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Type of lesson plans/
Grade

Term/
Learning theme

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Weeks
21—25

Numeracy lesson plans Primary 3 Term 3 Asking questions

This is the fifth in a series of six numeracy lesson plan publications, designed to be used throughout the three academic school terms.

Introduction

Teacher training remains a key element in improving schools and increasing learning outcomes. Where teachers are not supported, there may be high rates of teacher absenteeism, pupil drop out and apathy from parents. Jigawa State Ministry of Education, Science and Technology and the State Universal Basic Education Board (SUBEB) are working with the UK Department for International Development (DFID) and Education Sector Support Programme in Nigeria (ESSPIN) to increase the capacity of teachers and school heads to be effective and accountable.

Following the 2010 Teacher Development Needs Assessment, we collectively embarked on a series of reforms to strengthen teacher quality and school leadership. This work has focused on how to make teaching child-centred, and the organisational structures needed to improve service delivery.

These lesson plans are not designed to replace professional teachers' preparations. They address gaps in linking theory and practice and focus on improving pupils' literacy and numeracy through a step-by-step guide for teachers, while ensuring children that become active learners. Alongside the plans, new structures and processes ensure that teachers are continuously supported by both the State School Improvement Team (SSIT) and the LGEA-based school support officers (SSOs).

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

The Ministry of Education, Science and Technology appreciates all those who have worked hard to produce these lesson plans and train our teachers to use them. Specifically, I offer thanks to DFID for its ongoing support through the ESSPIN programme.

Professor Haruna Wakili
Honourable Commissioner,
Ministry of Education,
Science and Technology,
Jigawa State

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Weeks
21—25

Introduction
Asking questions

Effective questioning in the classroom

Questioning is a very useful way to find out what pupils already know and whether they understand what they are learning. It is also a strategy to measure how successful your teaching is.

When you use questioning as part of your teaching, you are involving pupils in their learning, and giving them immediate feedback. This is a good way to develop motivation.

Pupil participation

Ask pupils to discuss questions in pairs or small groups. This is a good way to get the whole class talking. It gives pupils the chance to explain their thinking.

Explain to your class that the question is for them to discuss in a pair or a group. Tell them they have 2—3 minutes to discuss it. Ask the question and walk around the class listening to the pupils talk. You can then ask further questions to extend their thinking or help their understanding.

Thinking time

It is really important that when you ask pupils questions you count to 15 in your head before you choose someone to answer. This gives all pupils the chance to think of something to say, not just the 'quick thinkers'.

When asking questions remember to choose pupils from different areas of the classroom – choose pupils who do not have their hand up and choose pupils whose understanding you want to check.

Different questions

The main types of questions are 'closed' questions and 'open' questions. When you ask closed questions there will only be one answer, eg: 'What is 3 x 4?', 'What colour is the dog in the story?'. It is easier to ask closed questions. An open question is one that has many answers, eg: 'What do you think Musa likes doing on a Saturday?' Asking open questions makes children think of different ideas.

If pupils give you a different answer to the one you are expecting, think carefully about their reasoning – it could be that it is a reasonable answer, just not the one you are expecting.

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Weeks
21—25

Introduction

Songs, rhymes, games and teaching aids for the term

10 chunky chickens song

10 chunky chickens,
frying in a pan (x2) /
One went pop and
another went bang /

There were 8 chunky
chickens frying in a pan…

(Continue to subtract
two chickens each
time, until there are no
chickens left in the pan.)

Buzz game

Stand or seat the class in a circle.

Count around the circle from 1—30, with each pupil taking a turn to say a number.

When teaching the 3 times table, pupils should shout ‘buzz’ instead of 3, 6, 9...

When teaching the 5 times table, count up to 50 and tell the pupils they should shout ‘fizz’ instead of 5, 10, 15... when it is their turn.

You can use the game to help teach other times tables.

Multiplication bingo game

Play this in groups.

Ask pupils to draw the grid shown below and tell them to write a different answer from the 3 times table in each square (in any order).

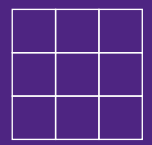
Call out some multiplication questions, eg: 3 x 6 and 3 x 5.

If groups have the answer to the question in their grid, they can cross it out.

The first group to cross out all of their numbers shouts ‘Bingo’ and is the winner.

You can use the same game for other times tables.

Multiplication bingo grid



Find a friend game

Make flash cards with the sums from a multiplication table, eg: 1 x 3, 2 x 3.

Write the answers on separate flash cards.

Give each pupil a card.

Tell the pupils if they have a sum they have to find someone with the answer, and if they have the answer they have to find someone with the matching sum.

Order the times tables game

Make a set of cards containing answers to one of the times tables.

Make enough for each group to have a set.

Shuffle the cards in each set.

Place the sets of cards at intervals along a line about 10 metres from the pupils.

Tell the pupils in each group to stand one behind the other, behind a starting line, facing the cards.

Shout, ‘Go’ and tell pupils in each group to take turns in running to get a card, which their group must arrange in the correct order.

The first team with all the cards in order is the winner.

Number bonds game

Get the pupils to form a circle.

Say a number between 0 and 9.

Ask the pupils to reply quickly with the number they need to add to make 10.

For example, if you are teaching number bonds to 10, you say ‘2’ and they reply ‘8’.

For number bonds to 20, you say ‘12’ and they reply ‘8’, you say ‘15’ and they reply ‘5’.

For number bonds to 100, you say ‘25’ and they reply ‘75’.

Mouse number line

Make a triangular prism and draw a picture of a mouse on it.

Get a strip of paper and mark it in 51 equal sections (eg: 1cm each).

Label the sections from 0—50 and stick this number line on to the mouse to become its tail.

Multiplication tables missing numbers

Explain to the pupils how to use the grid shown right to help with multiplication.

To help work out 3 x 4, put one finger on the 3 and one on the 4 as shown.

Slide your fingers along and down until the ‘3’ finger meets the ‘4’ in the square containing 12.

This shows that 3 x 4 = 12 as shown in the grid.

Draw the table on a large piece of card or the chalkboard.

Prepare some blank cards to fit over the squares.

Ask the pupils to look away.

Place a square over a number and ask the pupils to tell you which number is missing.

Multiplication table

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	1	2	3	4	5	6	7	8	9	10
2	2	4	5	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50

Number beads to 100

Thread beads on to a piece of string or cotton to make a moveable bead string as shown below.

If beads are not available, use cut-up straws and place them on a string or washing line.

After each set of Ten beads, change the colour of the beads.

Make sure there is space to move the beads along the string.

