand in a circle and take turns counting forwards in twos, starting at zero (0).

Start with a different pupil and ask them to count backwards in twos.

Ask the pupils to chant the 2 times table with you.

Repeat these activities, counting in fives and chanting the 5 times table.

Ask individual pupils 2 times table and 5 times table questions.

Introduction

Whole class teaching

Teach the pupils How? Vertical addition, as shown left.

Main activity

Whole class teaching

Write, '53 + 14 =' on the chalkboard.

Ask all the pupils to complete this sum in their exercise books.

Ask one or two pupils to explain to the class how they got the answer.

Remind the class that it is important to put the digits in the correct place.

Individual task

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

	T	U
	2	4
+	6	1

	4	6
+	3	2

	3	2
+	5	6

	5	2
+	4	4

	1	5
+	8	1

Plenary

Whole class teaching

Ask the pupils to count forwards and backwards in multiples of 5, up to 150.

Lesson title

Week 2: Addition of two-digit numbers

Day 2: Vertical addition

Learning outcomes

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

Double two- and three-digit numbers.

Use the vertical method to add two-digit numbers.

Preparation

Before the lesson:

Practise How? Doubling numbers, as shown below.

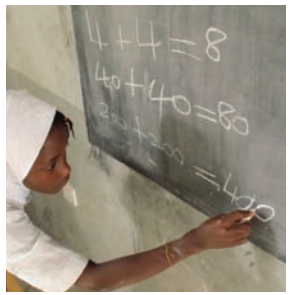
How? Doubling numbers

Tell the pupils that double 244 is the same as 244 + 244.

Write '244' on the chalkboard.

Ask the pupils to help you expand 244.

Tell them to double each digit.



Ask the pupils to write the answer.

15 minutes	10 minutes	25 minutes	10 minutes
Daily practice	**Introduction**	**Main activity**	**Plenary**

Whole class teaching

Teach the pupils the How? Doubling numbers method, as shown left.

Repeat with 34, 43, 423, 242 and 320.

Whole class teaching

Explain to the pupils that they are going to continue to use vertical addition.

Write '36 + 43 =' on the chalkboard.

Remind the class that it is important to put the digits in the correct place value.

Choose some pupils to complete the calculation, explaining their working out to the class.

Individual task

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

```
  T U
  3 4
+ 5 2

  5 4
+ 4 1

  6 2
+ 3 6

  2 2
+ 4 4

  7 5
+ 1 1
```

When they have finished, tell the pupils to give their exercise book to their partner.

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

Whole class teaching

Call out numbers between 1 and 20 and ask the pupils to double each number.

Ask the pupils to write the answer before putting their hands in the air.

Lesson title

Week 2: Addition of two-digit numbers

Day 3: Vertical addition

Learning outcomes

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

Give answers from the 2 and 5 times tables quickly.

Use vertical addition to add two-digit numbers.

Preparation

Before the lesson:

Practise How? Vertical addition crossing the Tens boundary, as shown below.

How? Vertical addition crossing the Tens boundary

Set the sum out vertically and ask the pupils to help you expand the numbers.

Ask them, 'How many Units are there altogether?' Label the answer with the correct place value.

Ask the pupils, 'How many Tens are there altogether?'

Tell them to add the Tens and Units together.

Ask them to answer the question.

15 minutes	10 minutes	25 minutes	How	10 minutes	Bingo game

Daily practice

Group task

Ask the pupils to stand in a circle and take turns counting forwards in twos, starting at zero (0).

Ask them to take turns counting backwards in fives.

Ask individual pupils some 5 times table and 2 times table questions.

Ask:

'If you know 3 x 2, what is 30 x 2?'

'If you know 7 x 5, what is 70 x 5?'

Remind the pupils that the sum is now 10 times bigger.

Introduction

Whole class teaching

Remind the pupils that they have been learning vertical addition.

Tell them that it is important to expand the numbers.

Choose some pupils to expand 18, 10, 13, 25, 47 and 51.

Write '43 + 35' on the chalkboard and ask the pupils to help you work it out.

Main activity

Whole class teaching

Teach How? Vertical addition crossing the Tens boundary, as shown left.

Repeat with 36 + 59 =

Emphasise that 6 + 9 = 15, which must be placed correctly under the T and U.

Choose some pupils to help you calculate 47 + 37 on the chalkboard.

Individual task

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

```
  T U
  5 6
+ 2 5

  4 6
+ 3 7

  5 8
+ 1 6

  7 7
+ 1 4

  3 5
+ 3 7
```

Plenary

Whole class teaching

Play the addition bingo game, in the same way as on Week 1, Day 1 (last week).

Lesson title

Week 2: Addition of two-digit numbers

Day 4: Vertical addition

Learning outcomes

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

Count in multiples of 10.

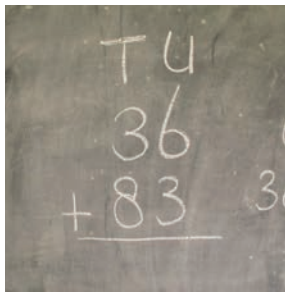
Solve word problems that involve adding two-digit numbers.

Preparation

Before the lesson:

Practise How? Vertical addition crossing the Hundreds boundary, as shown below.

How? Vertical addition crossing the Hundreds boundary



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

Ask the pupils to help you expand the numbers.

Ask them, 'How many Units are there altogether?', 'How many Tens are there altogether?'

