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Kano State Government

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Type of lesson plans/ Grade Term/ Learning theme

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Numeracy lesson plans Primary 2

Term 3 Assessment for learning

# Numeracy lesson plans Primary 2 Term 3 Assessment for learning

**Weeks** 26—30

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



### Introduction

The quality of education is a key element to socioeconomic development in any society. Perhaps the most critical element in ensuring quality of education to output. The majority of is the teacher. Good teaching methodology, with the right textbooks. will quickly provide a good platform for a quality education system in Kano State.

The challenges are sometimes overwhelming when vou have 5.335 schools with over 2.3 million children and 46.643 teachers. The Kano State Ministry of Education carried out a series of baseline surveys to assess classroom teachers. the role of the head teacher and the level of pupil learning outcomes.

The findings in most cases were alarmingly poor, with not much difference between aualified and unaualified teachers with respect teachers were themselves victims of an education system that was in a serious downward slope.

Following this, the Kano State Ministry of Education, the State Universal Basic **Education Board (SUBEB)** and local government education authorities (LGEAs), supported by the **Education Sector Support** Programme in Nigeria (ESSPIN), embarked on a series of reforms that will help strengthen schools.

This work has focused on classroom teaching skills in particular how to make teaching child-centred and the organisational structures needed for SUBEB and LGEA staff to provide effective support and advice to primary schools.

With many school leavers unable to read or write. a specific focus has been on improving the teaching of basic literacy and numeracy. To support this, Kano State has developed a benchmark for assessment and carefully designed literacy and numeracy lesson plans for Primary 1—3 teachers. These plans provide a step-by-step quide to teachers, while ensuring children become active learners.

The lesson plans, however, are not sufficient. Structures and processes have also been put in place so that teachers are continuously supported by both the State School Improvement Team and the LGEA-based school support officers.

We are sure that within a short time of these lesson plans being introduced, children's learning abilities will improve considerably. The materials will also enable teaching and learning to be more exciting - an important element in all classes, but in particular at the primary level. We are confident that these lesson plans will raise standards and improve the quality of children proceeding to higher levels of education.

We commend all those who have produced these lesson plans and trained our teachers to use them. We offer thanks to the UK **Department for International** Development (DFID) for its ongoing support to education reform in Kano State through its ESSPIN programme. Let's make every Kano school an improving school.



**Barister Faroug Iya Sambo** Honourable Commissioner of Education Kano State



Wada Zakari **Executive Chairman SUBEB** Kano State

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Numeracy lesson plans Primary 2

Term 3 Assessment for learning

# Introduction Assessment for learning

Weeks 26—30

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### **Assessment for learning**

Effective assessment supports learning, giving all pupils the chance to be successful learners.

Assessment in the classroom happens all the time, it is an ongoing process. It helps you to find out:

What your pupils have learned.

How well you are teaching.

How to plan your next steps of teaching.

What your pupils are doing well and what they need to practise.

In every lesson you should walk round the classroom and ask questions to see if the pupils clearly understand what you have taught them. If they do not, then you should help by explaining the idea to them again – maybe in a different way or with another example, or you could ask another pupil to help them.

Assessment used each day in the classroom gives you a much broader picture of your pupils' ability and progress. It also helps to give your pupils a sense of achievement, helping them to understand what they can do well and what they still need to practise. There are many ways that you can assess your pupils' knowledge and understanding:

### By observing.

Using careful questioning.

Through discussion with individuals, pairs or groups of pupils.

When marking work produced by individual pupils.

Looking at exams at the end of a term.

In every classroom there will always be some pupils who learn faster than others. When you read the learning outcomes for each day, think about which of your pupils will achieve them at the end of the lesson and which of them will need more time to achieve the learning outcomes.

As you get to know your pupils you will be able to plan how you can help each pupil to do their best in every lesson.

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Numeracy lesson plans Primary 2

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## Introduction Low-cost teaching aids for the term

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Weeks 26—30

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### **Centimetre ruler**

### Metre sticks

### Hours and minutes clock

Find a strip of card. Use a ruler to mark it in centimetre sections, as shown below.

