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**Numeracy
lesson plans**
Primary 2

Term 2
Creating
opportunities for
classroom talk

Weeks
16—20

Type of lesson plans/
Grade

Term/
Learning theme

Numeracy lesson plans Primary 2 Term 2

▶ Creating opportunities for classroom talk

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



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, head teachers 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—3 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.

Mohammed Usman



Honourable Commissioner
of Education
Kaduna State

**Numeracy
lesson plans
Primary 2**

**Term 2
Creating
opportunities for
classroom talk**

**Weeks
16—20**

Introduction

▶ Creating opportunities for classroom talk

Classroom talk

In any classroom, the pupils should do most of the talking, not the teacher. If pupils have the chance to talk they will quickly improve their language skills.

They should experience lots of different types of talk, in pairs, small groups, and within the whole class, eg:

Having conversations between themselves and with adults in the school.

Asking questions of each other and of the adults in the school.

Answering questions.

Expressing opinions.

Explaining how to do something.

Giving instructions.

Solving problems.

Designing ways of recording findings.

Carrying out investigations into numbers.

Sharing ideas.

Singing songs.

Saying rhymes.

These are all included in the numeracy lesson plans.

Here are some ideas to help you encourage all pupils to join in classroom talk:

Ask questions which have lots of different answers and can be answered by individuals, not the whole class at the same time.

When you ask a question, 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 you ask a question, give the pupils 2 or 3 minutes to discuss the answer with a partner before putting their hands up.

When you ask a question, give the pupils 2 or 3 minutes to write the answer in their exercise books and then ask random pupils. This makes all pupils try to think of the answer.

Sit the pupils in a circle and ask them a question which has lots of different answers. Go around the circle and ask every pupil to answer.

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Introduction

▶ Essential low-cost or free teaching aids

Make a calendar

Prepare three sets of cards:

1

Numbers 1—31, ie:
1st, 2nd, 3rd, 4th, 5th, 6th,
7th, 8th, 9th, 10th, 11th,
12th, 13th, 14th, 15th,
16th, 17th, 18th, 19th, 20th,
21st, 22nd, 23rd, 24th,
25th, 26th, 27th, 28th, 29th,
30th, 31st.

2

Days of the week, ie:
Monday, Tuesday,
Wednesday, Thursday,
Friday, Saturday, Sunday.

3

Months of the year, ie:
January, February, March,
April, May, June, July,
August, September, October,
November, December.

How to use the calendar

Stick three empty, dry, water bags together in a row and place the cards inside them to make each day's date.

Store the rest of the cards in a box below the calendar.

Display it somewhere in the classroom so that the pupils can see it.

Ask the pupils to change the date every day as shown below.

Calendar cards

Monday	21st	February
--------	------	----------

Metre sticks

Cut strips of card to the same size as a metre stick and carefully mark the centimetres (cms) on the card in the correct place.

These can then be used for measuring.

Ask a local carpenter if they have any long ends of wood to turn into a metre stick.

Ask them to make marks for centimetres, with longer marks for 10, 20, 30, etc, then write the numbers next to them.

Place value cards

Use card to construct the cards pictured below.

If possible, make one set per pair of pupils.

You could also make one large class set.

How to use the place value cards

Place a Unit card on top of a Ten card, eg: 5 on top of 40 makes 45. Explain this is 4 Tens and 5 Units making 45.

Repeat several times making new two-digit numbers.

Dictate a number to pupils. Ask them to make that number using cards.

Ask:
'How many Tens are in the number?'
'How many Units are in the number?'

Ask the pupils to make a two-digit number with: 4 Tens and 8 Units, 3 Tens and 9 Units, 7 Tens and 0 Units, etc.

Each time they make a new number ask them: 'What number have you made?'

Ask:
'What is the 7 worth in 73?'
'What is the 3 worth in 73?', etc.

When they are confident with two-digit numbers, repeat the process for three-digit numbers.

1 set 100—900

1 set 10—90

1 set 0—9



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Introduction

▶ Songs and rhymes
for the term

1 little crocodile

1 little, 2 little
3 little crocodiles /
4 little, 5 little
6 little crocodiles /
7 little, 8 little,
9 little crocodiles /
10 little crocodiles.

How many fingers can you count?

How many fingers can you count, can you count, can you count /
How many fingers can you count, count for me /
How many fingers can you count, can you count, can you count /
How many fingers can you count, count for me /
1, 2, 3, 4, 5, 6, 7, 8 and 9 and 10.

How many toes can you count, can you count, can you count /
How many toes can you count, count for me /
How many toes can you count, can you count, can you count /
How many toes can you count, count for me /
1, 2, 3, 4, 5, 6, 7, 8 and 9 and 10.

Hickory, dickory dock

Hickory dickory, dock /
The mouse ran up the clock /
The clock struck 1 /
The mouse ran down /
Hickory dickory, dock /
Tick tock.

5 long yams

5 long yams in a farmer's field /
Round and fat, and ready to be picked /
Along came (sing the name of a pupil) with a hoe one day /
Picked a yam and took it away.

4 long yams...
3 long yams...
2 long yams...
1 long yam...

10 green bottles

10 green bottles standing on the wall (x2) /
If 1 green bottle should accidentally fall /
There'd be 9 green bottles standing on the wall /
9 green bottles standing on the wall...

(Repeat until no more bottles are left standing.)

Week
16
Length



Words/phrases

long
longer
longest
short
shorter
shortest
standard
non-standard units
metric stick
metres
centimetres
measure

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

Estimating length and distances

15
minutes

Learning outcomes

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

Recognise half of a shape.

Use non-standard measurements (natural units), eg: arm length, foot, hand span.

Appreciate the differences in arm length and other parts of the body used for measurement.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 121.

Prepare several shapes divided into half and coloured.

Prepare enough uncoloured shapes for each pupil to have one.

Daily practice

Whole class teaching

Show pupils the coloured shapes and ask them to identify the fraction that has been shaded.

Give each pupil a shape and ask them to shade half of the given shape.

Ask pupils to explain how they recognise a half.

10
minutes

MAN Primary
Mathematics 2

25
minutes

10
minutes

Introduction

Whole class teaching

Call out a body part and ask pupils to point to that part of their body.

Ask pupils to read MAN Primary Mathematics 2, page 121, showing the different parts of the body that can be used to measure length.

Hand span

	James	Kazeem	Mariam	Elizabeth
table	5	3	6	4
chair				

Main activity

Whole class teaching

Explain the meaning of **length**.