Tell pupils to label the answers with the correct place value.

Ask them to add the Hundreds, Tens and Units together and write the answer.

15 minutes	10 minutes	25 minutes	How	10 minutes

Daily practice

Whole class teaching

Ask the pupils to write '10' in their exercise books and keep adding 10 and writing down each new number, ie: 10, 20, 30, 40 as high as they can go.

Challenge the class to write as many as they can in five minutes.

Make sure the pupils write the numbers correctly when they cross the Hundreds boundary, ie: 110.

Introduction

Whole class teaching

Ask the pupils to help you expand 250, 434, 678, 321 and 380.

Write '28 + 36' on the chalkboard.

Ask the pupils to help you work it out using the vertical method.

Remind them to make sure the T and U are written in the correct places.

Main activity

Whole class teaching

Teach the pupils How? Vertical addition crossing the Hundreds boundary method, as shown left.

Look at How? Solve addition word problems, as shown on Week 2, Day 5 (tomorrow).

Pair task

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

'Hadiza collects 46 green bananas and 93 red bananas. How many does she have altogether?'

'One bag contains 52 mangoes, the second contains 77. How many mangoes are there altogether?'

'What is the sum of 45 oranges and 29 oranges?'

'Kassim ran for 36 minutes and stopped for a drink. He then ran another 28 minutes. How many minutes did he run for altogether?'

Plenary

Pair task

Choose some pairs to say their answers and explain their calculations on the chalkboard.

Lesson title

Week 2: Addition of two-digit numbers

Day 5: Vertical addition

Learning outcomes

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

Continue number sequences.

Solve word problems that involve adding two-digit numbers.

Preparation

Before the lesson:

Practise How? Solve addition word problems, as shown below.

How? Solve addition word problems

Write the problem on the chalkboard.

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

Tell them to underline the numbers you will use.

Ask them to write the sum.

Tell pupils to answer the question using vertical addition.

15 minutes	10 minutes	How	25 minutes	10 minutes

Daily practice

Whole class teaching

Ask the pupils to count in Tens, starting from 13.

Ask, 'Which digit changes?'

Write these number sequences on the chalkboard:

15, 20, ☐, ☐, ☐, 40

☐, ☐, ☐, 16, 18, 20

40, 45, 50 ☐, ☐, 65

57, 67 ☐, ☐, ☐, ☐, 117

Ask the pupils:

'What are the next numbers in the sequence?'

'How do you know?'

Tell them to copy and complete the sequences in their exercise books.

Introduction

Whole class teaching

Remind the pupils that they have been adding two-digit numbers.

Tell the class this problem: 'There are 58 pupils in P2 and 64 in P3. How many pupils are there altogether?'

Teach the class How? Solve addition word problems, as shown left.

Ask the pupils to solve the problem in their exercise books.

Check if they are right.

Main activity

Pair task

Write the following word problems on the chalk-board and ask the pupils to complete them in their exercise books, working with a partner:

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

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

'On Monday, Jamila read 53 pages of her book. On Tuesday, she read 74. How many pages did she read altogether?'

'In a school there are 78 boys and 67 girls. How many pupils are there altogether?'

Plenary

Pair task

Ask the pairs to find another pair and explain to each other how they worked out the answers.

Grade/
Type of lesson plan

Lesson
title

Weekly page
Primary 4, numeracy lesson plans

Week 3:
Subtraction

Words/phrases

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

subtract
subtraction
number line
vertical method
place value
two-digit
digits
word problem
more
difference
calculation
times table

Learning expectations

By the end of the week:

All pupils will be able to:
Subtract two-digit numbers using a number line.

Most pupils will be able to:
Subtract two-digit numbers using vertical subtraction.

Some pupils will be able to:
Subtract two-digit numbers to solve word problems.

Assessment task

Instructions:

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

1
Solve these sums using a number line:
58 – 43 =
89 – 34 =

2
Solve these sums using the vertical method:
45 – 31 =
97 – 25 =
63 – 42 =

3
Solve this word problem:
Kyra saved N86. She buys a pencil and an exercise book. This will cost her N25. How much money does she have left?

Example of a pupil's work

This pupil can:

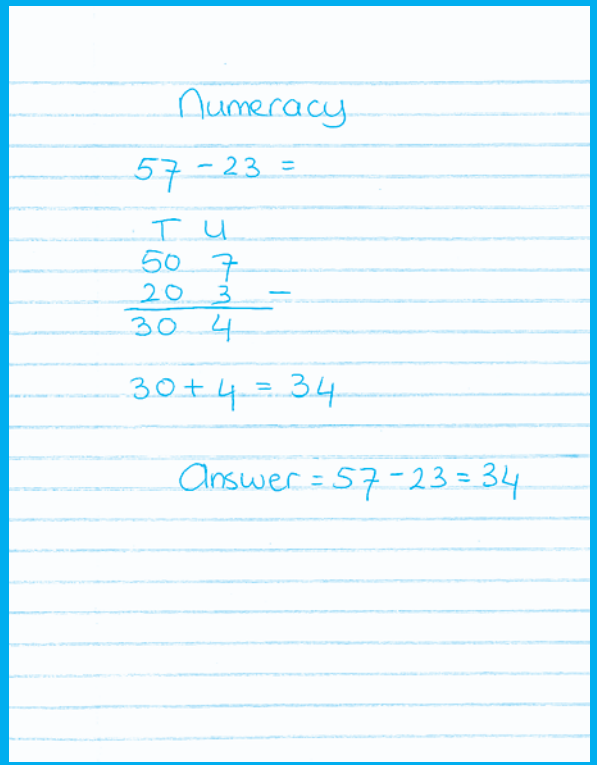
Write out a subtraction sum horizontally.