Show the pupils how to measure using a centimetre ruler.

Put the end of the ruler at the end of the object you are measuring.

Read the number where the line ends, as shown below.

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.

Cut lengths of string to the same size as a metre stick, these can then be used for measuring. Ask a local carpenter if they have any long ends of wood that can be turned into a metre length.

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Ask the carpenter to make marks for cms, with longer marks for 10, 20, 30, up to 100, then write the numbers next to them.

If you write numbers from 1—100 on the other side, these can also be used as longer-lasting 1—100 number lines.



4cm

| 1cm | 2cm | 3cm | 4cm | 5cm | 6cm | 7cm | 8cm | 9cm | 10cm |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|     |     |     |     |     |     |     |     |     |      |

### Making the 2 times table

| रिरी                                    | 2                                       | 1 x 2 = 2          |
|---|---|--------------------|
| रैरेरेरे                                | 2 x 2                                   | 2 x 2 = 4          |
| <u>₹₹₹₹₹</u> ₹                          | 2 x 2 x 2                               | 3 x 2 = 6          |
| $\mathcal{K}$                           | 2 x 2 x 2 x 2                           | 4 x 2 = 8          |
| $\mathcal{X}$                           | 2 x 2 x 2 x 2 x 2                       | 5 x 2 = 10         |
| <u>₹₹₹₹₹₹₹₹₹₹</u>                       | 2 x 2 x 2 x 2 x 2 x 2 x 2               | 6 x 2 = 12         |
| 犬犬犬犬犬犬犬犬犬犬犬犬                            | 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2           | 7 x 2 = 14         |
| <u>₭₭₭₭₭₭₭₭₭₭</u> ₭₭₭                   | 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2   | 8 x 2 = 16         |
| <u> </u>                                | 2x2x2x2x2x2x2x2x2x2                     | 9 x 2 = 18         |
| ፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟ | 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x | $10 \times 2 = 20$ |

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| Which are subtraction problems?   | Find my friend game   | 10 chunky<br>chickens rhyme   |
|---|---|---|
| 1 Yusuf has 45 apples.<br>Asabe buys 26 of them.<br>How many apples<br>has Yusuf got now?   | Write the numbers 0—10<br>on cards. Make two number<br>5 cards. Make enough<br>cards for each pupil to have | 10 chunky chickens,<br>frying in a pan (x2) /<br>One went pop and another<br>went bang /                  |
| 2 Aliyu is 56 years old.<br>Musa is 38 years old.<br>What is the difference<br>in their ages?   | one card. If there is an odd<br>number of pupils in the<br>class, also make yourself<br>a card.             | There were 8 chunky<br>chickens frying in a pan<br>(Continue to subtract two<br>chickens each time, until |
| 3 There are 28 pupils in<br>class A and 34 pupils<br>class B. How many pupils<br>are there altogether?                                    | Give out the cards and<br>tell the pupils they need<br>to find someone who<br>has a card that will make     | there are no chickens left<br>in the pan.)  |
| 4 Mr Amedu has 46<br>pencils. He has 27 pupils<br>in his class. He gives<br>them each a pencil.<br>How many pencils does<br>he have left? | 10 when added to the<br>number on their own card.   |   |
| 5 Idris has 55 hens. He<br>sells 38. How many hens<br>has he got now?   |   |   |

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### Week 26 Subtraction crossing the Ten

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Elloup B

### Words/phrases

#### Assessment

measure estimate centimetres ruler two-digit expand crossing the Ten subtract subtract subtraction take away Tens Units How many Tens in

each number? How many Units in each number? 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.  $( \bullet )$ 

#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 26 Subtraction crossing the Ten Day 1

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### Write two-digit numbers in expanded form