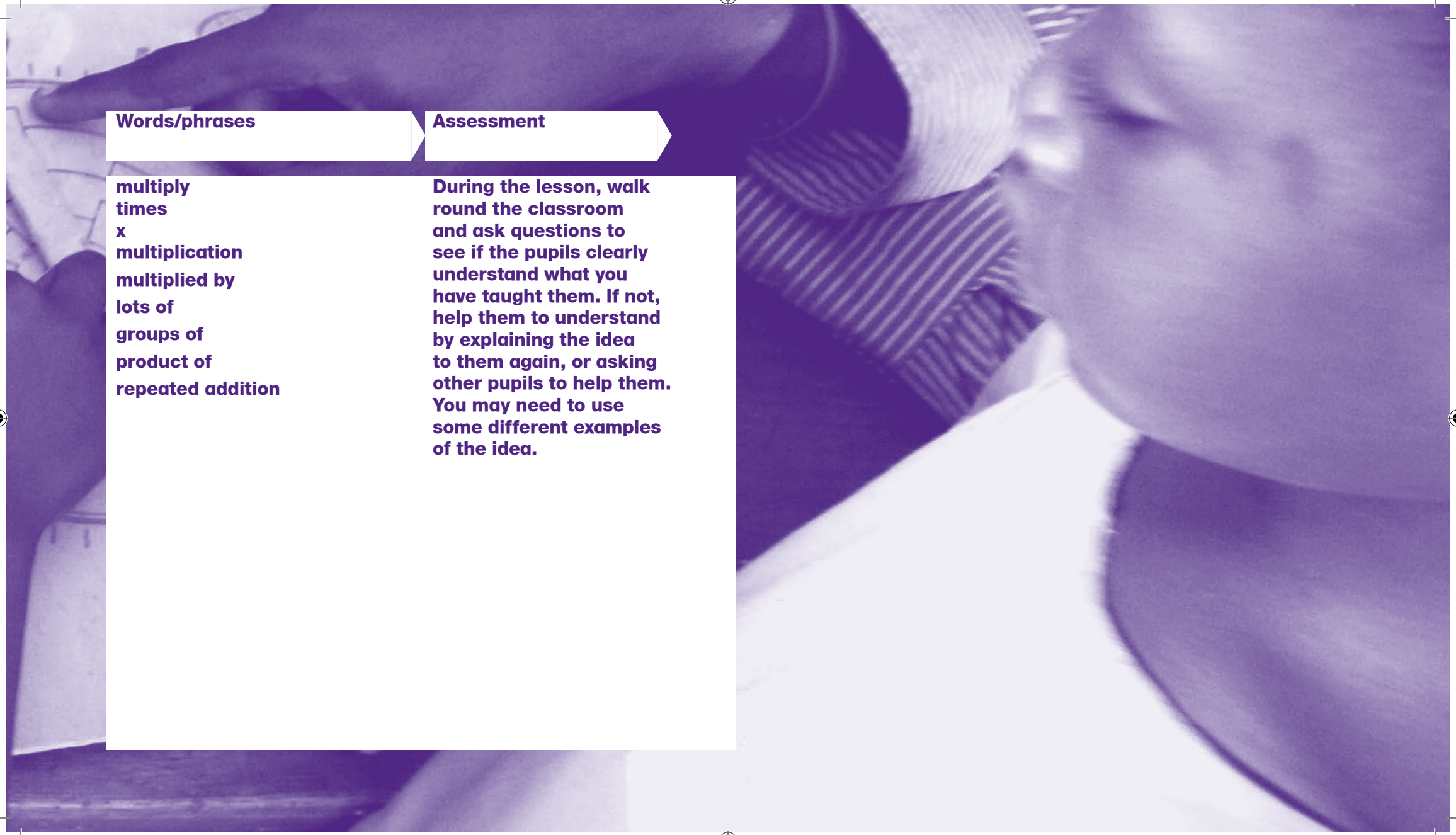
Number beads

Pictogram showing the number of pupils late for school

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key  = 1 pupil

Week 21 Multiplying two-digit numbers using the grid method



Words/phrases	Assessment
multiply times x multiplication multiplied by lots of groups of product of repeated addition	During the lesson, walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If not, help them to understand by explaining the idea to them again, or asking other pupils to help them. You may need to use some different examples of the idea.

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 21
Multiplying two-digit numbers using the grid method
Day 1

Lesson title

Multiplication (repeated addition)

15 minutes

Learning outcomes

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

Use a number line to count in 2s and 3s.

Work out multiplication calculations using repeated addition.

Teaching aids

Before the lesson:

Have ready the 'Mouse number line' explained in the introduction.

Have ready a strip of paper divided into 51 equal sections for each pair of pupils.

Read Macmillan New Primary Mathematics 3, page 75, exercise L, questions 6—10.

Daily practice

Pair task

Show the pupils the 'Mouse number line'.

Give out the strips of paper.

Tell the pairs to write the numbers from 0—50 in order in the sections.

Ask questions to make the pupils count on and count back, eg:
'What is 15 more than 27?'
'What is 13 less than 40?'
'What is 6 more than 38?'

Tell the pupils to use their number lines to help them answer the questions.

10 minutes	25 minutes	Macmillan New Primary Mathematics 3	10 minutes

Introduction

Pair task

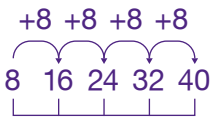
Ask the pairs to use their number lines to count in 2s with you (2, 4, 6...) and then in 3s.

Tell them to use a number line as you ask questions from the 2 and 3 times tables eg: 3 x 6, 8 x 2.

Main activity

Group teaching

Show the pupils the relationship between repeated addition and multiplication with the following example:

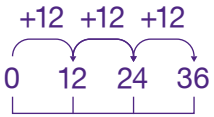


8 + 8 + 8 + 8 + 8 = 40
is 5 lots of 8, which is the same as 5 x 8 = 40.

Write the following problems on the chalkboard and discuss how to do them with the pupils:

1 How many biscuits are there in 3 packets of 12?

If 1 packet of biscuits contains 12, then
3 x 12 = 36



2 How many bottles are there in 6 crates of Coke if there are 6 bottles in 1 crate?

Pair task

Ask the pupils to use a number line to complete Macmillan New Primary Mathematics 3, page 75, exercise L, questions 6—10.

Plenary

Pair task

Ask each pair to have ready their number line.

Ask the class addition questions to 20, and tell them to answer quickly by pointing to the answer on their number line.

Lesson title

Multiplication using the grid method

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 21
Multiplying two-digit numbers using the grid method
Day 2

Learning outcomes

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

Say number bonds to 20.

Use the grid method to multiply two-digit numbers.

Teaching aids

Before the lesson:

Have ready 0—20 number cards. If there are more than 20 pupils, make duplicate cards. If there are fewer than 20 pupils, place the extra cards face up on the floor.

Make sure each pair has the number line they made yesterday.

Daily practice

Pair task

Give the pairs the number cards from 0—20.

Ask them to find someone who has a number that will add to theirs to make 20, eg: 18 + 2, 16 + 4.

Tell the pupils to sit down when they have found someone.

Ask problems such as:

'If I have 23, how many more do I need to get 50?'

'If I have 34, how many more do I need to get 50?'

Tell the pupils to use their number lines to help them answer.

10 minutes	25 minutes	10 minutes

Introduction

Pair task

Tell the pupils to use their number lines to answer questions from the 2, 3 and 5 times tables.

Ask them 5 questions from the 2, 3 and 5 times tables.

Tell them to write out the 2 and 3 times tables in their exercise books.

Choose some pairs to say the tables and ask the others to check if they are correct.

Main activity

Whole class teaching

Choose some pupils to write some two-digit numbers on the chalkboard.

Expand one of the numbers and choose pupils to expand the rest (eg: 46 = 40 + 6).

Tell the pupils you are going to teach them a new way to multiply bigger numbers.

Write '36 x 3 =' on the chalkboard and tell the pupils to expand it (36 = 30 + 6).

Draw a grid underneath (as shown below) and write 'x 3' by the side.

Ask,
'What is 3 x 30?' (90),
'What is 3 x 6?' (18).

Write the two answers in the grid and add them up: '90 + 18 = 108'.

Write the answer, ie: '36 x 3 = 108'.

Repeat with 23 x 4.

Tell the pupils to write the sum and draw the grid in their exercise books as you explain it.

	30	6
x3	90	18

Plenary

Pair task

Ask the pupils to use the grid method to work out 32 x 3 and 21 x 4.

Choose some pairs to explain on the chalkboard how they worked them out.

Lesson title

15 minutes | Game

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 21
Multiplying two-digit numbers using the grid method
Day 3

Multiplication using the grid method

Learning outcomes

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

Know the 3 and 5 times tables.

Use the grid method to multiply two-digit numbers.

Teaching aids

Before the lesson:

Have ready the 0—20 number cards from yesterday.

Read the instructions for playing 'Buzz'.

Daily practice

Whole class teaching

Play the 'Number bond' game as you did yesterday.

Ask the class problems such as:

'If I have 65, how many less is it than 68?'

'If I have 34, how many less is it than 40?'

Tell the pupils to use their number lines to help them answer.

10 minutes	Game	25 minutes	10 minutes

Introduction

Whole class teaching

Ask the pupils to say the 3 and 5 times tables with you.

Play ‘Buzz’ with the 3 times table.

Main activity

Whole class teaching

Ask the pupils what the sign ‘x’ means (times, multiply).

Ask them to expand the following numbers: 26, 45, 32, 39, 12, 33.

Tell the pupils to write them in their exercise books like this: ‘26 = 20 6’.

Choose some pupils to quickly write their answers on the chalkboard.

Remind the pupils how to multiply two-digit numbers, eg: 45 x 2.

Tell them to expand 45 (40 5).

Draw a grid as shown and write ‘x 2’ by the side.

	40	5
x2	80	10

Ask,
‘What is 2 x 40?’ (80),
‘What is 2 x 5?’ (10).

Write the two answers in the grid and add them up:
‘80 + 10 = 90’.

Write the answer:
‘45 x 2 = 90’.

Pair task

Write the following sums on the chalkboard
36 x 2 =
27 x 2 =
14 x 2 =
43 x 2 =

Ask the pupils to work out the answers in their exercise books using this method.

Plenary

Whole class teaching

Call out some examples from the 3 and 5 times tables and ask the pupils to say the answers.