Show and demonstrate how the parts of the body (natural units) can be used to measure length, eg: hand span.

Draw the table below on the chalkboard.

Explain how to use and complete the table.

Group task

Tell the pupils you are going to use your hand span to measure the width of the window.

Before you do this, ask each group to write down their guess (estimate) of how many hand spans the window will measure.

Now measure the window using your hand span.

See which group had the closest guess.

Ask pupils to draw the table in their books.

Ask them to use their hand span to find the length of their table and chairs and record them in a table.

Plenary

Whole class teaching

Ask pupils why they have different answers (because their hands are different sizes).

Measuring with non-standard units

Learning outcomes

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

Identify and recognise a quarter
of a shape.

Appreciate why there are differences
when using non-standard items
for measuring length.

Use non-standard units to
measure length.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2,
page 45, exercise F and page 122.

Prepare several shapes divided
and shaded in quarters.

Collect ropes, sticks of broom,
pupils' sandals, straws, etc.

Daily practice

Whole class teaching

Show pupils the prepared
coloured shapes.

Ask pupils to identify the fraction
of shapes that are shaded.

Ask pupils to explain how they
recognise a quarter.

Instruct them to complete
the exercise in MAN Primary
Mathematics 2, page 45,
exercise F.

10
minutes

Introduction

Pair task

Explain to the pupils the meaning of non-standard units, ie: units of measurement that are different sizes.

Ask pupils to compare the length of their arms, feet sizes and hand spans.

Ask them why they would get different answers if they measured the length of the chalkboard using hand spans.

25
minutes

MAN Primary
Mathematics 2

Main activity

Whole class teaching

Take pupils outside, or do a demonstration at the front of the class.

Choose several children of different heights to be your demonstrators.

Ask each pupil, in turn, to walk the same distance and ask all the pupils to count the steps taken.

There should be a difference in the number of steps taken to cover the same distance. Can the pupils explain this (the length of pupils' legs are different, therefore the length of stride is likely to be different).

10
minutes

Plenary

Individual task

Ask pupils to give reasons for the differences in the measurement.

Pair task

Ask pupils to discuss what they think is happening in the picture in MAN Primary Mathematics 2, page 122.

Group task

Give each group one different non-standard item, eg: rope, stick, broomstick, straws, etc.

Ask the pupils to measure the length of the chalkboard using the non-standard unit materials.

Ask them to compare their result with other groups and comment on the different answers.

Lesson
title

Measuring in metres

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Recognise a half and a quarter
of a shape.

Use a metre stick to measure
the length, width and height of
given objects in metres.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2,
page 123.

Prepare carefully and accurately
a number line 0—100cm.

Collect metre sticks or rulers and
measuring tapes.

Daily practice

Whole class teaching

Draw several shapes on the
chalkboard and divide one of
them in half.

Ask individuals to come to the
chalkboard and divide the other
shapes in half.

Now invite other pupils to come
to the chalkboard and divide the
shapes into quarters.

Ask individuals to come to the
chalkboard and shade in one
quarter, one half or three quarters
of a shape.

Ask pupils to complete
the exercise in MAN Primary
Mathematics 2, page 47.

10
minutes

Introduction

Whole class teaching

Quickly revise the meaning of non-standard measurements.

Explain that non-standard measurements will give different answers.

Tell pupils that when you measure something using a standard measurement, the answer will always be the same.

Introduce the word **metric**.

Show pupils several metre sticks, and then ask what they notice (they are all the same length).

25
minutes

MAN Primary
Mathematics 2

Main activity

Group task

Give each group a metre stick or a 100cm line and ask them to work together to complete the work in MAN Primary Mathematics 2, page 123.

Visit each group several times to check they are measuring accurately and support any groups who are finding it difficult.

10
minutes

Plenary

Whole class teaching

Ask pupils how many centimetres there are in one metre.

Show them again the size of a centimetre.

Ask them to tell you which of the following things would be measured in centimetres and which would be in metres, eg:

- playground
- pencil
- field
- car
- book
- elephant's trunk
- mobile phone, etc.

Lesson
title

Measuring in centimetres

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Identify larger fractions of a shape.

Use centimetres to measure length.

Teaching aids

Before the lesson:

Make enough rectangular and square shapes in different sizes for two per pupil.

Gather enough rulers (15cm long or more) for each pair of pupils.

Daily practice

Individual task

Ask pupils to look at MAN Primary Mathematics 2, page 49.

Ask pupils to identify the coloured fraction of each shape.

Give pupils two blank shapes each and ask them to divide them into quarters.

Ask them to colour one quarter of one shape and three quarters on the other shape.

10
minutes

Introduction

Whole class teaching

Ask pupils to identify things around them which are small in size, eg: pencil, book, diagram in a book.

Ask them to identify things that are large, eg: wall of the classroom, chalkboard, etc.

Invite a pair of pupils to come out and demonstrate how to measure the length of the chalkboard using a metre stick.

Pair task

Give each pair a ruler (at least 15cm long).

Ask them to point to the places on their ruler that show:

5cm
11cm
0cm
15cm

Whole class teaching

Revise how to measure accurately using a centimetre ruler, ie: place the 0cm mark at the very beginning of the item to be measured.

25
minutes

Main activity

Pair task

Make available small items for measurement such as dusters, exercise books, etc.

Ask pupils to use their centimetre ruler to measure five small items and record the results in their books.

10
minutes

Plenary

Whole class teaching

Hold up one of the items and ask which pair measured it.

Ask them how many centimetres they recorded for that item.

If they are correct, praise them. If not, remind the class how to carefully measure length and record the results.

Lesson
title

Measuring in metres and centimetres

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Recognise a half, a quarter and larger fractions, eg: three quarters of a shape.

Measure accurately using standard measurement units.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 128 (measuring the sides of the shapes).

Gather rulers for the whole class.

Make two vertical lines on the wall, both from floor level to 1m 60cm high, and use chalk, a marker pen or paint to show each centimetre.

Daily practice

Individual task

Ask pupils to use a centimetre rule to measure length of sides a—l in MAN Primary Mathematics 2, page 128 (measuring the sides of the shapes).

10
minutes

Introduction

Whole class teaching

Show the pupils the two vertical lines drawn on the wall.

Point out to the pupils that they are measured out in centimetres. Show them where the 100cm mark is and ask them what we call 100cm (1 metre).

25
minutes

Main activity

Whole class teaching

Ask a pupil to come and stand in front of one of the lines on the wall. Make sure they have their back against the wall and feet flat on the floor.