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| Learning outcomes   | Daily practice   |  |
|---|--|--|
| By the end of the lesson, most<br>pupils will be able to:   | Group task   |  |
| Use a ruler to measure<br>in centimetres.   | the card and ask them to point<br>to the longest and the shortest.   |  |
| Write two-digit numbers<br>in expanded form.  | Ask how we can measure them accurately (using centimetre rulers).  |  |
| Teaching aids   | Give out the rulers and ask<br>the pupils to point to the places<br>on their ruler that show 5cm,<br>13cm and 7cm.   |  |
| Before the lesson:<br>Draw lines measuring 10cm,<br>15cm, 20cm and 25cm on<br>to a large piece of card for<br>each group. | Ask the pupils to point to 0cm<br>on their ruler and tell them this is<br>the starting point when measuring<br>Ask each group to use their rulers<br>to measure the lines on their card. |  |
| Find rulers for each pair or<br>make the rulers as explained<br>in the introduction.                                      | Ask each group to say their<br>measurements and ask if the<br>others agree.  |  |

15 minutes

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| 10<br>minutes  | 25<br>minutes   |   | 10<br>minutes  |
|--|---|---|--|
| Introduction   | Main activity   |   | Plenary  |
| Whole class teaching   | Whole class teaching  | Individual task   | Pair task  |
| Write '28' on the chalkboard.<br>Tell the pupils that this is<br>a two-digit number.<br>Write:<br>'28 = Tens + Units'<br>on the chalkboard.<br>Choose some pupils to write<br>in the value of each digit.<br>Ask individual pupils to say<br>a two-digit number and<br>attact the value of each digit. | Demonstrate how<br>to expand numbers on<br>the chalkboard, eg:<br>37 = 3 Tens + 7 Units<br>= 30 + 7.<br>Choose some pupils<br>to help you write more<br>two-digit numbers<br>in this expanded form. | Tell the pupils to look at the following numbers on the chalkboard:         17 =       Tens       Units         86 =       Tens       Units         99 =       Tens       Units         36 =       Tens       Units         Ask them to complete the questions in their exercise books in the way they baye practised | Call out the following sums<br>and choose different pairs<br>to answer them without<br>using pencil and paper:<br>10 - 9 = 9 - 8 =<br>10 - 8 = 9 - 7 =<br>10 - 7 = 9 - 6 =<br>10 - 6 = 9 - 5 =<br>10 - 5 = 9 - 4 =<br>10 - 4 = 9 - 3 =<br>10 - 3 = 9 - 2 =<br>10 - 2 = 9 - 1 = |

### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 26 Subtraction crossing the Ten Day 2

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#### 15 Lesson minutes title Learning outcomes **Daily practice** Expanding numbers By the end of the lesson, most Pair task pupils will be able to: Ask if anyone can remember Measure shapes in centimetres. what we use to measure length. Expand two-digit numbers. Ask the pupils to show you how big a centimetre is with their thumb and first finger. **Teaching aids** Write 'cm' on the chalkboard and tell the pupils this is how Before the lesson: we write centimetres. Have ready the rulers from Give each pair a rectangle and yesterday. a ruler. Have ready rectangles measuring Ask them to measure the sides of 5cm x 10cm, 12cm x 8cm and their rectangle in cm and write the 15cm x 6cm – enough for each answers in their exercise books. pair to have one rectangle. Swap the rectangles around the Make a set of cards for each pairs and repeat. group containing the numbers: Check that they are measuring 37, 23, 45, 51 and 69. accurately. Practise singing '10 chunky chickens'.

#### kano-num-2-weeks-26-30-closeout.indd 15

| 10<br>minutes   | 25<br>minutes   |  | 10 Song<br>minutes   |
|---|---|--|--|
| Introduction  | Main activity   | Plenary  |  |
| Whole class teaching  | Whole class teaching  | Group task   | Whole class teaching   |
| Demonstrate how to<br>expand the number<br>54 on the chalkboard:<br>54 = 5 Tens 4 Units<br>= 50 + 4<br>Write '33' on the chalkboard.<br>Invite a pupil to the<br>chalkboard to explain<br>each stage of expanding<br>the number | Demonstrate how to expand<br>the Tens in the following<br>numbers on the chalkboard:<br>35 = 30 + 5<br>= 10 + 10 + 10 + 5<br>46 = 40 + 6<br>= 10 + 10 + 10 + 10 + 6 | Give each group a set<br>of number cards.<br>Ask them to expand<br>the numbers in<br>their exercise books.<br>Call out the numbers<br>and ask one person<br>from each group to say<br>the answers. | Tell the pupils to sing<br>'10 chunky chickens'with you.Ask them to say what<br>kind of sum they are doing<br>in the song. |

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Repeat this activity several times.