Lesson title

Multiplication problems

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 21
Multiplying two-digit numbers using the grid method
Day 4

Learning outcomes

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

Add three-digit numbers together using a number line.

Use the grid method to solve multiplication problems.

Teaching aids

Before the lesson:

Make sure each pair has the number line they made on Day 1.

Write the problems in the main activity on the chalkboard.

Daily practice

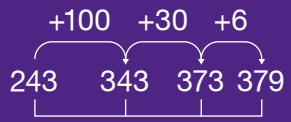
Group task

Remind the pupils how expanding numbers can help when adding two numbers together.

Demonstrate adding three-digit numbers using a number line, eg: 136 + 243.

Start with the larger number, ie: 243.

Expand the smaller number, ie: 136, 136 = 100 + 30 + 6



136 + 243 = 379

Choose some pupils to help you work out 208 + 124.

10 minutes	25 minutes	10 minutes
Introduction	**Main activity**	**Plenary**

Pair task

Tell the pupils to count in 3s using their number line.

Write the following sums on the chalkboard:
3 x 9 =
3 x 6 =
3 x 4 =
3 x 8 =
3 x 5 =
3 x 3 =
3 x 10 =

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

Group task

Write '22 x 5 =' on the chalkboard and ask the pupils how we can work it out.

Demonstrate with the grid method.

Read the following problems and ask what we need to do to solve them, ie: multiply using the grid method:

How many legs have 12 cattle got?

A stool has 3 legs. How many legs are needed for 22 stools?

Each pupil has 3 mangoes. There are 24 pupils. How many mangoes are there altogether?

Ask the groups to solve the problems in their exercise books.

Whole class teaching

Choose some pupils to write their calculations on the chalkboard.

Ask the class if they are correct.

If not, choose other pupils to help correct them.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 21
Multiplying two-digit numbers using the grid method
Day 5

Multiplication vocabulary

Learning outcomes

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

Add three-digit numbers using a number line.

Use multiplication vocabulary.

Teaching aids

Before the lesson:

Make sure the pupils have the number lines from yesterday.

Read the instructions for 'Multiplication bingo' and 'Find a friend' in the introduction.

Write the problems in the main activity on the chalkboard.

Daily practice

Whole class teaching

Demonstrate how to work out 526 + 126 on the chalkboard.

Ask a pupil to expand the smaller number, ie: 126 = 100 + 20 + 6.

Ask them to show you where they start counting (526) and write it on the left-hand side of the number line.

Use the expanded number to make jumps along the number line to give the answer.

Write the final answer underneath the number line: '526 + 126 = 652'.

Ask the pupils to solve the following sums in their exercise books using number lines: 437 + 128, 376 + 214.

Ask them to compare their answers with a partner.

10 minutes	Game	25 minutes		10 minutes	Game

Introduction

Whole class teaching

Tell the pupils to say the 2, 3 and 5 times tables with you.

Play multiplication 'Find a friend'.

Main activity

Pair task

Ask the pupils to use their number lines to complete the following calculations:

4 x 7 =
4 x 8 =
6 x 5 =
6 x 7 =

Choose some pairs to say the answers.

Ask the class if they are correct.

If not, ask them to say the correct answer.

Explain that the sign 'x' means 'multiply' but it is also called 'times' and 'the product of'.

Read and explain the problems on the chalkboard:

1 What is 13 times 6?

2 What is 23 multiplied by 4?

3 What is the product of 32 and 2?

4 3 boys have 12 sticks each. How many sticks are there altogether?

Tell the pupils to work out the answers in their exercise books using the grid method.

Check their work and help them if they have difficulties.

Plenary

Whole class teaching

Play 'Multiplication bingo' with the 3 times table.

Week 22 Dividing whole numbers

Words/phrases

share
share equally
÷
divide
divided by
divided into
group
grouping
equal groups of
group in 2s, 3s, 4s...
place value

Assessment

During the lesson, walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If not, help them to understand by explaining the idea to them again, or asking other pupils to help them. You may need to use some different examples of the idea.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 22
Dividing whole numbers
Day 1

Dividing numbers using grouping

Learning outcomes

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

Say the 4 times table.

Use grouping to solve division problems.

Teaching aids

Before the lesson:

Have ready at least 35 counters for each group.

Make sure each pair has the number line they made last week.

Daily practice

Pair task

Ask the pupils to say the 3 times table.

Tell them to use their number lines to help them say the 4 times table.

Tell the pupils to write the 4 times table in their exercise books.

10 minutes

Introduction

Whole class teaching

Ask the pupils to stand in a circle and count forwards in 3s and then 4s.

Ask them to count backwards in 3s and then 4s.

Tell the pupils to stand in a line. (Make sure there is an even number of pupils – if not, join in yourself).

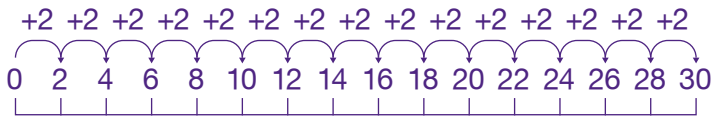
Tell the pupils to arrange themselves in groups of 2.

Ask,
'How many groups are there?'

Record this on the chalkboard as shown below.

There are 15 groups of 2 if there are 30 pupils in the class.

Number line



25 minutes

Main activity

Group task

Give the groups the counters to work with.

Write '÷' on the chalkboard and explain that it means divide or share.

Write '8 ÷ 2 =' on the chalkboard and say,
'This means 8 shared in 2s. How many groups of 2 are there in 8?'

Put 8 counters on the table and share the counters into groups of 2.

Ask the pupils how many groups they have made. (There are 4 groups of 2 in 8.)

Tell them we write this as 8 ÷ 2 = 4.

Write the following sums on the chalkboard:
20 ÷ 4 =
16 ÷ 2 =
35 ÷ 5 =

Tell the pupils to group the counters and complete the sums in their exercise books.

10 minutes

Plenary

Whole class teaching

Choose some pupils to say their answers.

Say,
'I want to share 15 pencils among 5 pupils. How many will they have each?'

Tell the pupils we can write this as '15 ÷ 5 ='.

Ask pupils to group the counters to find the answer.

Lesson title

15 minutes | Game

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 22
Dividing whole numbers
Day 2

Dividing numbers using a number line

Learning outcomes

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

Know the 4 times table.

Use a number line for division.

Teaching aids

Before the lesson:

Read the instructions for the 'Order the times tables' game.

Make a set of cards containing answers to the 4 times table.

Have ready a large and small sheet of paper for each group and masking tape.

Daily practice

Whole class teaching

Ask the pupils to say the 3 and 4 times tables.

Ask them to count in 5s.

Play 'Order the times tables' with the 4 times table cards.

10 minutes

Introduction

Group task

Give each group a large sheet of paper.

Tell each group a different number eg: 4, 6, 8, 10.

Tell them to cut their paper into that number of equal sections.

Ask them to arrange the sections in groups of 2, count the number of groups they have made and tell the class, eg: There are 3 groups of 2 in 6.

Show the pupils how to write their groupings as division sums on the smaller piece of paper, eg: '6 ÷ 2 = 3'.

Stick each grouping on the wall with the division sum underneath.

25 minutes

Main activity

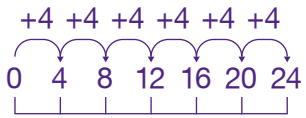
Group task

Tell the pupils we can use a number line to count groups.

Draw an empty number line on the chalkboard.

Tell the pupils you need to work out 24 ÷ 4.

Start from 0 and move forwards in groups (jumps) of 4 until you reach 24.



Ask,
'How many jumps of 4 make 24?'

The answer is 6 jumps, so 24 ÷ 4 = 6.

Repeat with 18 ÷ 3.

Write the following sums on the chalkboard:
15 ÷ 3 =
16 ÷ 4 =
32 ÷ 4 =

Ask the groups to complete the sums in their exercise books using number lines.

10 minutes

Plenary

Whole class teaching

Ask pupils from each group to come and explain their answers on the chalkboard.

Lesson title

15 minutes | Game

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 22
Dividing whole numbers
Day 3

Dividing numbers using a number line

Learning outcomes

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

Know the times tables up to the 5 times table.

Divide numbers using a number line.

Teaching aids

Before the lesson:

Read the instructions for the 'Order the times tables' game.

Have ready a set of cards containing the answers to the 3 times table for each group.