Put your hand on their head and touch your fingers on the wall.

Now ask the pupil to move away while you keep your fingers on the wall.

Read out the measurement and tell the pupil this is their height in metres and centimetres.

Demonstrate again with another pupil.

Pair task

Ask two pairs at a time to come out and measure each other against one of the measuring lines.

Tell them to record their heights in their books, eg:

'I am 1m cm'

'Blessing is 1m cm'.

While pupils wait for their turn to measure their heights, ask them to draw and label lines in their books that measure:

8cm

4cm

10cm

3cm

14cm

1cm

10
minutes

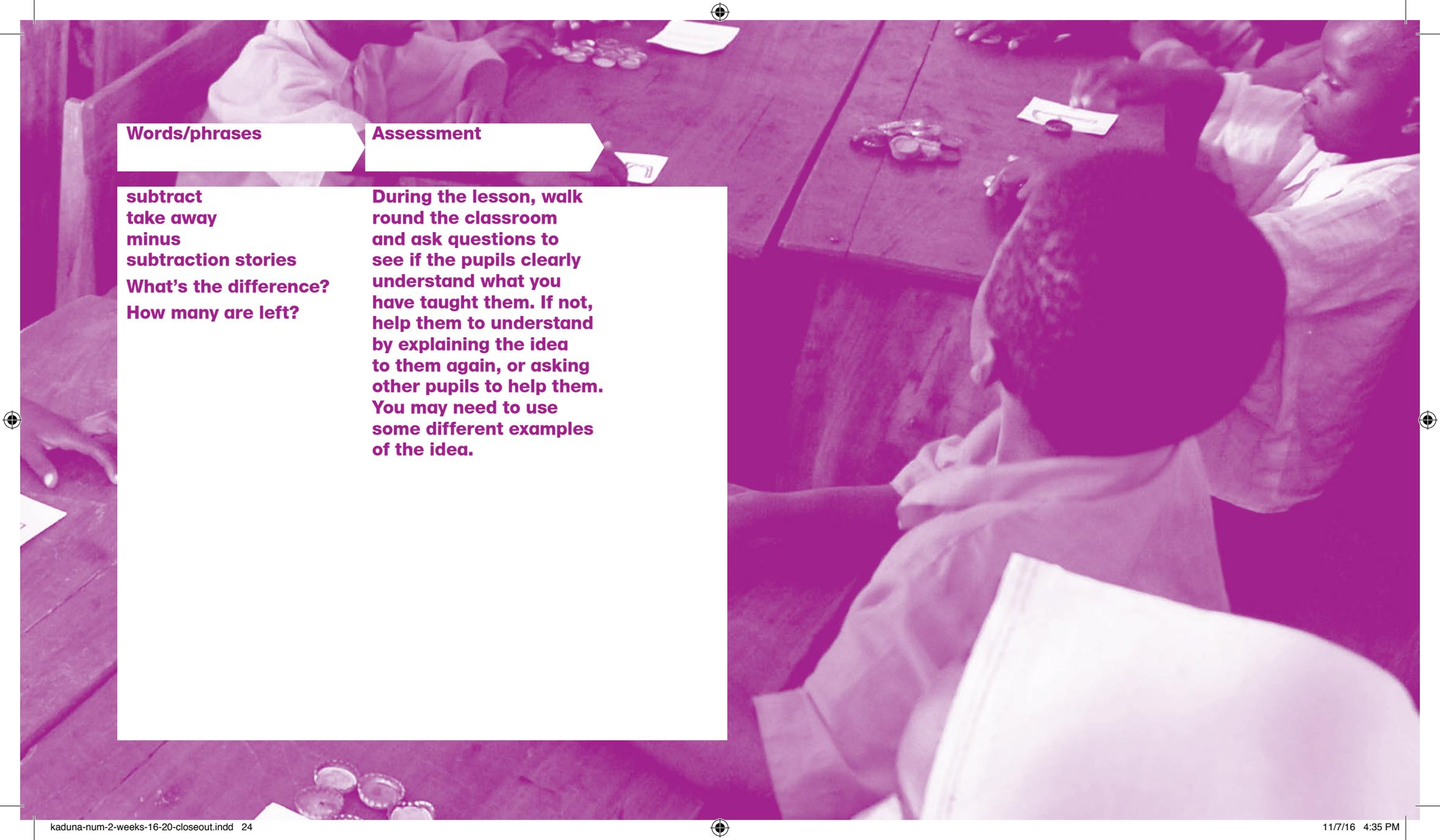
Plenary

Whole class teaching

Find out who is the tallest and the smallest in the class.



Week
17
Subtraction 0—99



Words/phrases

subtract
take away
minus
subtraction stories
What's the difference?
How many are left?

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.

Using a number line for subtraction

Learning outcomes

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

Identify the value of each digit in three-digit numbers.

Use a number line to subtract two numbers between 0—99.

Explain how to subtract numbers using a number line.

Teaching aids

Before the lesson:

Have ready a set of Hundreds, Tens and Units place value cards for each pair.

Write the following numbers in two columns on the chalkboard:

Read MAN Primary Mathematics 2, page 85, exercises N and O.

Daily practice

Whole class teaching

Point to a number on the chalkboard and ask the class to say the number.

Ask pairs to use their place value cards to tell you how many Hundreds, Tens and Units there are in each number.

Say a number that is on the chalkboard and ask the class to make that number using their place value cards and hold them up for you to see.

Repeat these tasks many times with different numbers.

Column 1	Column 2
35	67
22	45
43	86
31	78
23	89
44	67

10
minutes

Introduction

Whole class teaching

Ask a pupil to choose two numbers from the chalkboard, one from column 1 and the other from column 2.

Ask pupils to write them in a subtraction sum, putting the largest number first, eg:

$$\begin{aligned} 67 - 31 &= \\ &= 30 + 1 \\ &= 10 + 10 + 10 + 1 \end{aligned}$$

Now you have expanded the number, use it to take 31 from 67 as shown in the diagram below:



25
minutes

MAN Primary
Mathematics 2

Main activity

Group task

Ask each group to complete MAN Primary Mathematics 2, page 85, exercises N and O.

10
minutes

Plenary

Individual task

Ask each group to show the method they used to find the answer.

Lesson
title

Using a number line for subtraction

15
minutes

Learning outcomes

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

Expand three-digit numbers.

Subtract two, two-digit numbers.

Teaching aids

Before the lesson:

Remind yourself how to subtract
two-digit numbers using
a number line.