#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 26 Subtraction crossing the Ten Day 3

### Subtracting numbers using the expanded form

| Learning outcomes   | Daily practice   |
|---|--|
| By the end of the lesson, most<br>pupils will be able to:<br>Draw measurements accurately.<br>Expand Units to subtract<br>numbers that cross a Ten. | Pair taskGive each pair a ruler.Ask them to point to 0cm on<br>their ruler and remind them<br>that this is the starting point<br>when measuring. |
| Teaching aids   | Demonstrate on the chalkboard<br>how to use a ruler to draw a straight<br>line 5cm long.   |
| Before the lesson:<br>Have ready the rulers from<br>yesterday.  | Ask the pupils to draw lines<br>of 5cm, 10cm and 15cm in their<br>exercise books.  |
| Have ready a number line for each pair.   | Ask them to check each other's measurements.   |

15 minutes

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| 25<br>minutes  |  |  | 10 Song<br>minutes  |
|--|--|--|---|
| Main activity  |  |  | Plenary   |
| Whole class teaching   |  | Pair task  | Whole class teaching  |
| Demonstrate on the<br>chalkboard how to solve<br>33 - 5 by expanding<br>the Units.<br>Cross the Ten by counting<br>back 3 to the nearest<br>10 (30), then counting back<br>another 2, as shown below.<br>33 - 5 =<br>33 - 3 - 2 =<br>-2 $-328$ $30$ $33$ | On the chalkboard,<br>demonstrate crossing<br>the Ten to solve 44 – 7<br>in the same way.  | Write the following sums<br>on the chalkboard:<br>22-5 =<br>36-7 =<br>54-7 =<br>63-7 =<br>35-5 =<br>Ask the pairs to complete<br>the sums in their exercise<br>books by using number<br>lines to count back to<br>the nearest Ten and then<br>expand the Units.  | Sing '10 chunky chickens'<br>with the class.  |
|  | 25<br>minutes<br>Main activity<br>Whole class teaching<br>Demonstrate on the<br>chalkboard how to solve<br>33 - 5 by expanding<br>the Units.<br>Cross the Ten by counting<br>back 3 to the nearest<br>10 (30), then counting back<br>another 2, as shown below.<br>33 - 5 =<br>33 - 3 - 2 =<br>-2 - 3<br>28 30 33<br>33 - 3 - 2 = 28 | 25<br>minutes<br>Main activity<br>Whole class teaching<br>Demonstrate on the<br>chalkboard how to solve<br>33 - 5 by expanding<br>the Units.<br>Cross the Ten by counting<br>back 3 to the nearest<br>10 (30), then counting back<br>another 2, as shown below.<br>33 - 5 =<br>33 - 3 - 2 =<br>-2 - 3<br>28 30 33<br>33 - 3 - 2 = 28 | 25<br>minutesMain activityPair taskWhole class teachingOn the chalkboard,<br>demonstrate on the<br>chalkboard how to solve<br>$33 - 5$ by expanding<br>the Units.On the chalkboard,<br>demonstrate crossing<br>the Ten to solve $44 - 7$<br>in the same way.Write the following sums<br>on the chalkboard:<br>$22 - 5 =$<br>$36 - 7 =$<br>$54 - 7 =$<br>$63 - 7 =$<br>$54 - 7 =$<br>$63 - 7 =$<br>$35 - 5 =$ Torss the Ten by counting<br>back 3 to the nearest<br>10 (30), then counting back<br>another 2, as shown below.Ask the pairs to complete<br>the sums in their exercise<br>books by using number<br>lines to count back to<br>the nearest Ten and then<br>expand the Units. $33 - 3 - 2 =$<br>$28 30 - 33$ $33$ |