Have ready a large and small sheet of paper and a washing line and pegs for each group.

Daily practice

Whole class teaching

Ask the pupils to say the 2, 3, 4 and 5 times tables.

Play 'Order the times tables' with the 3 times table cards.

10 minutes

Introduction

Group task

Give each group a large sheet of paper.

Give each group a different number in the 3 times table, eg: 6, 9, 12, 18.

Tell them to cut their paper into that number of equal sections.

Ask the groups to hang the sections on the washing line in groups of 3.

Ask the pupils to count the number of groups they have hung on the washing line.

Ask them to write it as a division sum on the smaller piece of paper and hang it next to their groups, as shown below.

Washing line

9 ÷ 3 = 3

25 minutes

Main activity

Whole class teaching

On the chalkboard, demonstrate how to work out 27 ÷ 3.

Tell the pupils to copy each stage with you in their exercise books.

Ask them to draw an empty number line in their exercise books.

Start from 0 and move forwards in groups of 3.

Ask,

'How many jumps of 3 make 27?' and,

'What is the answer to 27 ÷ 3?'.

Write the following on the chalkboard:

21 ÷ 3 =

36 ÷ 4 =

45 ÷ 5 =

Ask the pupils to complete the sums in their exercise books using number lines.

10 minutes

Plenary

Whole class teaching

Ask pupils questions from the 3 times table.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 22
Dividing whole numbers
Day 4

Multiplication tables and division

Learning outcomes

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

Use multiplication tables to solve division problems.

Divide numbers by 10 by moving the place value.

Teaching aids

Before the lesson:

Read the instructions for 'Multiplication tables missing numbers' in the introduction.

Make a multiplication table on a large piece of card.

Daily practice

Whole class teaching

Practise the times tables using the 'Multiplication tables missing numbers' activity.

Ask the pupils to write the 4 times table backwards in their exercise books, ie: 10 x 4 = 40, 9 x 4 = 36.

10 minutes

Introduction

Whole class teaching

Show the pupils that multiplication tables can help us to solve division problems, using the following examples:

1 8 ÷ 2 means how many groups of 2 are in 8?

(4 groups of 2 make 8 or 4 x 2 = 8 so 8 ÷ 2 = 4.)

2 15 ÷ 3 means how many groups of 3 are in 15?

(5 groups of 3 make 15 or 5 x 3 = 15 so 15 ÷ 3 = 5.)

Write the following division sums on the chalkboard:
6 ÷ 3 =
12 ÷ 3 =
18 ÷ 3 =

Ask the pupils to say what multiplication sum will help them to work out each sum.

25 minutes

Main activity

Whole class teaching

Demonstrate how to use a number line to work out 70 ÷ 10.

Start from 0 and move forwards in Tens.

Ask,
'How many jumps of 10 make 70?'

The number of jumps is 7 so 70 ÷ 10 = 7.

Repeat with 30 ÷ 10 and 50 ÷ 10.

Ask what is happening to the number being divided, ie: 70 becomes 7, 30 becomes 3.

Tell the pupils when we divide by 10, the number becomes ten times smaller.

Write the following on the chalkboard:
20 ÷ 10 =
80 ÷ 10 =
90 ÷ 10 =

Ask the pupils to complete these sums without using a number line.

10 minutes

Plenary

Pair task

Say,
'What is 10 divided by 2?' and ask the pupils how we can work this out.

Repeat with other division calculations involving the 2 and 3 times tables.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 22
Dividing whole numbers
Day 5

Word problems using division

Learning outcomes

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

Use a number line and multiplication to solve division word problems.

Use different vocabulary for division.

Teaching aids

Before the lesson:

Read the instructions for 'Multiplication tables missing numbers' in the introduction.

Read Macmillan New Primary Mathematics 3, page 85, questions 3—10.

Daily practice

Whole class teaching

Practise the times tables using the 'Multiplication tables missing numbers'.

Ask the pupils to write the 5 times table backwards in their exercise books, ie: 10 x 5 = 50, 9 x 5 = 45.

10 minutes	25 minutes	Macmillan New Primary Mathematics 3	10 minutes

Introduction

Whole class teaching

Ask the pupils to mention some of the words for the sign '÷', ie: share, divide, put into groups.

Ask them to help you solve the following problem: 'I need to share 16 pencils equally between 4 pupils. How many will they have each?'

Tell them they can write this as a division sum, ie: 16 ÷ 4 = 4, and use a number line to answer it.

They could also solve the problem using multiplication, ie: 16 ÷ 4 means how many groups of 4 are in 16? (4 groups of 4 make 16, or 16 x 4 = 4.)

Main activity

Pair task

Ask the pupils to solve the problems in Macmillan New Primary Mathematics 3, page 85, questions 3—10.

Tell the pairs to use either a number line or multiplication to help them work out the answers.

Plenary

Pair task

Ask the pairs to check their answers using the multiplication table.

Eg: in number 6, 35 ÷ 5 = 7 because 7 x 5 = 35.

Week 23 Area of regular shapes

Words/phrases	Assessment
area surface bigger smaller square centimetre cm^2 multiply length breadth l x b	During the lesson, walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If not, help them to understand by explaining the idea to them again, or asking other pupils to help them. You may need to use some different examples of the idea.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 23
Area of regular shapes
Day 1

Comparing areas of shapes

Learning outcomes

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

Solve simple division problems.

Compare the area of objects in the classroom.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, page 117, Exercise 1.

Daily practice

Whole class teaching

Write the following on the chalkboard: 'There are 8 sweets. How many sweets can 4 pupils have each?'

Ask the pupils what methods they know to help them solve this problem, eg: draw a number line or use the 4 times table.
4 x 2 = 8. So 8 ÷ 4 = 2.

Ask the pupils to do the following sums in their exercise books:
12 ÷ 3 =
40 ÷10 =
35 ÷ 5 =

10 minutes	25 minutes	Macmillan New Primary Mathematics 3	10 minutes

Introduction

Whole class teaching

Tell the pupils the surface of something is called the area.

Ask them to mention areas they can see, eg: a desk top, the floor, the chalkboard.

Ask the pupils to compare the area of their desk and your table.

Which is bigger?

Ask them to compare the area of their exercise books and the textbook.

Main activity

Group task

Ask the groups to find out how many of their exercise books can cover their desk.

Choose a pupil to cover the teacher's table with exercise books.

Ask the class to count how many books he or she uses.

Read and explain Exercise 1 in Macmillan New Primary Mathematics 3, page 117.

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

Choose someone from each group to explain their answers and ask the class if they agree.

Ask the pupils to name some bigger areas in the classroom, eg: the floor, the ceiling.

Ask them which is the biggest and which is the smallest area in the classroom.

Plenary

Whole class teaching

Draw a large square and a small square on the chalkboard.

Ask the pupils which has the smaller area.

Ask them to draw two circles in their exercise books.

Make one circle have a smaller area.

Tell the pupils to write 'larger area' and 'smaller area' on the correct circles.

Lesson title

Unit squares

15 minutes | Game

Learning outcomes

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

Complete simple multiplication sums.

Use Unit squares to measure area.

Teaching aids

Before the lesson:

Remind yourself how to play 'Multiplication bingo'.

Make enough 1cm x 1cm squares to cover a mathematics textbook. Make a set for each group.

Have ready card rectangles with areas of: 8cm x 2cm, 4cm x 2cm, 5cm x 2cm, 5cm x 4cm and 3cm x 4cm. Label the rectangles A, B, C, D and E.

Daily practice

Whole class teaching

Play 'Multiplication bingo'.

Write the following sums on the chalkboard:
3 x 7 =
5 x 7 =
4 x 6 =
3 x 9 =
3 x 8 =

Ask the pupils to complete the sums in their exercise books using a number line.

10 minutes

Introduction

Pair task

Ask the pairs to use their palms to cover the surface of the table, desk and the cover of their textbook.

Tell them to count the number of hand palms it takes to cover the surface of each item.

Tell them that they are measuring the area in hand palms.

25 minutes

Main activity

Choose some pairs to say how many palms each area measured.

Ask if anyone can explain why some of the answers are different, ie: some pupils have bigger palms than others.

Group task

Tell the pupils that to be accurate we use Unit squares to measure area.

Show them a 1cm x 1cm square. Tell them it is called a 'Unit square'.

Ask the groups to estimate how many Unit squares will cover the front of a textbook.

Give out the squares and ask the pupils to cover the textbook with them and count the number of squares they used.

Compare the groups' results with their estimates.