Daily practice

Individual task

Explain that numbers can be
expanded as follows:

$123 = 1 \text{ Hundred} + 2 \text{ Tens} + 3 \text{ Units.}$

Read out random three-digit
numbers and ask pupils to write
them in their exercise books in
the same form. They can use their
place value cards to help them.

Stop after each number and
ask pupils to tell you what they
have written.

10
minutes

Introduction

Group task

Give half of the groups number cards 1—5 and the other half number cards 6—9.

Ask them to make as many two-digit numbers as they can using those numbers.

Ask the half with digits 1—5 to write their numbers in a list on one half of the chalkboard.

Ask the half with digits 6—9 to write their numbers on the other half of the chalkboard.

25
minutes

Main activity

Pair task

Give each pair a set of place value cards.

Ask pupils to take three numbers from each side of the chalkboard and make them using their place value cards.

Now ask the pupils to choose three numbers greater than 60 and three numbers less than 60, and use them to make three subtraction sums, eg:
 $69 - 53 =$

Ask them to complete these sums using a number line.

10
minutes

Plenary

Whole class teaching

Say these sums for the pupils to work out without pencil and paper:

$$10 - 5 =$$

$$9 - 7 =$$

$$2 - 1 =$$

$$8 - 6 =$$

$$10 - 8 =$$

**Numeracy
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Primary 2**

**Term 2
Creating
opportunities for
classroom talk**

**Week 17
Subtraction 0—99
Day 3**

Lesson
title

Take away

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Use a number line to subtract two numbers.

Use counters to subtract two numbers.

Explain how they did the subtraction.

Teaching aids

Before the lesson:

Have ready a set of place value cards for each pair as well as counters, sticks, stones, straws.

Read MAN Primary Mathematics 2, page 20, exercise A and page 84, exercise L.

Prepare number lines from 0—100, one per group.

Daily practice

Individual task

Ask the pupils to complete MAN Primary Mathematics 2, page 20, exercise A.

10
minutes

25
minutes

MAN Primary
Mathematics 2

10
minutes

Introduction

Whole class teaching

Remind the pupils how to use a number line to subtract two numbers.

Remind them how to use counters to subtract two numbers.

Main activity

Individual task

Write several two-digit numbers on the chalkboard.

Ask pupils to expand the numbers and record the answers in their books.

Explain to pupils that sometimes subtraction sums are written **vertically**. Ask them to look at MAN Primary Mathematics 2, page 84.

Tell them that when they see sums written in this way they should first of all write them in a way that is familiar to them, eg:

$$\begin{array}{r} \text{TU} \\ 28 \\ - 12 \\ \hline \end{array}$$

Should be written as:
 $28 - 12 =$

Pair task

Give half of the pairs 30 counters between them.

Write 10 problems on the chalkboard for them to solve, eg:

$$\begin{array}{l} 30 - 12 = \\ 27 - 15 = \end{array}$$

Ask the other pairs to complete MAN Primary Mathematics 2, page 84, exercise L, writing the sums first as horizontal sums, eg:

$$28 - 12 =$$

When each pair completes their task, swap them over to do the other task.

Plenary

Group task

Give the class a subtraction story to solve, using counters or a number line, eg:
'A woman took 29 yams to market and sold 13. How many did she have left?'

Ask pupils for their answers and to tell you how they got the answer.

Subtraction stories

Learning outcomes

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

Compare the size of two numbers by looking at the value of each digit.

Use a number line to solve simple subtraction sums.

Explain how they did the subtraction.

Teaching aids

Before the lesson:

Work out the answers to the following number stories:

‘53 people were on a bus. 21 got down in Ilorin. How many were left on the bus?’

‘75 cows were drinking at the river, 20 of them moved away. How many were still drinking?’

‘45 yam seeds were planted and 25 grew. How many didn’t grow?’

Daily practice

Whole class teaching

Tell the pupils that they going to learn an easy way to order numbers.

Ask them to use their place value cards to make the following numbers: 23 and 53.

Ask them which number is the biggest and how they worked it out.

Tell the pupils that to compare the size of two numbers they should start by finding out how many Hundreds there are, eg: 300 is bigger than 200.

Ask them to use their place value cards to tell you which number is the biggest of the following:

456 and 356

777 and 877

255 and 655

10
minutes

Introduction

Whole class teaching

Put two numbers on the chalkboard a long distance apart to create a blank number line, eg:

41 60

Tell pupils you are thinking of a number less than 60, but more than 41.

Ask them to suggest what it could be.

If they offer a possible answer write the number on your blank 41—60 number line.

Stop when they guess correctly.

Now without making a number line, say you are thinking of a number less than 15 but more than 3.

Tell the class they have to find out your number by asking clever questions.

Tell them they can only ask 'more' or 'less' questions and you can only answer 'yes' or 'no', eg:

'Is it less than 10?'
(Yes)

'Is it more than 7?'
(No)

'Is it more than 5?'
(No)

'Is your number 4?'
(Yes)

25
minutes

Main activity

Whole class teaching

Read out one of your subtraction stories.

Invite a pair of pupils to demonstrate how to solve it using the number line written on the chalkboard.

Pair task

Give each pair a number line.

Read out your subtraction stories clearly and slowly.

Make sure every pair has enough time to record an answer before reading out the next problem.

10
minutes

Plenary

Whole class teaching

Ask a pupil to think of a number between 10 and 15.

Ask other pupils find the number by asking 'more or less' questions.

Repeat with different pupils.

Lesson
title

Creating subtraction stories

15
minutes

Learning outcomes

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

Write down number facts about a number of their choice.

Make up simple subtraction stories.

Teaching aids

Before the lesson:

Draw three boxes on the chalkboard.

Have ready a number line for each pair.

Daily practice

Group task

Ask the pupils to choose a number between 100 and 999.

Ask them to write down anything they know about their number.

Ask one of the group to be the 'expert' on that number and stay in their place.

Tell the rest of the group to move round to each expert and find out as much as they can about the number each group has chosen.

Ask individuals to tell the rest of the class anything interesting they have found out about numbers.

10
minutes

Introduction

Whole class teaching

Ask a pupil to think of a number between 10 and 15.

Ask other pupils to find the number by asking 'more' or 'less' questions.

Repeat with different pupils.

25
minutes

Main activity

Whole class teaching

Give each pair a number line.

Read out one subtraction story from yesterday, clearly and slowly.

Ask the pupils to tell you how they worked out the answer.