|  |                 |                         |                        | $\odot$   |   |  |
|--|-----------------|-------------------------|------------------------|---|---|--|
|  | Lesson<br>title |                         |                        |   | 15<br>  minutes   |  |
| Numeracy<br>lesson plans                 | Subtr           | acting                  |                        | Learning outcomes   | Daily practice  |  |
| Primary 2<br>Term 3                      | numb<br>expar   | ers us<br>nded fo       | ing the                | By the end of the lesson, most pupils will be able to:                | Group task  |  |
| Assessment for<br>learning               |                 |                         |                        | Measure objects accurately in centimetres.                            | Ask the pupils to name objects  |  |
|  |                 |                         |                        | Expand Units to subtract numbers that cross a Ten.                    | with a ruler, eg: pencils, books.<br>Give each group a 'Measure in  |  |
| Week 26                                  |                 |                         |                        | Teaching aids   | it to them.   |  |
| Subtraction<br>crossing the Ten<br>Day 4 |                 |                         |                        | Before the lesson:  | Ask if anyone can remember<br>what 'estimate' means.  |  |
|  |                 | Estimate in centimetres | Measure in centimetres | Copy the 'Measure in centimetres<br>grid' shown left on to a piece of | <ul> <li>Ask the pupils to estimate the<br/>measurements and write them<br/>in the grid in cm.</li> </ul> |  |
|  | foot            |                         |                        | paper for each group.   | Ask each group to say their   |  |
|  | little finger   |                         |                        | Have ready a ruler.   | estimates and ask the other   |  |
|  | pen/pencil      | _                       |                        | Have ready a number line for  | groups if they agree.   |  |
|  | exercise book   |                         |                        | each pair.  | Keep the grids for the next day.  |  |

| 10<br>minutes  | 25 minutes r   |  | 10<br>minutes  |  |
|--|--|--|--|--|
| Introduction   | Main activity Plena  |  | Plenary  |  |
| Pair task  | Whole class teaching   | Pair task  | Whole class teaching   |  |
| Ask the pupils to tell you<br>some addition sums that<br>make 6. | Remind the pupils that<br>expanding the Units can<br>make it easier to subtract. | Write the following sums<br>on the chalkboard:<br>$21 - 7 =$ Choose some pupils to<br>quickly draw their num<br>lines on the chalkboar $34 - 7 =$<br>$62 - 8 =$<br>$73 - 7 =$ $62 - 8 =$<br>$73 - 7 =$ | Choose some pupils to<br>quickly draw their number<br>lines on the chalkboard. |  |
| Write their sums as a list on the chalkboard.                    | On the chalkboard,<br>demonstrate crossing the<br>— Ten to subtract 8 from 35    |  |  |  |
| Ask the pupils to tell you<br>some addition sums that<br>make 8. | Write '65 – 6 =' on the chalkboard.  | Ask the pupils to complete<br>the sums in their exercise   | -  |  |
| Write these sums as a list                                       | Tell the pupils to use the   | books using number lines.  |  |  |
| on the chalkboard.   | addition sums on the chalkboard to help them complete the sum.                   | Remind them to count<br>back to the nearest Ten,<br>then expand the Units.   | -  |  |

### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 26 Subtraction crossing the Ten Day 5

# Subtracting numbers

Lesson

title

### Learning outcomes

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

Measure objects accurately in cm.

Subtract two-digit numbers that involve crossing the Ten.

### **Teaching aids**

### **Before the lesson:**

Have ready the grids from yesterday and a ruler for each pair.

Have ready a number line for each pair.

### **Daily practice**

15

minutes

### **Group task**

Give out the 'Measure in centimetres grids' and rulers.

Demonstrate how to use a ruler to measure an object accurately.

Remind the pupils that 0cm is the starting point.

Ask the groups to measure the objects in the grid and write the measurements in cm in the grid.

Ask each group to say their measurements and ask the other groups if they are correct.

Ask the groups if any of their estimates were the same as, or near to, their measurements.