Repeat with an exercise book.

Give each group a card rectangle.

Ask the groups to measure the area of their rectangle with the Unit squares.

Tell them to record the answer in their exercise books, eg: 'A = ☐ Unit squares'.

Swap the rectangles several times and repeat the activity.

10 minutes

Plenary

Whole class teaching

Ask each group to say one of their results.

Write the results on the chalkboard and keep for the next day.

Lesson title

15 minutes | Game

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 23
Area of regular shapes
Day 3

Centimetre squares

Learning outcomes

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

Know the 4 times table really well.

Measure area in cm^2.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, page 120, Exercise 4.

Have ready the Unit squares for each group and the measurements of the rectangles from yesterday.

Have ready a large piece of paper or card for each group.

Daily practice

Whole class teaching

Play ‘Multiplication bingo’ using the 4 times table.

10 minutes	25 minutes	10 minutes	Macmillan New Primary Mathematics 3

Introduction

Whole class teaching

Hold up a Unit square.

Explain that a Unit square is always the same size: 1cm x 1cm.

Write 'cm^2' on the chalkboard and tell the pupils this is how we write the area of an object in centimetres.

Explain that a single Unit square has an area of 1cm^2, two Unit squares have an area of 2cm^2, and so on.

Look at the rectangles from yesterday.

Choose some pupils to count the number of Unit squares each will hold to find its area, then write the answers as 'cm^2'.

Main activity

Group task

Give each group the cm squares.

Ask them to arrange (or paste) the cm squares on to their large piece of paper.

Tell them to make rectangles with the squares.

Ask them to write the area in cm^2 by each rectangle.

Ask each group to show their rectangles.

Discuss the areas of the shapes and say which are bigger and which are smaller.

Plenary

Pair task

Tell the pupils to look at Macmillan New Primary Mathematics 3, page 120, Exercise 4.

Explain how to count the squares to find the area of each shape.

Tell the pairs to complete questions 4, 5 and 6 in their exercise books, saying their answers as cm^2.

Lesson title

Calculating area

15 minutes

Learning outcomes

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

Solve division word problems.

Calculate the area of rectangles.

Teaching aids

Before the lesson:

Read the instructions for 'Multiplication missing numbers' in the introduction.

Read Macmillan New Primary Mathematics 3, page 120, Exercise 4.

Daily practice

Whole class teaching

Do the 'Multiplication missing numbers' activity.

Write the following problems on the chalkboard:

1 5 children get 20 mangoes off the tree. They share them equally. How many do they have each?

2 A tin holds 3 pens. How many tins are needed for 24 pens?

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

Encourage them to use a number line or their times tables to find the answers.

10 minutes | Macmillan New Primary Mathematics 3

Introduction

Whole class teaching

Tell the pupils to look in Macmillan New Primary Mathematics 3, page 120, Exercise 4, questions 1 and 3.

Ask if they can think of a quick way to find the area instead of counting all the squares.

Tell them to count the squares in the first column (this is the length), ie: 4.

Now count the squares in the top row (this is the breadth), ie: 3.

There are 3 rows of 4 squares, which we can write as '4 x 3'.

4 x 3 = 12 so there are 12 squares.

Tell the pupils we write the answer as 12cm^2.

Tell them the rule for finding the area is to multiply the length by the breadth, ie: l x b.

Write the rule on the chalkboard.

25 minutes

Main activity

Group task

Write the following measurements of rectangles on the chalkboard:

1 length 5cm, breadth 4cm

2 length 10cm, breadth 4cm

3 length 7cm, breadth 2cm

Tell the groups to find the area of each rectangle by multiplying the two numbers together.

Ask them to write each as a multiplication sum in their exercise books and write the answers as cm^2.

10 minutes

Plenary

Whole class teaching

Choose a representative from each group to explain their answers.

Ask,
'Which area is the smallest?'
'Which area is the biggest?'

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 23
Area of regular shapes
Day 5

Finding the area of rectangles and squares

Learning outcomes

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

Say the 6 times table.

Calculate the area of rectangles and squares.

Teaching aids

Before the lesson:

Have ready the mouse number lines from Week 21.

Make a set of rectangles for each group measuring: 4cm x 8cm, 6cm x 9cm and 5cm x 7cm.

Have ready a set of rulers for measuring the cm squares from Day 2.

Daily practice

Pair task

Tell the pupils to use their number lines to count in 6s to find the answer to 4 x 6 (24).

Remind them to put their finger on 0 and jump over 6 numbers to land on 6.

Ask them to use a number line to complete the following in their exercise books:
4 x 9 =
6 x 6 =
7 x 8 =

10 minutes

Introduction

Group task

Choose some pupils to explain what area means.

Give out the sets of rectangles and ask the pupils how they can find the area of each rectangle, ie: l x b.

Tell them to measure the length and the breadth of each rectangle carefully.

They can use the cm squares or a ruler.

Ask them to write the multiplication sum for each rectangle in their exercise books.

Let them use a number line to help calculate the answer if they need to.

25 minutes

Main activity

Whole class teaching

Use a ruler to draw a square on the chalkboard. Make each side measure 10cm.

Ask the pupils what kind of shape you have drawn.

Tell them that a square is a special type of rectangle because all the sides are equal.

Ask them how they can find out the area (multiply l x b, 10 x 10).

Draw a number line to show 10 lots of 10 and to demonstrate that the square's area = 10cm x 10cm = 100cm^2.

Draw 4 squares on the chalkboard, with sides of the following lengths:
5cm
8cm
3cm

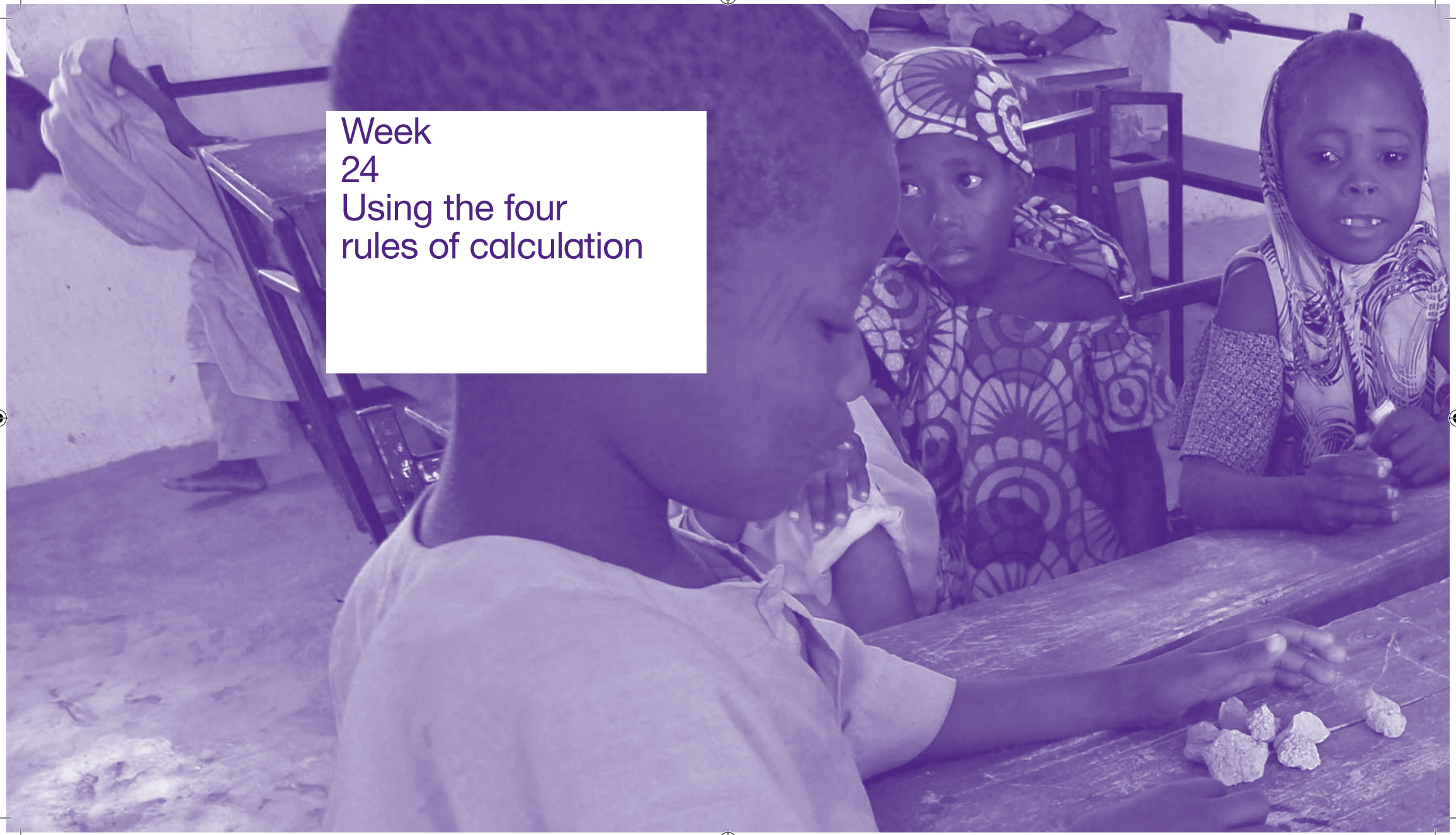
Ask the pupils to work out the area of each square in their exercise books, using a number line or their times tables to work out the multiplication.