Expand numbers and place them under the right headings.

Subtract the Tens and the Units.

Add up the expanded number.

Write out the answer horizontally as a final result.



Lesson title

Week 3: Subtraction

Day 1: Subtraction with a number line

0—100 number bond cards

Learning outcomes

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

Say number bonds to 100.

Subtract two-digit and three-digit numbers using a number line.

Preparation

Before the lesson:

Practise How? Find my friend, as shown below, and make enough 0—100 number bond cards so that each pupil has a card.

How? Find my friend

Give each pupil a 0—100 number bond card.

Make sure that the cards you give out can complete number bonds.

Tell the pupils to find a partner with a number that will make 100 when added to theirs.

Ask the class if they are correct.

15 minutes	How	Find my friend game	10 minutes	25 minutes	10 minutes	Find my friend game

Daily practice

Whole class teaching

Play the game explained in How? Find my friend, as shown left.

Introduction

Whole class teaching

Tell the class this word problem, 'There are 465 pupils in a school. 149 are girls. How many are boys?'

Main activity

Whole class teaching

Ask:
'What is 100 – 25?'
'What is 100 – 50?'
'What is 100 – 80?'
'What is 100 – 65?'

Remind the pupils that knowing number bonds to 100 helps with these calculations.

Individual task

Write these subtraction calculations on the chalkboard:
89 – 57 =
96 – 34 =
78 – 26 =
67 – 45 =
456 – 322 =
375 – 148 =
286 – 148 =

Tell the pupils to work out the answers to the sums in their exercise books, using number lines.

Plenary

Whole class teaching

Play find my friend again.

Lesson title

0—100 number bond cards

Week 3: Subtraction

Day 2: Vertical subtraction

Learning outcomes

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

Say number bonds to 100.

Subtract two-digit numbers using vertical subtraction.

Preparation

Before the lesson:

Have ready the 0—100 number bond cards from Week 3, Day 1 (yesterday).

Practise How? Vertical subtraction, as shown below.

How? Vertical subtraction

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

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

Tell them to subtract the Units and subtract the Tens.

Ask them to add the Tens and Units together.

Tell them to answer the question.

15 minutes	Find my friend game	10 minutes	How	25 minutes		10 minutes
Daily practice		**Introduction**		**Main activity**		**Plenary**
Whole class teaching		**Whole class teaching**		**Whole class teaching**	**Pair task**	**Whole class teaching**
Play the find my friend game from Week 3, Day 1 (yesterday). Ask the pupils: 'What is 100 – 45?' 'What is 100 – 35?' 'What is 100 – 65?'		Ask the pupils, 'How many ways do you know to work out subtraction sums?' Explain that they are going to learn a new method called vertical subtraction. Tell the pupils that in vertical subtraction the numbers are written underneath each other. Explain How? Vertical subtraction, as shown left.		Demonstrate solving 96 – 34 = using the vertical subtraction method. Ask the pupils to help explain the method as you demonstrate to the class. Repeat with 77 – 23 = Write these subtraction sums on the chalkboard: 89 – 54 = 75 – 31 = 58 – 26 = 69 – 45 = 46 – 32 = 86 – 24 = 48 – 33 = 77 – 15 =	Ask the pupils to complete the sums in their exercise books using the vertical subtraction method. When they have finished, tell the pupils to give their exercise books to their partners. Tell them to put a tick if they think a sum is correct and a cross if they think it is wrong.	Choose one or two pupils to write their calculations on the chalkboard, explaining to the class how they worked it out.

Lesson title

Week 3: Subtraction

Day 3: Vertical subtraction

Learning outcomes

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

Halve two-digit numbers.

Subtract two-digit numbers using vertical subtraction.

Preparation

Before the lesson:

Display the 2 times table up to 12 x 2 = 24.

Practise How? Halving two-digit numbers, as shown below.

How? Halving two-digit numbers

Ask the pupils questions from the 2 times table.

Tell them that they can use their 2 times table to find half of 12 (2 x 6 = 12).

Remind them how to write a half.

Tell the pupils to write the sum and answer it.

15 minutes	10 minutes	25 minutes	10 minutes
How			

Daily practice

Whole class teaching

Teach How? Halving two-digit numbers, as shown left.

Write on the chalkboard:

$\frac{1}{2}$ of 14 =

$\frac{1}{2}$ of 18 =

$\frac{1}{2}$ of 22 =

$\frac{1}{2}$ of 10 =

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

Introduction

Whole class teaching

Ask the pupils which two methods they have learned for subtraction (number line and vertical).

Write these two sums on the chalkboard and use them to remind the pupils how to do vertical subtraction:
77 – 65 =
82 – 71 =

Main activity

Pair task

Write these subtraction calculations on the chalkboard:
77 – 65 =
82 – 71 =
53 – 13 =
68 – 32 =
96 – 32 =
88 – 13 =
56 – 23 =
95 – 30 =

Tell the pairs to write the sums vertically and complete them in their exercise books.

Remind the pupils to discuss and support each other.

Plenary

Whole class teaching

Ask the pupils to recite the 5 times table.

Ask them to help you write the 3 times table on the chalkboard.