Ask the pupils to suggest a number of animals between 20 and 100.

Ask them to tell you something that the animals are doing and write it in the first box on the chalkboard, eg: '23 goats eating grass in a field'.

Ask the pupils to tell you a number smaller than their first number.

Ask them to describe something that this number of animals did, and write it in the second box, eg: '15 goats moved to another place'.

Ask if anyone can tell you the final part of the question and write it in the third box, eg: 'How many goats were left eating grass in the field?'.

Ask the class to work out the answer.

Pair task

Give each pair a number line.

Ask each pair to make up one subtraction story in their exercise books in the same way as you have just done on the chalkboard with them. (You may have to lead them through the process as above.)

When they have done this, ask two pairs to come together to answer each others' questions.

10
minutes

Plenary

Whole class teaching

Ask some pairs to read out their subtraction stories for the whole class to solve.



Week
18
Time

Words/phrases

**o'clock
half past**

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.

Clocks

Learning outcomes

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

Subtract two-digit numbers.

Identify the long and short hands of the clock and their functions.

Say the time as shown on a clock (real or cardboard) accurately in hours.

Teaching aids

Before the lesson:

Make cardboard clocks or bring in real clocks (enough for each group to have a clock).

Make number cards containing the hours 1—12 and the minutes 0—60.

Read MAN Primary Mathematics 2, page 140.

Daily practice

Whole class teaching

Ask pupils to tell you a number between 0 and 99.

Ask the rest of the class to write down five numbers that are less than 99.

Ask them to read out their numbers.

Ask each pupil to choose two numbers and subtract one from the other using a number line to help them.

10
minutes

Introduction

Whole class teaching

Ask pupils to discuss in pairs what time they do the following things:

- go to school
- finish school
- go to bed
- wake up

Write their suggestions on the chalkboard.

Ask them which is the earliest time or latest time of day that you have written.

25
minutes

MAN Primary
Mathematics 2

Main activity

Group task

Provide each group with a clock face.

Ask the pupils to discuss in their group and identify the minute hand and hour hand.

Ask if any pupils can use the hands to make any of the times written on the chalkboard.

Praise anyone who can.

Ask the pupils to draw the clock face in MAN Primary Mathematics 2, page 140.

10
minutes

Plenary

Whole class teaching

Using a clock that the class can see, set the minute hand at 12 and move the hour hand to different numbers, saying the time as you do so.

Ask the pupils to join in saying the time, eg:

- 2 o'clock
- 6 o'clock
- 1 o'clock

Tell them that an hour has 60 minutes.

Ask them what half of that would be, and discuss their answers.

Clearly tell the class that half an hour is 30 minutes.

Half hour

Learning outcomes

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

Use a number line to subtract numbers.

Recognise o'clock and half past on a clock.

Teaching aids

Before the lesson:

Write a number line on the chalkboard from 120—150.

Prepare clocks with cardboard or provide real clocks, one per group.

Read MAN Primary Mathematics 2, page 140.

Draw a large clock face on the chalkboard, but do not add hands.

Daily practice

Whole class teaching

Write the subtraction sum $48 - 18 =$ on the chalkboard.

Ask the pupils to tell you how to answer the sum using the number line.

Follow their instructions and see if they are correct.

Write three or four subtraction sums between 0 and 99 on the chalkboard for them to complete.

10
minutes

Introduction

Whole class teaching

Draw a circle on the chalkboard, divide it in half and shade one half.

Ask the pupils what fraction you have shaded.

On the large clock face on the chalkboard, draw a line to divide it in half (from the 12 to the 6).

Tell the pupils you have divided the clock in half.

25
minutes

MAN Primary
Mathematics 2

Main activity

Individual task

Ask pupils to look at the pictures in MAN Primary Mathematics 2, page 140, unit 3.

Discuss the pictures with the class.

Ask the pupils to complete MAN Primary Mathematics 2, page 140, unit 3.

10
minutes

Plenary

Whole class teaching

Ask pupils how many minutes there are in an hour/ half an hour.

Ask individuals to draw hands on the clock on the chalkboard to show different half past times.

**Numeracy
lesson plans
Primary 2**

**Term 2
Creating
opportunities for
classroom talk**

**Week 18
Time
Day 3**

Lesson
title

Half past

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Use a number line to subtract two-digit numbers.

Recognise and say times that are half past the hour.

Record different times in writing.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 141, unit 4.

Make number cards containing all the hours and minutes.

Daily practice

Whole class teaching

Ask pupils to solve MAN Primary Mathematics 2, page 82, exercise H, questions 1—3 using the number line method they have learned.

10
minutes

Introduction

Group task

Remind pupils that the minute hand will have travelled half way round the clock when it gets to number 6. This means the time will be half past the hour.

Remind them that 30 minutes is half an hour, so 12.30 means half past 12.

Provide each group with a clock.

Ask them to show several half past times, eg:
half past 2
half past 8, etc.

25
minutes

MAN Primary
Mathematics 2

Main activity

Whole class teaching

Ask the pupils to open MAN Primary Mathematics 2, page 141, unit 4.

In pairs, ask pupils to discuss the pictures showing different hours of the day.

10
minutes

Plenary

Whole class teaching

Write $6.30 = \text{half past } 6$ on the chalkboard.

Now ask the pupils to complete the following:

$3.30 =$

$9.30 =$

half past 10 =

half past 9 =

Times of the day

Learning outcomes

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

Solve subtraction word problems.

Say the time as shown on a clock.

Write a given time.

Teaching aids

Before the lesson:

Write down three subtraction number stories, eg:

'85 girls and boys were at football training. 34 had to go home early. How many stayed until the end of the session?'

Read MAN Primary Mathematics 2, pages 140—142.

Daily practice

Pair task

Read out slowly the first of your number stories.

Ask pupils to discuss the sum they need to do, write it down and solve it using a number line.

Repeat the story again so they can check they have the right numbers.

Continue until they have solved all three subtraction stories.

10
minutes

Introduction

Whole class teaching

Ask pupils to discuss in pairs the times of day that the following things happen:

- school opens
- break time
- school closes

Record the times on the chalkboard in words, eg: eight o'clock.

25
minutes

Main activity

Individual task

Ask pupils to draw three pictures showing them and their classmates:

- going to school
- enjoying break time
- going home

Ask them to write the correct time underneath each picture.

10
minutes

Plenary

Whole class teaching

Choose several very good pieces of work to show to the rest of the class.

Praise everyone for their efforts.

Telling the time

Learning outcomes

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

Recognise the time on a clock as o'clock or half past the hour.