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| 10<br>minutes   | 25<br>minutes   |   | 10<br>minutes  |
|---|---|---|--|
| Introduction  | Main activity   |   | Plenary  |
| Pair task   | Whole class teaching  |   | Pair task  |
| Remind the pupils that<br>when we subtract numbers<br>it can help to expand<br>the numbers.<br>On the chalkboard,<br>demonstrate how to<br>expand the Tens in<br>the following numbers:<br>44 = 40 + 4<br>= 10 + 10 + 10 + 10 + 4 | Write '43 - 25' on the<br>chalkboard.Demonstrate expanding:<br>$25 = 20 + 5$<br>$= 10 + 10 + 5$ .Demonstrate counting back<br>in 2 jumps of 10.To cross the Ten, jump<br>back 3 to the nearest Ten. | Expand the 5, ie:<br>3 + 2 = 5, and jump back 2,<br>as shown below.<br>-2 -3 -10 -10<br>$18 \ 20 \ 23 \ 33 \ 43$<br>Repeat with $48 - 26$ and<br>35 - 28. | Write '32 – 28' and '41 – 25'<br>on the chalkboard.<br>Ask the pupils to work<br>out the sums in their<br>exercise books by<br>expanding the numbers<br>and using a number line. |
| 36 = 30 + 6<br>= 10 + 10+ 10 + 6  |   |   |  |

Ask the pupils to expand 24, 38 and 46 in their exercise books.

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### Week 27 Subtraction of two-digit numbers

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### Words/phrases

Assessment

subtract subtraction take away minus subtract from difference between number line Tens Units crossing the Ten centimetre tape measure metre

How many Tens in each number? How many Units in each number? 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. ۲

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#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 27 Subtraction of two-digit numbers Day 1

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### Subtracting two-digit numbers

| Learning outcomes                             | Daily practice  |  |
|---|---|--|
| By the end of the lesson, most                | Group task  |  |
| pupils will be able to:                       | Remind the pupils that they have  |  |
| Use a tape measure to measure in centimetres. | been learning how to measure in centimetres.  |  |
| Subtract two-digit numbers.                   | Write ' <mark>cm</mark> ' on the chalkboard.  |  |
| Teaching aids                                 | Show the class the tape measure<br>and tell them it is used to measure<br>around things.                            |  |
| Before the lesson:                            | Ask them to estimate how many<br>centimetres it is around their wrists<br>and ankles.                               |  |
| Have ready a tape measure.                    |   |  |
|   | Choose some pupils to measure<br>five pupils' wrists and ankles and<br>write the measurements on the<br>chalkboard. |  |
|   | Discuss who has the largest wrist and the smallest ankle.   |  |

15 minutes

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| 10<br>minutes   | 25<br>minutes   |   | 10<br>minutes  |
|---|---|---|--|
| Introduction  | Main activity   |   | Plenary  |
| Whole class teaching  | Whole class teaching  | Pair task   | Whole class teaching   |
| Ask the pupils what<br>they have learned about<br>subtracting numbers.De<br>42Ask them to say as many<br>addition sums as they<br>can that make 5 and list<br>them on the chalkboard.42De<br>56<br>56<br>Ex<br> | Demonstrate how to solve $42 - 25 =$ , as shown below: $42 - 25 =$ $42 - 25 =$ $42 - 20 - 5 =$ $42 - 10 - 10 - 5 =$ $42 - 2 = 20$ $20 - 3 = 17$ Demonstrate how to solve $56 - 13$ in the same way.         Explain that in this sum we         are not crossing the Ten. | Tell the pairs to look at<br>the following sums on the<br>chalkboard:<br>27 - 18 =<br>52 - 33 =<br>37 - 18 =<br>41 - 29 =<br>Show them how to write<br>the sums horizontally<br>and ask them to complete<br>the questions in their<br>exercise books. | Choose some pupils to<br>explain the answers on the<br>chalkboard. |
|   |   | Remind them to use a<br>number line.  | _  |

#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 27 Subtraction of two-digit numbers Day 2