Keep it for the next day.

Lesson title

Week 3: Subtraction

Day 4: Solving word problems

Learning outcomes

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

Say the 3 and 6 times tables.

Solve word problems using vertical subtraction.

Preparation

Before the lesson:

Have ready the 3 times table from Week 3, Day 3 (yesterday) on the chalkboard.

Practise How? Solving word problems using vertical subtraction, as shown below.

How? Solving word problems using vertical subtraction

Write the problem on the chalkboard.

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

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

Ask them to answer the question.

15 minutes	10 minutes	How	25 minutes	10 minutes

Daily practice

Whole class teaching

Ask the pupils to say the 3 times table with you, then rub out the answers.

Choose some pupils to come and write the answers on the chalkboard as you ask questions from the 3 times table.

Ask the pupils to help you to write out the 6 times table.

Ask the pupils what they notice (the answers are double the 3 times table answers).

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

Introduction

Whole class teaching

Write on the chalkboard: 'Mustapha collects 76 yams from the field. He gives 43 to his neighbour. How many does he have left?'

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

Main activity

Pair task

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

'There are 56 pupils in P4 and 43 pupils in P5. How many more pupils are there in P4?'

'Adeola is 46 years old. Femi is 25 years old. What is the difference in their ages?'

'There are 59 children at a football club. 24 of them are girls. How many are boys?'

'Kunle bakes 87 loaves on Monday. He sells 62 of them. How many does he have left?'

When they have finished, tell the pupils to give their exercise book to a partner.

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

Plenary

Whole class teaching

Ask the pupils questions from the 6 times tables.

Lesson title

Week 3: Subtraction

Day 5: Solving word problems

Learning outcomes

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

Answer questions from the 6 times table.

Solve word problems that involve subtracting two-digit numbers.

Preparation

Before the lesson:

Write the 6 times table on the chalkboard.

Practise How? Solving word problems using vertical subtraction, as shown below.

How? Solving word problems using vertical subtraction

Write the problem on the chalkboard.

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

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

Ask them to answer the question.

15 minutes	10 minutes	How	25 minutes	10 minutes

Daily practice

Whole class teaching

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

Ask them to say the 10 times table with you.

Ask, 'If you know 3 x 6, what is 30 x 6?' and 'If you know 7 x 6, what is 70 x 6?'

Remind the pupils that the sum is now 10 times bigger.

Write on the chalkboard:
10 x 6 =
30 x 6 =
60 x 6 =
80 x 6 =
40 x 6 =

Ask the pupils to complete the sums in their exercise books.

Introduction

Pair task

Write on the chalkboard, 'Mrs Amina has baked 96 cakes to sell in the market. People buy 54 cakes, how many are left?'

Remind pupils of the method explained in How? Solving word problems using vertical subtraction, as shown left.

Main activity

Individual task

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

'Rachel is reading a book with 96 pages. She has read 54 pages. How many does she have left to read?'

'Yemi has a collected 78 stickers. He gives his friend 25. How many does he have left?'

'Gbenga has saved N80. He goes to the market and spends N55. How much does he have left?'

'Bose collected 87 eggs from her chickens on Tuesday. She dropped them and broke 35. How many does she have left?'

When they have finished, tell the pupils to give their exercise book to a partner.

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

Plenary

Individual task

Ask the pupils questions from the 3, 5, 6 and 10 times tables.

Grade/
Type of lesson plan

Lesson
title

Weekly page

Primary 4, numeracy lesson plans

Week 4: Multiplication

Hundred square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Words/phrases

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

multiply
multiplication
multiplied
multiple
times
two-digit
calculation
grid method

Learning expectations

By the end of the week:

All pupils will be able to:
Multiply numbers by Tens and Hundreds.

Most pupils will be able to:
Multiply two-digit numbers by single-digit numbers using the grid method.

Some pupils will be able to:
Solve multiplication word problems.

Assessment task

Instructions:

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

1
Multiply these numbers by 10:
3
67
98

2
Multiply these numbers by 100:
4
63
24

3
Do these multiplication sums using the grid method:
24 x 5 =
62 x 8 =

4
Solve this word problem:
Yakubu has eight friends. He wants to give 36 marbles to each friend. How many marbles does he have to buy in total?

Example of a pupil's work

This pupil can:

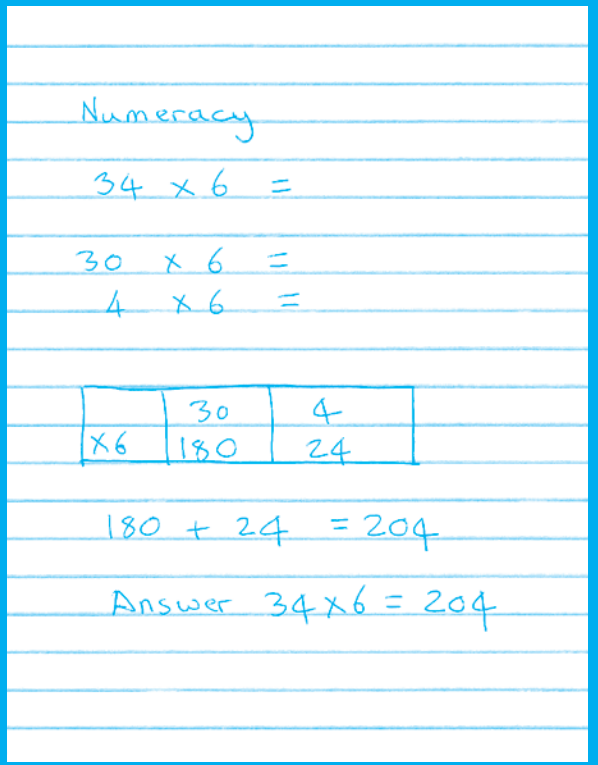
Expand the numbers in a horizontal multiplication sum.