Solve a subtraction problem using a number line.

Teaching aids

Before the lesson:

Draw 20 different clocks showing o'clock and half past times on paper.

Prepare three subtraction number stories using numbers between 0 and 99.

Daily practice

Pair task

Slowly read out the first of your number stories.

Ask pupils to discuss the sum they need to do, write it down and solve it using a number line.

Repeat the story again so they can check they have the right numbers.

Continue until they have solved all three subtraction stories.

10
minutes

Introduction

Group task

Provide one clock per group.

Ask one pupil in the group to say aloud a time, while another pupil makes the time on the clock and everyone checks it is correct or helps if it is not.

Continue the task until each pupil in the group has said a time and had a turn at showing a time.

25
minutes

Main activity

Individual task

Tell the pupils you are going to show them a time on the clock and they have to write down the time they think it is.

Using the clocks you prepared, show each one to the pupils, leaving enough time for them to look, think and then record their answer.

10
minutes

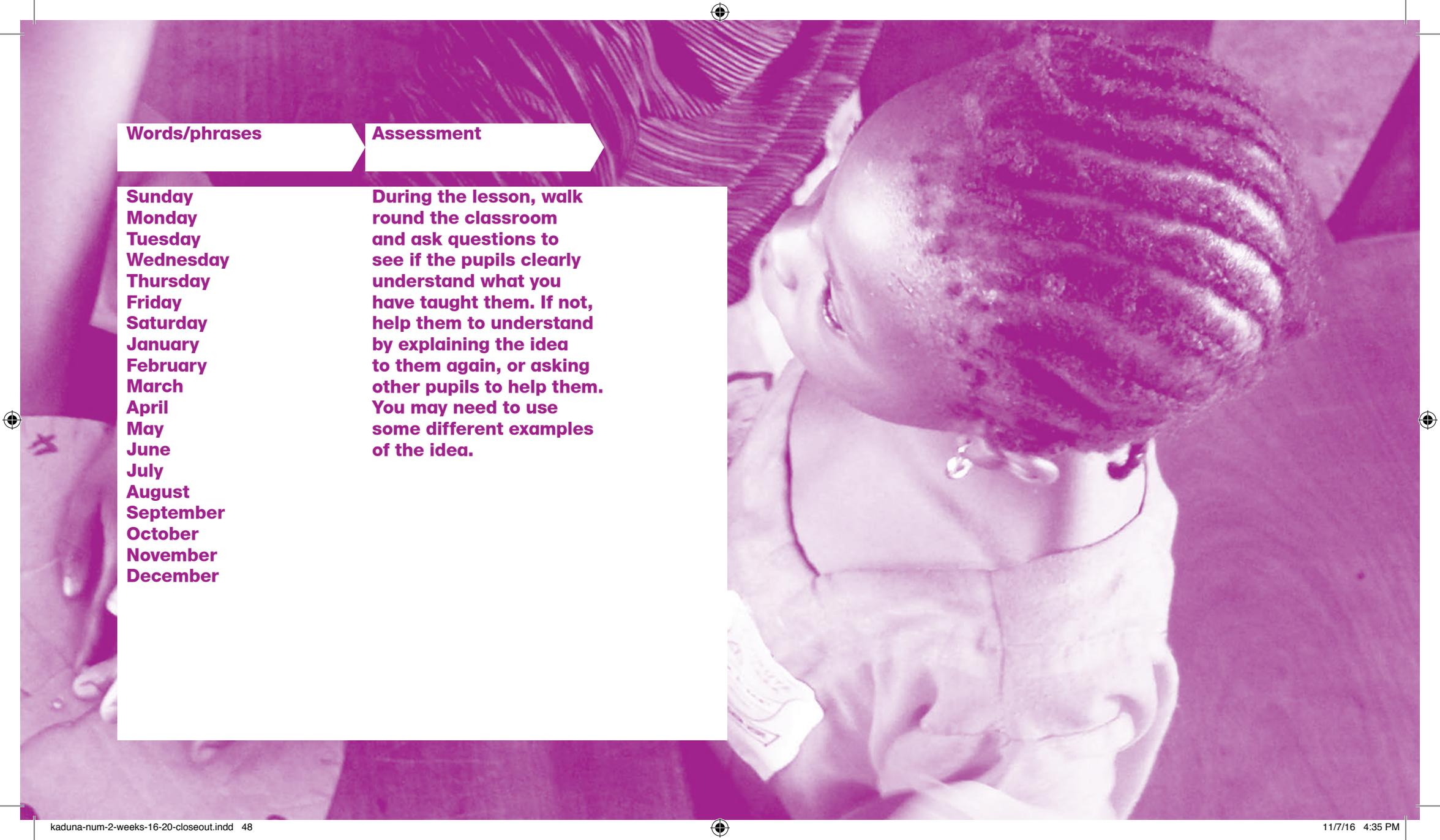
Plenary

Whole class teaching

Ask a pupil from each group to come out and write the following times in words:
half past 4
5 o'clock
10 o'clock

Week
19
Time



A young girl with her hair in many small braids is looking down at a book she is holding. The background is a soft, out-of-focus indoor setting.

Words/phrases

Assessment

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
January
February
March
April
May
June
July
August
September
October
November
December

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

Days of the week

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Solve subtraction problems.

Identify the days of the week in order.

Sequence weekly events.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 83, exercise K.

Read MAN Primary Mathematics 2, page 143, exercise A, questions B and C.

Draw a large clock face on the chalkboard, but do not draw the hands.

Daily practice

Pair task

Ask pupils to complete MAN Primary Mathematics 2, page 83, exercise K.

Ask pupils to tell you how they did it.

10
minutes

Song

Introduction

Whole class teaching

Ask pupils to sing any songs they know about time.

Pair task

Ask pupils to discuss in pairs what days they:
attend school
go to the market
go to the church
go to the mosque

25
minutes

MAN Primary
Mathematics 2

Main activity

Whole class teaching

Write the days of the week on the chalkboard in a jumbled order.

Ask pupils to think on their own about the correct order.

Invite a pupil to come to the chalkboard and write number 1 under the first day of the week.

Repeat until all the days have been ordered correctly.

Ask pupils to write out the days of the week in the correct order.

Read MAN Primary Mathematics 2, page 143, exercise A, questions B and C.

10
minutes

Plenary

Pair task

Ask pupils in pairs to discuss their favourite day of the week and explain why it is their favourite.

Ask individuals to share their thoughts with the class.