10 minutes

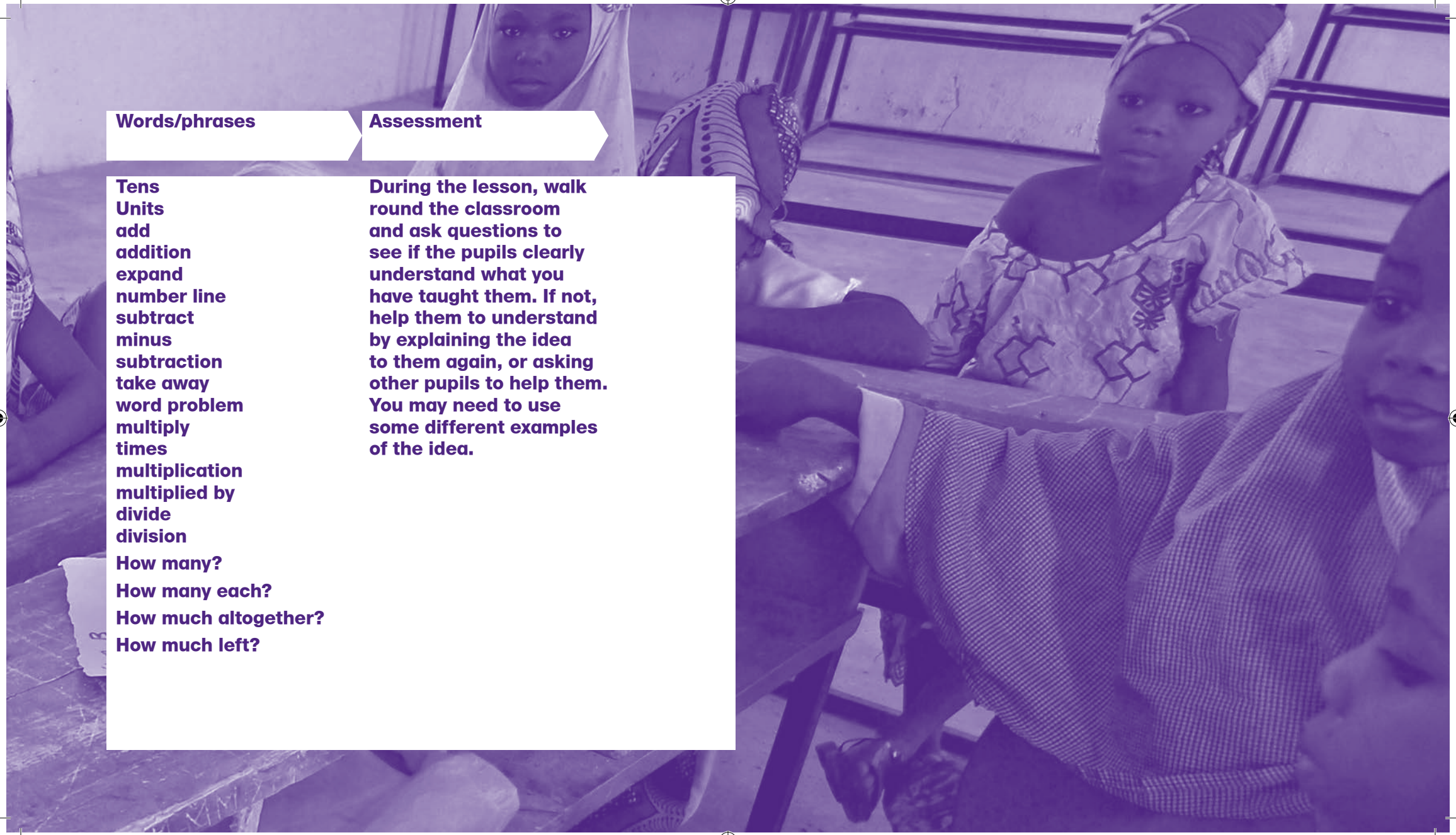
Plenary

Pair task

Choose some pupils to explain their answers on the chalkboard.



Week 24
Using the four rules of calculation



Words/phrases	Assessment
Tens Units add addition expand number line subtract minus subtraction take away word problem multiply times multiplication multiplied by divide division How many? How many each? How much altogether? How much left?	During the lesson, walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If not, help them to understand by explaining the idea to them again, or asking other pupils to help them. You may need to use some different examples of the idea.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 24
Using the four rules of calculation
Day 1

Problems involving addition

Learning outcomes

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

Work out number bonds to 100.

Solve problems using addition.

Teaching aids

Before the lesson:

Make number beads as shown in the introduction.

Read Macmillan New Primary Mathematics 3, page 30, questions 6—10.

Daily practice

Whole class teaching

Show the class the number beads and ask the pupils to count them in Tens.

Say a number below 100.

Show the pupils how to use the beads to say how many more are needed to make 100.

Part the beads and say: 'There are 45 here, how many more will make 100?'

Count from 45 to the next Ten (50) = 5 and then count in Tens (60, 70, 80, 90, 100) = 5 Tens, which is 50.

The answer is 5 + 50 = 55.

Repeat with other numbers, eg: 86, 75, 39.

10 minutes	25 minutes	Macmillan New Primary Mathematics 3	10 minutes

Introduction

Whole class teaching

Tell the pupils there are 414 pupils in school A and 394 pupils in school B.

Ask them how they can find out how many pupils there are altogether.

Ask them which calculation is required, ie: addition.

Write '414 + 394 =' on the chalkboard.

Choose some pupils to help you solve the problem, by expanding the smallest number and using a number line to count on.

Main activity

Pair task

Write the following problems on the chalkboard:

1 Faruku has N425 and Amina has N380. How much money have they got altogether?'

2 Garba buys yams for N350 and rice for N280. How much does he spend altogether?

Tell the pupils to draw number lines in their exercise books to help solve these problems.

Choose some pupils to explain their answers to the class. Tell the pairs to do Macmillan New Primary Mathematics 3, page 30, questions 6—10.

Remind them to use number lines.

Plenary

Whole class teaching

Ask the pupils some simple multiplication questions to answer orally.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 24
Using the four rules of calculation
Day 2

Problems involving subtraction

Learning outcomes

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

Say some number bonds to 100.

Solve problems using subtraction.

Teaching aids

Before the lesson:

Make cards going up in 5s from 0—100. Make two cards for 50. If you have more than 20 pupils, make more than one set.

Have ready the number beads.

Learn the song '10 chunky chickens'.

Read Macmillan New Primary Mathematics 3, pages 49—50, Exercise G.

Daily practice

Pair task

Give each pupil a number card and tell them to find another pupil who has the card that will make 100 when added to theirs.

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

Choose some pupils to check with the number beads that each pair's numbers add to 100.

Remind the pupils to count off a number and ask how many are remaining.

Tell them to count to the nearest 10 and in Tens as yesterday.

10 minutes	Song

Introduction

Whole class teaching

Sing ‘10 chunky chickens’ with the class.

Ask the pupils to say what calculation is happening in the song, ie: subtraction.

Write on the chalkboard: ‘There are 565 pupils in a school. 349 are girls. How many are boys?’

Ask the pupils which calculation is required, ie: subtraction.

25 minutes

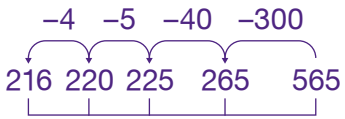
Main activity

Write ‘565 – 349 =’ on the chalkboard.

Choose some pupils to help you solve the problem.