Set up the grid method.

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

Add up the numbers.

Write the answer horizontally.



Lesson title

Week 4: Multiplication

Day 1: Multiplying by 10 and 100

Hundred square

Learning outcomes

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

Count in threes and sixes.

Multiply two-digit numbers by 10 and 100.

Preparation

Before the lesson:

Draw a Hundred square on the chalkboard, as found on the Weekly page, Week 4.

Practise How? Multiplication by 10 and 100, as shown below.

How? Multiplication by 10 and 100

Write a two-digit number and label it with the correct place value.

Ask pupils, 'What happens to a number when it is multiplied by 10?'

Explain that a number becomes 10 times greater and moves one place to the left.

Follow the same method for multipying by 100, ensuring that numbers move two places to the left.

15 minutes	10 minutes	25 minutes	10 minutes
Hundred square		How	

Daily practice

Whole class teaching

Ask the pupils to use the Hundred square to count in threes, pointing out all the multiples of 3.

Stand the pupils in a circle and explain they are going to count in threes.

Say 'zero' and go round the circle, encouraging each pupil to say the next multiple of 3.

Remind the pupils to look at the Hundred square if they are not sure of the answer.

Continue until each pupil has given a multiple of 3.

Repeat, counting in sixes.

Introduction

Whole class teaching

Write the 10 times table on the chalkboard and ask the class to say it with you.

Ask the pupils sums from the 10 times table.

Main activity

Whole class teaching

Explain How? Multiplication by 10 and 100, as shown left.

Pair task

Ask the pairs to write the answers to these sums in their exercise books:
7 x 10 =
9 x 10 =
45 x 100 =
56 x 100 =

Tell them to choose five numbers from 0—99 and multiply them by 10.

When they have finished, tell the pairs to choose five different numbers and multiply them by 100.

Choose some pairs to write their sums on the chalkboard for the class to answer.

Plenary

Whole class teaching

Write these sums on the chalkboard:
70 x 10 =
70 x 100 =
34 x 10 =
34 x 100 =
60 x 10 =
60 x 100 =
78 x 10 =
78 x 100 =

Ask the pupils:

'What happens to numbers when they are multiplied by 10?'

'What happens to numbers when they are multiplied by 100?'

Lesson title

Week 4: Multiplication

Day 2: Multiplication using the grid method

Buzz game

Learning outcomes

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

Recall the 3 and 6 times tables quickly.

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

Preparation

Before the lesson:

Read the instructions for the buzz game as shown in Week 4, Day 5 (later this week).

Practise How? Multiplication using the grid method, as shown below.

How? Multiplication using the grid method

Write the sum on the chalkboard.

Draw a grid and set the sum out.

Ask the pupils to multiply the numbers in the grid.

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

15 minutes	Buzz game	10 minutes	How	25 minutes		10 minutes	Buzz game

Daily practice

Pair task

Quickly play the buzz game, using the 3 times table and then the 6 times table.

Ask the pupils to write the 3 and 6 times tables in their exercise books.

Ask the pairs how they could solve this problem, 'Five pupils have six exercise books. How many exercise books are there altogether?'

Explain that 5 x 6 = 30 so there are 30 exercise books.

Ask the pairs to use times tables to solve this problem: 'There are three yams in a bag. How many yams are there in six bags?'

Introduction

Whole class teaching

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

Repeat the process with another calculation, 33 x 3 =

Main activity

Pair task

Write the following sums on the chalkboard and ask the pairs to complete them in their exercise books using the grid method:

27 x 2 =
13 x 6 =
15 x 6 =
29 x 3 =
17 x 5 =
32 x 3 =

Plenary

Whole class teaching

Play the buzz game, using the 3 and 6 times tables.

Lesson title

Week 4: Multiplication

Day 3: Multiplication using the grid method

Buzz game/Small ball
Circle game

Learning outcomes

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

Count in fours and sixes.

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

Preparation

Before the lesson:

Read the instructions for the buzz game as shown in Week 4, Day 5 (later this week).

Find a small ball and read How? Play the circle game, as shown below.

How? Play the circle game

Stand the pupils in a circle.

Throw the ball to a pupil across the circle and say 'zero'.

Ask the pupils to add 4 to the number and throw it to the next pupil.

The next pupil should add 4 to the new number. Continue until you reach 40.

Go round again, starting with a different pupil.

15 minutes	How	Circle game	10 minutes	25 minutes	10 minutes	Buzz game

Daily practice

Whole class teaching

Play the game, as shown left in How? Play the circle game.

Repeat, counting in sixes.

Introduction

Pair task

Tell the pupils that they know 2 x 4 = 8, so what is 20 x 4? (Remind them that it is 10 times bigger).

Choose some pairs to tell you the answers to:
50 x 4 =
30 x 4 =
60 x 4 =
80 x 4 =

Main activity

Whole class teaching

Ask, 'What method have we been using for multiplication this week?' (grid method).

Write '47 x 4 =' on the chalkboard and ask the pupils to remind you how to use the grid method to complete this sum.