Months of the year

Learning outcomes

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

Subtract two-digit numbers.

Know the names of the months of the year and order them with help.

Identify events that take place on each day of the week.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, pages 144 and 145.

Prepare 12 cards per group, containing the names of the months of the year.

Daily practice

Whole class teaching

Ask pupils to write down the answers to the following questions:

$$19 - 15 =$$

$$26 - 12 =$$

$$44 - 22 =$$

$$29 - 18 =$$

$$57 - 37 =$$

Ask them to tell you how they worked out the answers.

10
minutes

Introduction

Group task

Provide each group with a set of cards showing months of the year.

Ask them to spread them out on their table.

Ask the class if anyone knows the first month. When the correct answer is given, ask groups to identify January and place it as the beginning of a line.

Now repeat the process until all the months have been identified and ordered correctly.

Be aware of groups who are struggling and support them.

Ask pupils to say the months of the year with you.

Ask them to point to each card as they say the month.

25
minutes

MAN Primary
Mathematics 2

Main activity

Whole class teaching

Read aloud MAN Primary Mathematics 2, pages 144 and 145, while pupils follow in the book.

Ask them to draw a time-line, writing the days of the week below the line.

Ask them to draw and write one thing they do on each day above the line, eg:

10
minutes

Plenary

Whole class teaching

Ask pupils to tell you the months of the year in order.

Write them on the chalkboard as they say them.

Ask pupils several questions, eg:

‘Which months are the rainy season?’

‘Who has a birthday not in the rainy season?’

‘What month is Christmas?’

church

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Dates

Learning outcomes

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

Answer subtraction sums orally.

Identify the days in a week in order.

Identify the months of the year in order.

Say the date as it appears on a calendar.

Teaching aids

Before the lesson:

Collect three sets of cards for each group: numbers 1—31 (dates), days of the week and months of the year.

Read MAN Primary Mathematics 2, page 143.

Daily practice

Group task

Read out the following sums and ask the pupils to put their hands up to tell you the answer:

$$10 - 5 =$$

$$18 - 9 =$$

$$20 - 10 =$$

$$16 - 8 =$$

$$19 - 6 =$$

After each sum, ask different pupils how they worked it out.

10
minutes

Introduction

Pair task

Ask the pupils to discuss the important activities that take place on Friday, Saturday and Sunday.

Ask the pupils to share their ideas with the rest of the class.

25
minutes

Main activity

Group task

Give each group three sets of cards: numbers 1—31, the days of the week and the months of the year.

Ask the pupils to arrange their sets of cards to make today's date, eg: Wednesday 23rd July.

Give them some more days and dates to make with their cards eg: their own birthday
the last day of term
the last day of May

Ask the pupils to give each other dates to make with their cards.

10
minutes

Plenary

Individual task

Ask the pupils to tell you how many days there are in each month of the year.

How many more than?

Learning outcomes

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

Answer the question
'How many more than?'.
Write a given time.

Teaching aids

Before the lesson:

Prepare/bring a clock made with cardboard, or a real clock.

Read MAN Primary Mathematics 2, page 142.

Write number cards containing the time in hours and minutes.

Daily practice

Group task

Write the numbers 5—20 on the chalkboard.

Ask pupils to choose several pairs of numbers.

Ask them to put each pair of numbers in order of size and then answer the question: 'How many more than?', eg: if they choose 7 and 12, the question is 'How many more than 7 is 12?'.
Write the numbers 5—20 on the chalkboard.

10
minutes

Introduction

Pair task

Ask the pupils to discuss in pairs what time certain events happen every day, eg:
school opens
school closes
bed time

25
minutes

MAN Primary
Mathematics 2

Main activity

Group task

Ask the pupils to look at the picture in MAN Primary Mathematics 2, page 142, unit 1.

Ask each group to talk together about what they can see happening in the picture.

Ask one pupil in each group to say one sentence about what they can see and you write answers on the chalkboard.

10
minutes

Plenary

Individual task

Ask the pupils to show a partner their picture and read the times together.

Tell the pupils to listen for the things they saw in the picture while you read what you have written on the chalkboard.

Ask them to divide a page of their exercise book into four squares and draw four events that happen at the same time every day, one in each square.

Ask them to draw a clock showing the time of each activity they have drawn in the bottom left corner of their picture.

Lesson
title

What's the time, Mr Lion?

15
minutes

Learning outcomes

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

Generate their own sums for the class to answer.

Say the time as shown on a clock (real or cardboard), accurately in hours and minutes.

Relate half an hour to half of the clock face.

Teaching aids

Before the lesson:

Collect your number cards containing minutes and hours.

Prepare/bring a clock made with cardboard or a real clock for each group.

Read MAN Primary Mathematics 2, pages 140—141.

Daily practice

Group task

Ask each group to make up six subtraction sums, which will be answered by another group.

Ask the groups to write the sums down and give them to another group.

Ask each group to work together to answer the sums.

Introduction

Pair task

Ask the pupils to discuss in pairs what time every Friday Muslims go to mosque, and what time on a Sunday Christians go to church.

Ask the pupils to put up their hands to give the answer after a few minutes of discussion.

Ask the pupils to choose one of those times and draw a clock showing it in their exercise books.

Ask the pupils to go through the clock face in MAN Primary Mathematics 2, page 140 and say the times to each other.

Main activity

Group task

Ask the pupils to show you how to make the time on the half hour.

Give each group a clock and ask them to make half past times with their clock.

Whole class teaching

Play 'What's the time, Mr Lion?' using o'clock and half past as the times.

Ask one pupil – 'Mr Lion' – to stand at the front of the class with their back to the class and eyes closed.

Ask the rest of the pupils to stand up and face the front of the class.

The pupils walk forward saying 'What's the time, Mr Lion?'

Mr Lion turns around and says a time, eg: 'It's half past 9.'

As soon as he turns around the rest of the pupils must stand absolutely still.

If he sees anyone moving, they have to sit down.

Continue until someone reaches the lion without being caught or the lion decides to shout 'It's dinner time!'

When he shouts this, he turns round and tries to catch the pupils before they can sit down.

Choose another lion and continue the game.

Plenary

Individual task

Ask the pupils to look at MAN Primary Mathematics 2, page 141 and tell each other the times.



Week
20
Addition and
subtraction



Words/phrases

Tens
Units
addition
subtraction
minutes
seconds

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

Adding two-digit numbers

15
minutes

Learning outcomes

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

Say the time as shown on a clock
(o'clock and half past).