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### Subtracting larger two-digit numbers using a number line

| Learning outcomes   | Daily practice   |  |  |
|---|--|--|--|
| By the end of the lesson, most<br>pupils will be able to: | Group task<br>Give each group a metre stick  |  |  |
| equal a metre.  | And a ruler.<br>Ask the pupils how many  |  |  |
| Subtract two-digit numbers.                               | centimetres they can see on the ruler.   |  |  |
| Teaching aids   | Tell them that the stick<br>is measured in spaces of<br>10 centimetres   |  |  |
| Before the lesson:  | Ask the pupils to count the Tens   |  |  |
| Have ready metre sticks,<br>or prepared sticks measuring  | to find out how many centimetres there are on the stick.   |  |  |
| markings, for each group.                                 | Write '100cm = <mark>1m</mark> ' on the<br>_ chalkboard.   |  |  |
| Have ready the rulers from last week.                     | Tell the pupils the stick is called a <mark>metre stick</mark> and is used to measure larger things.                 |  |  |
|   | Ask them to say something that<br>is bigger than the metre stick<br>and something that is smaller<br>than the ruler. |  |  |

minutes

| 10<br>minutes   | 25<br>minutes  | 10<br>minutes   |
|---|--|---|
| Introduction  | Main activity  | Plenary   |
| Whole class teaching  | Pair task  | Whole class teaching  |
| Remind the pupils that<br>they have been learning<br>ways to subtract using<br>a number line.<br>Ask the pupils to help you<br>work out 96 – 47, using the<br>method you have learned | Ask the pupils to look at the<br>following on the chalkboard:<br>48 - 19 =<br>61 - 28 =<br>52 - 34 =<br>85 - 47 =<br>74 - 36 = | Ask one pair to show their<br>workings on the chalkboard<br>for the class to see, talking<br>through each step. |
| during the week.  | Tell the pairs to complete them in their exercise books.   |   |
|   | Go round and check<br>they are using number<br>lines correctly.  |   |

#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 27 Subtraction of two-digit numbers Day 3

### Subtraction word problems

| Learning outcomes  | Daily practice   |  |
|--|--|--|
| By the end of the lesson, most                                     | Group task   |  |
| pupils will be able to:  | Ask the pupils to say how many   |  |
| Estimate using metres.   | centimetres there are in a metre.  |  |
| Solve subtraction word problems.                                   | Write '100cm = 1m' on the<br>chalkboard and ask the puils to<br>copy it in their exercise books. |  |
| Teaching aids  |  |  |
|  | Ask the groups to estimate   |  |
| Before the lesson:   | how long and how wide the classroom floor is.  |  |
| Have ready the metre sticks from yesterday.                        | Tell them to write their estimates in their books.   |  |
| Write the folllowing words on large flash cards: 'minus',          | Show them how to use the metre sticks to measure the floor.                                      |  |
| 'subtract from', 'take away',<br>difference between', 'less than'. | Ask the pupils to write their measurements in <mark>m</mark> in their books                      |  |
| Write the word problems, shown<br>opposite, on the chalkboard.     | Ask each group to say their<br>measurements and ask the other<br>if they agree.                  |  |

15 minutes

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| 10<br>minutes   | 25<br>minutes   | 10<br>minutes  |   |
|---|---|--|---|
| Introduction  | Main activity   |  | Plenary   |
| Pair task   | Whole class teaching  | Individual task  | Whole class teaching  |
| Ask the pupils to discuss<br>different words and phrases<br>that mean subtraction | Tell the pupils to look<br>at the word problems on<br>the chalkboard                                  | Ask the pupils to complete<br>the word problems in their | Say a number between<br>0 and 10.   |
| Choose some pairs to<br>say some of their words.                                  | Read and explain each question.   | Tell the pupils to draw<br>number lines for each one.    | Ask the pupils to shout<br>out the number needed<br>to make your number<br>add up to 10, eg: if you say<br>'8', they need to shout '2'.<br>Repeat with other numbers<br>between 0 and 10. |
| Show and read the<br>flash cards.<br>Put them on display in<br>the classroom.     | Choose some pupils to<br>come and write the sum<br>needed to solve each<br>problem on the chalkboard. |  |   |
|   |   |  |   |

to make them easy

Choose some pupils to expand 57 and 26.

to subtract.

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### Word problems

Sani has picked 57 oranges but 26 are bad. How many are good? There are 49 pupils in class 3. 21 are girls. How many are boys? Faruku is 75, his friend Namadi is 28. How much older is Faraku?