Repeat the process with another calculation, 38 x 3 =

Pair task

Write the following sums on the chalkboard and ask the pairs to complete them in their exercise books, using the grid method:
47 x 4 =
28 x 3 =
34 x 5 =
52 x 3 =
19 x 4 =
63 x 4 =

Ask each pair to find another pair and discuss how they worked out their answers.

Plenary

Whole class teaching

Play the buzz game, using the 4 and 6 times tables.

Lesson title

Hundred square

Week 4: Multiplication

Day 4: Multiplication word problems

Learning outcomes

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

Recall the answers in the 4 and the 8 times tables.

Use the grid method to solve word problems.

Preparation

Before the lesson:

Have ready the Hundred square and write the 4 times table on the chalkboard.

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

How? Solving multiplication word problems

Write the problem on the chalkboard.

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

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

Ask them to set up the grid method.

Tell them to answer the question.

15 minutes	Hundred square/ Circle game	10 minutes	How	25 minutes		10 minutes	Bingo game

Daily practice

Whole class teaching

Show the pupils the Hundred square and count in eights, pointing out all the multiples of 8.

Play the circle game with the pupils as shown on Week 4, Day 3 (yesterday), this time counting in eights.

Remind the pupils to look at the Hundred square if they are not sure of the answer.

Ask them to help you write the 8 times table next to the 4 times table on the chalkboard.

Ask, 'What do you notice about the answers in the 8 times table?' (They are double the answers in the 4 times table).

Introduction

Whole class teaching

Say, 'Every week, Garba collects eight stickers. How many will he have after 33 weeks?'

Remind the pupils of the How? Solving multiplication word problems method, as shown left.

Main activity

Individual task

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

'There are 36 bottles of cola in one crate. How many are there in four crates?'

'If a packet of biscuits contains 44, how many biscuits are there in eight packets?'

'There are 42 pens in a packet. How many pens are there in eight packets?'

'If there are 62 packets of noodles in one box, how many are there in eight boxes?'

Pair task

Ask the pupils to share their answers with a partner, discussing how they worked them out.

Plenary

Whole class teaching

Play the addition bingo game, in the same way as on Week 1, Day 1.

Lesson title

Buzz game

Week 4: Multiplication

Day 5: Multiplication word problems

Learning outcomes

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

Recall the answers in the 4 and 8 times tables quickly.

Use the grid method to solve word problems.

Preparation

Before the lesson:

Look at How? Play the buzz game, as shown below.

How? Play the buzz game

Tell the pupils to stand in a circle and count round from 1.

When a pupil reaches a multiple of 3, they say 'buzz'.

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

Continue until the pupils reach 12 x 3, after which they start again at 1.

15 minutes	10 minutes	25 minutes	10 minutes	How	Buzz game

Daily practice

Whole class teaching

Ask different groups to say the 4 times table and the 8 times table, then help you to write them on the chalkboard.

Ask the pupils how they could use the times table to solve this problem:
'There are seven days in a week. How many days are there in four weeks?'
(7 x 4 = 28)

Ask each group to think of a problem for the other groups to solve, using the 4 or 8 times tables.

Ask each group to say their problem and choose another group to say the answer.

Introduction

Whole class teaching

Write on the chalkboard:
'Yusuf rides his bike for 38 minutes to school each day. How many minutes does he cycle for in one week?'

Ask the pupils:

'What are the key words to work out this problem?'

'How many days does he go to school?'

Choose some pupils to say what calculation is needed (38 x 5 =).

Demonstrate drawing a grid and setting the calculation out.

Main activity

Pair task

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

'Binta's hens lay 72 eggs a week. How many will they lay in five weeks?'

'An orange farmer picks 86 oranges each day. How many will he pick in eight days?'

'In a school there are 54 pupils in each class. How many pupils are there in four classes?'

'Hadiza gave each of her eight children N92. How much money did she give away altogether?'

Ask the pairs to share their sums with a different pair and talk about how they worked out the answer.

Plenary

Whole class teaching

Play buzz with the class, as shown left in How? Play the buzz game.

Grade/
Type of lesson plan

Lesson
title

Weekly page
Primary 4, numeracy lesson plans

Week 5:
Division

Hundred square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Words/phrases

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

odd
even
fraction
halves
quarters
eighths
equivalent
divide (÷)
division
number line
repeated subtraction

Learning expectations

By the end of the week:

All pupils will be able to:
Divide two-digit numbers by a single-digit number using a number line.

Most pupils will be able to:
Divide two-digit numbers by a single-digit number using repeated subtraction.

Some pupils will be able to:
Divide two-digit numbers by a single-digit number to solve a word problem.

Assessment task

Instructions:

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

1
Solve these sums using a number line:
24 ÷ 6 =
64 ÷ 8 =

2
Solve these sums using repeated subtraction:
32 ÷ 4 =
48 ÷ 6 =

3
If they can do the above sums easily, ask them to solve the following word problems:

Uche saved 72 milk cans to play a game. He needs eight cans for every game. How many games can Uche play with his saved cans?

Grace wants to give all her friends beads to make a bracelet. She has 225 beads in total. Every friend needs 25 beads to make one bracelet. How many friends can she invite to make a bracelet?