Add two-digit numbers.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics
2, page 58.

Have ready a real or dummy clock.

Daily practice

Whole class teaching

Using a clock that all pupils can
see, make several o'clock and half
past times.

Ask pupils to tell you the times
you are making.

10 minutes | MAN Primary Mathematics 2

Introduction

Individual task

Turn to MAN Primary Mathematics 2, page 58 and explain the example shown of how to add two, two-digit numbers.

Ask pupils to follow your explanation in the book.

25 minutes | MAN Primary Mathematics 2

Main activity

Whole class teaching

Ask pupils to complete the addition sums in MAN Primary Mathematics 2, page 58.

10 minutes

Plenary

Whole class teaching

Divide the class in half, to create two teams.

Tell them you are going to ask each team different questions. If they get the right answer they get two points. If they get it wrong, the other team gets a chance to answer.

Ask the following questions and more that you can think of:

‘What day is after Tuesday?’

‘How many minutes are there in an hour?’

‘How many minutes are there in a half hour?’

‘How many months are there in a year?’

‘How many days are there in a week?’

**Numeracy
lesson plans
Primary 2**

**Term 2
Creating
opportunities for
classroom talk**

**Week 20
Addition and
subtraction
Day 2**

Lesson
title

Expanding numbers

15
minutes

MAN Primary
Mathematics 2

Learning outcomes

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

Arrange numbers in Tens
and Units.

Expand numbers.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics
2, pages 59 and 60.

Daily practice

Individual task

Ask pupils to complete the
addition sums in MAN Primary
Mathematics 2, page 59.

10
minutes

Introduction

Whole class teaching

Create two columns on the chalkboard, one for Tens and one for Units.

Write 37 in the columns

Tens	Units
3	7

Ask pupils to tell you the number you have written, and how many Tens and Units there are in 37.

Remind them that this is called **expanding** a number, and that $37 = 30 + 7$.

Repeat with other two-digit numbers.

25
minutes

Main activity

Pair task

Write three, two-digit numbers on the chalkboard, eg:

47
21
83

Ask pupils in pairs to expand these numbers and record the answers in their book.

Ask a few different pairs for the answers.

MAN Primary
Mathematics 2

Individual task

Ask pupils to complete MAN Primary Mathematics 2, page 60, exercise F.

10
minutes

Plenary

Whole class teaching

Write some examples of expanded numbers on the chalkboard.

Ask individuals to come to the chalkboard and write the correct two-digit number.

Ask whole class to say the two-digit answer aloud.

Lesson
title

Adding two-digit numbers

15
minutes

Song

Learning outcomes

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

Add two-digit numbers together.

Order the months of the year.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 68, exercise C.

Have ready the previously used months of the year cards.

Daily practice

Group task

Sing together any song the pupils know about the days of the week or months of the year.

Recite together the months of the year.

Provide each group with a set of cards showing the months of the year.

Ask each group to spread the cards out face down all over their table.

Tell them they are going to have a race to see which group can put all the months of the year in order first.

When they are ready, say 'Go'.

10
minutes

Introduction

Whole class teaching

Give the class a word problem, eg:
'Primary 1 has 23 chairs and Primary 2 has 34 chairs. How many chairs are there altogether?'

Ask the pupils what sum they need to do to solve this problem.

Demonstrate how to solve the problem using a number line.

25
minutes

MAN Primary
Mathematics 2

Main activity

Pair task

Ask pupils to work together in pairs to complete MAN Primary Mathematics 2, page 68, exercise C.

10
minutes

Plenary

Whole class teaching

Ask pupils to make up some everyday word problems for you to solve using a number line.

Lesson
title

Addition and subtraction

15
minutes

Learning outcomes

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

Add and subtract two-digit numbers.

Know some basic facts about time.

Teaching aids

Before the lesson:

Read MAN Primary Mathematics 2, page 82.

Write the following numbers on the chalkboard:

60

12

7

30

24

Have a large collection of recycled shopping items, utensils etc, each individually labelled with a price.

Daily practice

Whole class teaching

Ask the pupils to guess what the numbers on the chalkboard stand for.

Give them time to think, then give them one example, eg:
60 seconds = 1 minute.

Cross out the number 60 that you have written.

Ask them to discuss in pairs to see if they can match the other numbers up with any facts about time (12 months = 1 year, 7 days = 1 week, 30 minutes = half an hour, 24 hours = 1 day).

10
minutes

Introduction

Individual task

Remind pupils how to use a number line to subtract two-digit numbers, ie: start with the largest number and jump backwards the correct number of jumps, eg: $31 - 20 =$

25
minutes

MAN Primary
Mathematics 2

Main activity

Pair task

Ask pupils to complete MAN Primary Mathematics 2, page 85, questions 16—25 using the number line in the way you have shown them (**not** the way that it is shown in the book).

Group task

Provide each group with a selection of priced items.

Ask pairs to select any two items, record the addition sum in their books and solve the sum using a number line.

Repeat several times.

Challenge the pupils to try adding three items together.

10
minutes

Plenary

Whole class teaching

Ask some of the pupils to explain and demonstrate how they added three numbers together using a number line.

Lesson
title

Addition and subtraction

15
minutes

Learning outcomes

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

Add three, two-digit numbers
together.

Recognise addition and
subtraction sums.

Write the days of the week in order.

Recognise o'clock and half past
times on a clock.

Teaching aids

Before the lesson:

Have a clock large enough for
the class to see.

Have ready your selection of
priced, recycled items.

Daily practice

Whole class teaching

Show the pupils some times
on the clock and ask the pupils
to say them.

Ask a few individuals to come
out and make a time on the clock
for the rest of the class to say.

Ask pupils to write out the
days of the week in the correct
order in their books.

10
minutes

Introduction

Whole class teaching

Remind pupils how they added three two-digit numbers on Day 4, using the number line.

Ask a pupil to select three items from your collection.

Write the price of the three items on the chalkboard as an addition sum.

Demonstrate adding two of the numbers together, then adding on the third number.

25
minutes

Main activity

Pair task

Provide each group with a selection of the priced items.

Ask pairs to select three items, record the addition sum and solve it using a number line.

Ask them to repeat this process until they have done six different sums.

10
minutes

Plenary

Whole class teaching

Ask a selection of mixed addition and subtraction sums for the pupils to answer orally.

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.

The UK's Department for International Development (DFID) and the DFID-funded ESSPIN programme for their input, focus, guidance and constructive criticism throughout the development of the plans.

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