Expand the numbers to make the subtraction easier.
349 = 300 + 40 + 9.
9 = 4 + 5.

The final answer is 216.



Pair task

Write the following problems on the chalkboard and ask the pupils to use a number line in their exercise books to work out the answers:

1 There are 455 pupils in school A and 229 pupils in school B. How many more pupils are there in school A?

2 I have N770. I spend N235. How much money do I have left?

Choose some pairs to explain their answers to the class.

10 minutes	Macmillan New Primary Mathematics 3

Plenary

Whole class teaching

Tell the pupils to do some of the sums in Macmillan New Primary Mathematics 3, pages 49—50, Exercise G.

Remind them to set the sums out horizontally and use number lines.

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 24
Using the four rules of calculation
Day 3

Lesson title

Problems involving multiplication

15 minutes

Learning outcomes

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

Say some number bonds to 100.

Solve problems using multiplication.

Teaching aids

Before the lesson:

Have ready the 0—100 number cards going up in 5s from yesterday.

Read the instructions for playing the 'Number bonds game' in the introduction.

Daily practice

Whole class teaching

Shuffle the cards and give one to each pupil.

Tell them to find another pupil who has the card that will make 100 when added to theirs.

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

Choose some pupils to check with the number beads.

Remind them to count off a number and ask how many are remaining.

Tell them to count to the nearest 10 and in Tens as yesterday.

10 minutes

Introduction

Whole class teaching

Write on the chalkboard, 'A pupil needs 3 exercise books. How many books are needed for 26 pupils?'

Ask the pupils what calculation is needed to solve this (multiplication).

Write '26 x 3 =' on the chalkboard.

Remind the pupils of the grid method.

Tell them to expand 26 = 20 + 6.

Draw a grid underneath and write 'x 3' by the side.

Ask,
'What is 3 x 20?' (60),
'What is 3 x 6?' (18).

Write the answers in the grid.

Now add up the 2 answers: 60 + 18 = 78.

25 minutes

Main activity

Pair task

Write the following problems on the chalkboard and tell the pupils to use the grid method to work out the answers in their exercise books:

1 48 children have 3 pens each. How many pens do they have altogether?

2 There are 27 pupils. They each spend N5. How much money do they spend altogether?

3 4 boys have N35 each. How much money do they have altogether?

Choose some pairs to explain their answers on the chalkboard.

10 minutes | Game

Plenary

Whole class teaching

Gather the pupils in a circle and play the 'Number bonds game' with number bonds to 100.

Lesson title

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 24
Using the four rules of calculation
Day 4

Problems involving division

Learning outcomes

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

Use place value to add numbers in Tens and Hundreds.

Solve problems using division.

Teaching aids

Before the lesson:

Write the sums for the daily practice on the chalkboard.

Daily practice

Whole class teaching

Write the sum '5 + 4 = 9' on the chalkboard.

Ask, 'What will 50 add 40 be?'

Tell the pupils that the numbers are now ten times bigger so the answer will be ten times bigger (The 9 has moved to the Tens place value).

Ask the pupils what 500 add 400 will be. This time the 5 and the 4 move to the Hundreds place value so the answer is 900.

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

4 + 4 =
3 + 3 =
2 + 2 =
40 + 40 =
30 + 30 =
20 + 20 =
400 + 400 =
300 + 300 =
200 + 200 =

10 minutes	25 minutes	10 minutes
Introduction	**Main activity**	**Plenary**

Whole class teaching

Write on the chalkboard, 'Isa reads a book with 35 pages. He reads the same number of pages each day for a week. How many pages does he read each day?'

Ask the pupils what calculation is needed to solve this, ie: division.

Ask them to help you write the division sum on the chalkboard, ie: 35 ÷ 7 = (because there are 7 days in a week).

Remind the pupils that there are two ways we can do this.

Choose some pupils to help you as you use a number line.

Start from 0 and count in groups of 7.

Ask, 'How many jumps of 7 do we need to make 35?'. Write '35 ÷ 7 = 5'.

Tell the pupils the other way to solve division problems is to use multiplication tables.

Tell them that 35 ÷ 7 means how many groups of 7 are in 35.

Write '5 x 7 = 35'. Explain that 5 groups of 7 make 35 so 35 ÷ 7 = 5.

Pair task

Write the following problems on the chalkboard:

1 Mrs Jamila has 6 children. She shares 36 sweets between them. How many sweets does each child get?

2 Three monkeys shared 24 nuts equally. How many did each monkey have?

Tell the pupils to solve the problems in their exercise books.

Tell them to use a number line or multiplication tables.

Whole class teaching

Choose one pair to draw a number line to show how they worked one of the answers out.

Choose another pair to show how they used multiplication tables.

Lesson title

Choosing calculations for problems

15 minutes

Learning outcomes

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

Add numbers in the Tens and Hundreds using their knowledge of place value.

Choose the correct calculation to solve a word problem.

Teaching aids

Before the lesson:

Write the sums for the daily practice on the chalkboard.

Write '+', '–', 'x' and '÷' on flash cards. Make a set for each group.

Write the word problems for the main activity on the chalkboard.

Daily practice

Pair task

Ask the pupils,
'If 7 + 2 = 9, what will 70 + 20 make?'

Remind them that 7 is now ten times bigger and 2 is now ten times bigger so the answer will be in the Tens (90).

Ask, 'What will 700 add 200 make?'

Explain that this time the 7 and the 2 are one hundred times bigger so the answer will be in the Hundreds.

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

10 + 70 =
60 + 30 =
60 + 20 =
400 + 500 =
100 + 800 =
50 + 50 =
400 + 300 =
200 + 400 =
10 + 50 =
500 + 300 =

10 minutes	25 minutes	10 minutes

Introduction

Group task

Give out the mathematical symbol cards and ask the pupils what they mean.

Discuss words for each sign, eg: plus, add, more than, subtract, minus, divide.

Say a calculation word, eg: plus, and ask the pupils to hold up the correct card.

Repeat, using several different words for each sign.

Main activity

Pair task

Read and explain the following problems on the chalkboard:

1 Idris has 28 apples and Asabe has 35. How many apples have they got altogether?

2 There are 178 pupils in a school. 58 are boys. How many are girls?

3 24 pupils need 4 exercise books each. How many books are needed altogether?

4 Share 42 apples equally among 6 children. How many do they get each?

Discuss the calculation required for each one, ie: +, –, x or ÷.

Remind the pupils to use number lines for 1 and 2 and the grid method for numbers 3 and 4.

Tell them to write their calculations and answers in their exercise books.

Plenary

Whole class teaching

Choose some pupils to write their calculations on the chalkboard.

Ask the class if they are correct. If they are not, ask other pupils to help them.

Week 25 Pictograms

Words/phrases	Assessment
pictogram information bar chart most popular least popular symbol represent list table	During the lesson, walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If not, help them to understand by explaining the idea to them again, or asking other pupils to help them. You may need to use some different examples of the idea.

Lesson title

15 minutes | Game

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 25
Pictograms
Day 1

Pictograms

Learning outcomes

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

Say the 6 times table.

Interpret a simple pictogram.

Teaching aids

Before the lesson:

Read the instructions for 'Multiplication bingo' and 'Buzz' in the introduction.

Draw the 'Pictogram showing the number of pupils late for school' from the introduction on the chalkboard.

Write the questions for the main activity on the chalkboard.

Daily practice

Whole class teaching

Ask the pupils to say the 6 times table.

Play 'Multiplication bingo' using the 6 times table.

10 minutes	25 minutes		10 minutes	Game

Introduction

Whole class teaching

Tell the pupils they are going to learn how to record information.

Show them the pictogram and explain that it is a special graph called a 'pictogram'.

Tell them each symbol represents one pupil.

Discuss what information we can get from the pictogram, eg: how many pupils are late in a week, how many are late on Monday, which is the worst day for pupils being late.

Ask the pupils to count the number of pupils who came late to school each day.

Main activity

Pair task

Look at the following questions on the chalkboard:

1 How many pupils were late on Wednesday?
2 How many pupils were late on Monday?
3 On which day were most pupils late?
4 Which day had the least number of late pupils?

Tell the pupils to use the pictogram to answer the questions in their exercise books.

Ask each pair to tell the rest of the class how they got their answers.

Discuss who might find this information useful, eg: the Head Teacher, the Education Board.

Explain how useful a pictogram is: it is easy to see on which day most pupils are late.

Plenary

Whole class teaching

Play 'Buzz' with the 6 times table.