Example of a pupil's work

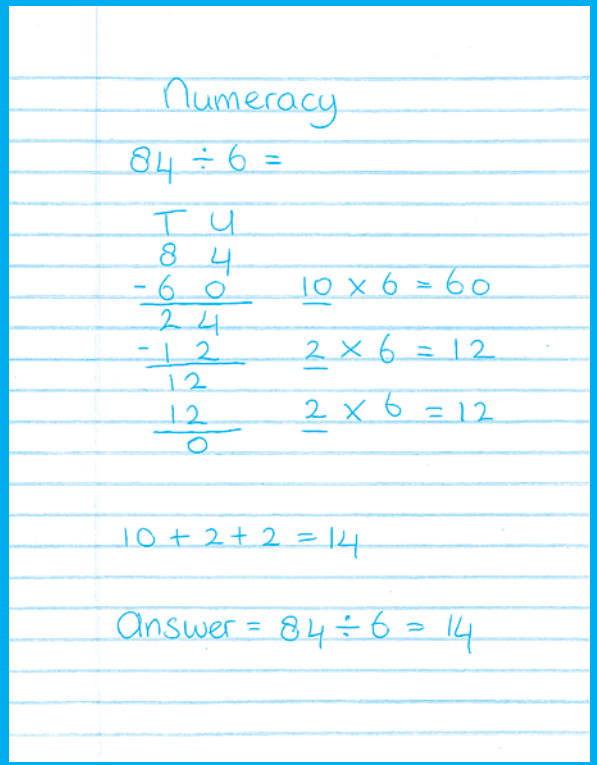
This pupil can:

Set up the sum vertically using the Tens and Units headings.

Find the nearest multiple of 10 to 60.

Add up the answers for repeated subtraction.

Write the answer horizontally.



Lesson title

Week 5: Division

Day 1: Division using a number line

Hundred square/ Counters

Learning outcomes

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

Recognise odd and even numbers.

Divide two-digit numbers by single-digit numbers.

Preparation

Before the lesson:

Write the Hundred square on the chalkboard and collect 20 counters for each pair.

Practise How? Division using a number line, as shown below.

How? Division using a number line

Write the sum on the chalkboard, eg: 16 ÷ 4.

Draw a number line from 0—20.

Ask the pupils to start from 16 and move back in groups of four.

Tell them to answer the question.

15 minutes	Hundred square	10 minutes	25 minutes	How	10 minutes

Daily practice

Whole class teaching

Point to 2, 4, 6 and 8 on the Hundred square.

Now point to 1, 3, 5 and 7 and ask the pupils to say how these two sets of numbers are different.

Tell the pupils that the first set can all be divided by 2 (they are in the 2 times table) and are called 'even numbers'. The second set cannot be divided by 2 and are called 'odd numbers'.

Call out any numbers from 0—100 and tell the pupils they must stand up if it is an odd number and sit down if it is an even number.

If they sit or stand at the incorrect time, they are out of the game.

Introduction

Pair task

Write '÷' on the chalkboard and choose some pupils to explain what it means.

Remind the pupils that they can use their multiplication tables to solve division sums.

Give each pair 20 counters.

Ask the pairs to divide eight counters into four groups of two.

Help them to write down the four sums that describe what they have done, ie:
2 x 4, 4 x 2, 8 ÷ 4, 8 ÷ 2

Repeat with six groups of three and four groups of five.

Main activity

Whole class teaching

Explain How? Division using a number line, as shown left.

Choose some pupils to demonstrate 20 ÷ 5 = on a number line.

Ask them to explain the different stages of the calculation with you.

Pair task

Write the following sums on the chalkboard and ask the pairs to complete them in their exercise books:
21 ÷ 3 =
40 ÷ 5 =
24 ÷ 6 =
32 ÷ 4=

Plenary

Pair task

Ask the pairs to write the 3 times table.

Ask them to circle the even number answers.

Choose a pair to say their circled answers and ask the class if they are correct.

Ask the pupils to say as many odd numbers as they can in one minute to their partner.

Lesson title

Paper

Week 5: Division

Day 2: Division using repeated subtraction

Learning outcomes

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

Divide 2D shapes into halves and quarters.

Complete division sums using repeated subtraction.

Preparation

Before the lesson:

Have ready two large square pieces of paper for each group.

Practise How? Division using repeated subtraction, as shown below.

How? Division using repeated subtraction

Write the sum '48 ÷ 3' on the chalkboard and identify the place value of the first number.

Ask pupils to think of a multiple of 10 nearest to 48 in the 3 times table, ie: 10 x 3 = 30.

Tell the pupils to subtract 30 from 48.

Ask them to think of the multiple nearest to 18 in the 3 times table, ie: 6 x 3 = 18.

Explain that 10 + 6 = 16, so 48 ÷ 3 = 16.

15 minutes	Paper	10 minutes	How	25 minutes	10 minutes

Daily practice

Group task

Give each group a piece of paper and ask them to fold it into two equal parts.

Remind them that an equal part of a whole is called a 'fraction'.

Ask,
'What fraction is each part of the square?'

Show the pupils how to write $\frac{1}{2}$ on each part.

Give the groups another piece of paper and ask them to fold it into four equal parts.

Ask,
'What fraction is each part of the square?'

Show the pupils how to write $\frac{1}{4}$ on each part.

Ask:

'How many halves make a whole?'

'How many quarters make a whole?'

Introduction

Whole class teaching

Remind the pupils that they have learned to divide using a number line.

Explain that they are now going to use a new method.

Teach How? Division using repeated subtraction, as shown left.

Main activity

Pair task

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

70 ÷ 5 =
95 ÷ 5 =
57 ÷ 3 =
78 ÷ 2 =

Plenary

Pair task

Choose some pairs to explain their calculations on the chalkboard.

Lesson title

Week 5: Division

Day 3: Division using repeated subtraction

Card

Learning outcomes

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

Divide 2D shapes into halves and quarters.

Complete division sums using repeated subtraction.

Preparation

Before the lesson:

Draw two squares, two circles and two rectangles on the chalkboard.

Have ready three large pieces of card.

Practise doing How? Division, as shown below.

How? Division

Ask pupils to think of a multiple of 10 nearest to 96 in the 4 times table.

Subtract the answer from 96 and tell the pupils to repeat until there are no more multiples.

Ask them to add together the multiples of 4.

Tell them to complete the sum.

15 minutes	10 minutes	Card	25 minutes	How	10 minutes

Daily practice

Whole class teaching

Remind the pupils that they have been revising fractions.

Choose some pupils to write a half and a quarter as fractions on the chalkboard.

Choose some pupils to divide the shapes on the chalkboard into halves and quarters.

Ask:

'How many halves in a whole?'

'How many quarters in a whole?'

'How many quarters in a half?'

Introduction

Whole class teaching

Remind the pupils that knowing their times tables is very useful with division.

Ask them to help you write the 3, 4 and 6 times tables on the pieces of card.

Display them in the classroom.

Main activity

Whole class teaching

Ask the pupils to use repeated subtraction, as shown left in How? Division, to help you solve the following:

96 ÷ 4 =

69 ÷ 3 =

Encourage them to use the 3 and 4 times tables to help find the multiples.

Pair task

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

84 ÷ 3 =

64 ÷ 4 =

36 ÷ 2 =

52 ÷ 4 =

Plenary

Pair task

Write on the chalkboard, 'Alero collects 54 eggs from her chickens. One box holds six eggs. How many boxes can she fill?'

Read and discuss it and tell the pairs they can use any method to solve the problem.

Discuss the methods pairs have used and take their answers.

Lesson title

Week 5: Division

Day 4: Division using repeated subtraction

Paper circles/
Times table cards

Learning outcomes

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

Divide 2D shapes into halves, quarters and eighths.

Complete division sums using repeated subtraction.

Preparation

Before the lesson:

Cut out a large paper circle for each group.

Have ready the 3, 4 and 6 times table cards from Week 5, Day 3 (yesterday).

Practise How? Divide shapes into halves, quarters and eighths, as shown below.

How? Divide shapes into halves, quarters and eighths

Ask each group to divide a circle into eight equal parts.

Show them how to write an eighth.

Write an eighth on each part of the circle.

Draw a circle on the chalkboard and choose a pupil to divide it into quarters.

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

15 minutes	How	10 minutes	Times table cards	25 minutes		10 minutes	Buzz game

Daily practice

Whole class teaching

Explain How? Divide shapes into halves, quarters and eighths, as shown left.

Introduction

Whole class teaching

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

Ask them to help you solve the following problem: 'There are 87 children in Year 4. How many teams of three children can be made for a sports competition?'

Ask, 'What are the key words and what calculation do you need to do?'

Encourage the pupils to use the times table cards to find multiples of 3.

Main activity

Individual task

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

'A box holds five nuts. How many boxes are needed for 95 nuts?'

'How many lengths of 3m can you cut from a 63m length of rope?'

'How many 5k coins make 100k?'

'A baker bakes 84 buns. She puts six in every box. How many boxes can she fill?'

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

Plenary

Whole class teaching

Play the buzz game using any of the times tables recently revised.

Lesson title

Week 5: Division

Day 5: Dividing by 10

Learning outcomes

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

Recognise equivalent fractions.

Know the rule for dividing numbers by 10.

Preparation

Before the lesson:

Draw three circles, three squares and three rectangles on the chalkboard.

Practise How? Equivalent fractions, as shown below.

How? Equivalent fractions

Choose some pupils to divide shapes into quarters, halves and eighths.

Ask them to write 'half', 'quarter' and 'eighth' on the shapes.

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

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

Explain that these are called 'equivalent fractions'.

15 minutes	How	10 minutes	25 minutes	10 minutes

Daily practice

Group task

Explain How? Equivalent fractions, as shown left.

Introduction

Group task

Ask the groups to solve the following division problem using repeated subtraction, as shown on Week 5, Day 2 (earlier this week).

Write on the chalkboard, 'There are 184 tubers of yam. There are six farmers. How many will each farmer have?'

Main activity

Whole class teaching

On the chalkboard, write,
T U
8 0 ÷ 10 = 8

Ask the pupils to say how they would find that answer.

Ask, 'What has happened to the value of the 8?'

Remind the pupils that the 8 is 10 times smaller and is now found in the Units column.

Write,
H T U
8 0 0 ÷ 10 = 80

Ask, 'What has happened to the value of the 8?'

Remind pupils that the 8 is 10 times smaller and is now found in the Tens column.

Pair task

Write the following sums on the chalkboard and ask the pairs to complete them in their exercise books:
300 ÷ 10 =
40 ÷ 10 =
500 ÷ 10 =
670 ÷ 10 =
480 ÷ 10 =
780 ÷ 10 =
990 ÷ 10 =

Plenary

Pair task

Tell one pupil to say a three-digit number for their partner to divide by 10.

Swap roles and repeat.

Credits

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