Lesson title

15 minutes

Pictograms

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 25
Pictograms
Day 2

Learning outcomes

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

Say answers to the 2, 3, 4, 5 and 6 times tables quickly.

Draw a simple pictogram.

Teaching aids

Before the lesson:

Read the instructions for 'Multiplication tables missing numbers' in the introduction.

Have ready the pictogram from yesterday.

Daily practice

Pair task

Do the 'Multiplication tables missing numbers' activity with the class.

Choose some pupils to say answers to the 6 times table as you say it forwards.

Repeat, saying the 6 times table backwards.

10 minutes	25 minutes	10 minutes

Introduction

Pair task

Remind the pupils that yesterday they learned how to use a pictogram.

Ask them what a pictogram is used for.

Look at the pictogram showing the pupils who were late for school.

Ask, ‘How many pupils were late on Tuesday?’, ‘When were 5 pupils late?’

In pairs, ask the pupils to think of their own questions about the pictogram.

Ask each pair to say a question for the class to answer.

Main activity

Whole class teaching

Ask the pupils to choose the colour they like best from red, blue, yellow and green.

Write the results on the chalkboard (eg: red = 6).

Tell them this can also be represented as a pictogram.

Draw the grid shown below on the chalkboard.

Draw on the results for red using the symbol  = one pupil.

Ask the pupils to come and draw the symbols for the other colours.

Ask them to copy the pictogram in their exercise books.

Pupils’ favourite colours

red	
blue	
yellow	
green	

Plenary

Pair task

Ask the pupils to say which colour is the most popular.

Ask them how many pupils chose the most popular colour.

Ask them to think of their own questions about the pictogram.

Ask each pair to say a question for the class to answer.

Lesson title

Pictograms

15 minutes | Game

Learning outcomes

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

Know the 6 times table.

Know that one symbol can represent more than one in a pictogram.

Teaching aids

Before the lesson:

Read the instructions for 'Order the times tables' in the introduction.

Draw the pictogram showing how pupils came to school (shown left) on a large piece of card.

Write the sentences for the main activity on the chalkboard.

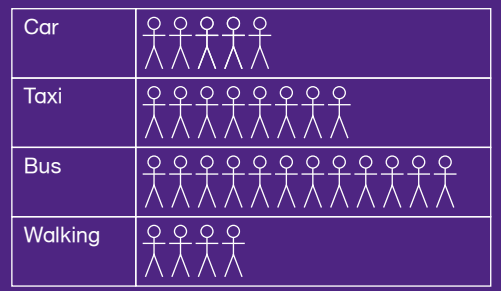
Daily practice

Whole class teaching

Play 'Order the times tables' using the 6 times table.

Tell the pupils to write the 6 times table backwards in their exercise books (ie: 10 x 6 = 60, 9 x 6 = 54).

Pictogram showing how pupils came to school



Key = 2 pupils

10 minutes	25 minutes	10 minutes
Introduction	**Main activity**	**Plenary**

Whole class teaching

Tell the pupils to look at the pictograms they drew in their exercise books yesterday.

Ask them what the symbols mean.

Ask them what the pictogram tells us.

Ask them what the class's favourite colour was and how many pupils chose it.

Pair task

Write '  = 2 pupils' and ask the pupils to copy this in their exercise books.

Ask the pupils how many they need to draw for 4 pupils, 6 pupils and 10 pupils.

In their exercise books, ask them to draw the symbols.

Show them the pictogram showing how pupils came to school.

Read the following sentences on the chalkboard:

- ☐ pupils came by car.
- ☐ pupils came by bus.
- ☐ pupils came by taxi.
- ☐ pupils walked.

The most popular way to get to school is ___ .

Tell the pairs to use the pictogram to fill in the spaces.

Ask them to complete the sentences in their exercise books.

Whole class teaching

Choose some pairs to read their sentences to the class.

Lesson title

Bar charts

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 25
Pictograms
Day 4

Learning outcomes

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

Answer questions from the 6 times table.

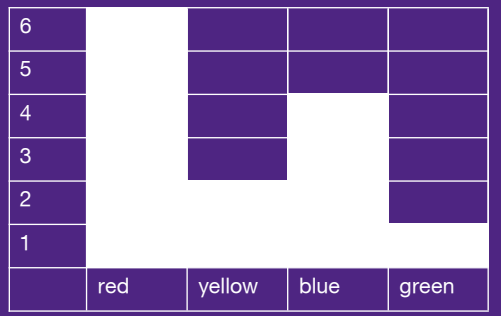
Interpret simple bar charts.

Teaching aids

Before the lesson:

Copy the bar chart below showing pupils' favourite colours on to a large piece of card.

Bar chart showing pupils' favourite colours



Daily practice

Whole class teaching

Call out the following sums and ask the pupils to write the answers in their exercise books:

4 x 6 =
9 x 6 =
6 x 6 =
7 x 6 =
3 x 6 =
5 x 6 =
2 x 6 =
8 x 6 =
10 x 6 =
1 x 6 =

Discuss the answers and correct them where necessary.

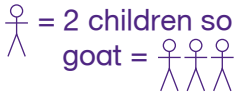
Ask the pupils to say the 6 and 4 times tables with you.

10 minutes	25 minutes	10 minutes
Introduction	**Main activity**	**Plenary**

Whole class teaching

Tell the pupils that some children were asked to name their favourite animals and these are the results.

Write the following results on the chalkboard:
'goat = 6 children',
'sheep = 8 children',
'chicken = 4 children',
'lizard = 2 children'.

Tell them that
 = 2 children so goat =

In their exercise books, ask the pupils to draw the symbol to represent the children for each animal.

Ask them to look at the pictograms they have drawn and think of some sentences to say about them, eg:

'More children like sheep than goats.'

'The lizard is the least popular.'

Ask the pupils to share their ideas with the class.

Whole class teaching

Tell the pupils that another way to represent information is to use a bar chart.

Show them the bar chart showing the pupils' favourite colours.

Tell them that the bars represent the number of pupils.

Ask,
'How many liked red?',
'How many liked yellow?'

Ask,
'What was the most popular colour?'

Whole class teaching

Ask the pupils to write the colours and the number of children who liked them in their exercise books, eg: red = 6.

Lesson title

Bar charts

15 minutes

Numeracy lesson plans
Primary 3

Term 3
Asking questions

Week 25
Pictograms
Day 5

Learning outcomes

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

Use the grid method to multiply.

Draw a simple bar chart.

Teaching aids

Before the lesson:

Have ready the bar chart of the pupils' favourite colours from yesterday.

Daily practice

Whole class teaching

Say, 'There are 6 cakes in a packet. How many cakes are there in 14 packets?'

Ask the pupils which calculation is needed (multiplication).

Remind them of the grid method and complete the sum together.

Ask the pupils to use the grid method to work out 15 x 6 = in their exercise books.

10 minutes	25 minutes	10 minutes

Introduction

Whole class teaching

Look at the bar chart of pupils' favourite colours from yesterday.

Ask the pupils what are the most popular and least popular colours.

Ask them how many pupils like blue.

Ask them what other way they know to record information, ie: a pictogram.

Main activity

Whole class teaching

Write the following on the chalkboard: 'pineapples, bananas, oranges, mangoes'.

Ask the pupils to vote for their favourite fruit.

Write the results next to each fruit.

Draw a grid on the chalkboard as shown below.

Choose some pupils to help you shade in the bars.

Ask them to draw the bar chart in their exercise books.

Pupils' favourite fruit

10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
	pineapples	bananas	oranges	mangoes

Plenary

Pair task

Ask each pair to think of one sentence about the bar chart and say it to the class.

Credits

In 2008, Kwara State carried out a Teachers' Development Needs Assessment for all primary school teachers. This showed that most teachers in Kwara State did not have strong literacy and numeracy skills. The Kwara State Government responded by developing a strategy to support existing teachers and improve new teachers' pre-service training.

These literacy and numeracy lesson plans, developed by the Kwara State School Improvement Team, were part of that strategy. Two years after introducing these plans alongside the training and support programme, Kwara State began to see strong improvements in teachers' teaching skills and pupils' learning outcomes.

Special thanks go to:

The Honourable Commissioner and staff of the Kwara State Ministry of Education and Human Capital Development, as well as the Kwara State Universal Basic Education Board for their support and valuable input and for agreeing to share these plans with other states.

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Thanks also go to the teachers of Kwara State who have used these plans to bring about change in their classrooms.