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#### Lesson title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 27 Subtraction of two-digit numbers Day 4

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# Estimate and check answers

### Learning outcomes **Daily practice** By the end of the lesson, most **Group task** pupils will be able to: Ask the pupils to name some Estimate and measure in metres. things we could measure in metres and some things we Estimate and check answers could measure in centimetres. to two-digit subtraction sums. Give each group a metre stick and go outside. **Teaching aids** Look at one side of the school and ask some of the pupils to Before the lesson: estimate how long it is. Let them measure it with Have ready the metre sticks the metre stick and say the from yesterday. measurement. Practise singing '10 chunky chickens'. Discuss how near their estimate was to the measurement. Ask them to estimate a distance from the school, eg: from a wall to a tree and measure it with the metre stick. Discuss if their estimates are improving.

15

minutes

| 10<br>minutes   | 25<br>minutes  |  |   | 10 Song<br>minutes                           |
|---|--|--|---|--|
| Introduction  | Main activity  |  |   | Plenary                                      |
| Whole class teaching  | Whole class teaching   |  | Pair task   | Whole class teaching                         |
| Ask the pupils to tell you<br>as many addition sums<br>with the answer 8 or 9 as<br>they can.<br>Write them in a list on the<br>chalkboard. | Write the following on<br>the chalkboard: $42 - 18 = 24$ $45$ $91 - 57 = 18$ $34$ $50 - 37 = 13$ $31$ $62 - 18 = 44$ $24$ Tell the pupils that one<br>of the answers in each pair<br>of boxes is correct and<br>one is wrong | Ask the class to guess<br>which they think are the<br>correct answers.Choose some pupils<br>to say which answer they<br>have chosen and why.Remind the pupils that<br>these are all subtraction<br>sums and the answers will<br>be less than the biggest<br>number in the sum. | Ask the pupils how we<br>can find out which is the<br>correct answer.<br>Demonstrate with 42 – 18.<br>Ask the pairs to complete<br>the rest of the sums on<br>the chalkboard in their<br>exercise books.<br>Tell them to check that their<br>answer is the same as one<br>of the answers in the boxes | Sing '10 chunky chickens'<br>with the class. |

### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 27 Subtraction of two-digit numbers Day 5

### Using a number line

Lesson title

| Learning outcomes  | Daily practice   |  |
|--|--|--|
| By the end of the lesson, most<br>pupils will be able to:<br>Measure objects in centimetres<br>and metres.<br>Solve subtraction word problems. | Pair task<br>Write<br>'cm = 1'<br>on the chalkboard and choose<br>some pupils to fill in the gaps.   |  |
| Teaching aids<br>Before the lesson:  | <ul> <li>Ask the pupils to look at the pictures on the chalkboard and say which they would measure in centimetres and which they would measure in metres.</li> <li>Tell them to fold a page in their exercise books in half.</li> <li>On one half tell them to write 'cm' and draw the objects they would measure in cm.</li> <li>On the other half ask them to write 'm' and draw the objects they would measure in m.</li> </ul> |  |
| Draw a tree, a door, a pencil,<br>a book, a shoe and a wall on the<br>chalkboard.  |  |  |
| Copy 'Which are subtraction<br>problems?' from the introduction<br>on to the chalkboard.   |  |  |

15 minutes

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| 10<br>minutes   | 25<br>minutes  |  | 10<br>minutes   |
|---|--|--|---|
| Introduction  | Main activity  |  | Plenary   |
| Pair task   | Whole class teaching   | Individual task  | Whole class teaching  |
| Read through the word problems written on the chalkboard.                     | Look at the first sum on<br>the chalkboard, 45 – 26.<br>Remind the pupils that<br>they have been expanding<br>two-digit numbers<br>and subtracting numbers<br>by crossing the Ten. | Ask the pupils to complete<br>problems 2, 4, and 5 in<br>their exercise books, using<br>a number line. | Ask the pupils to say any words they know that mean the same as subtract. |
| Ask the pupils to discuss<br>which problems need<br>subtraction sums (1, 2, 4 |  |  | Choose some pupils to say<br>how many Tens and Units<br>there are in 48.  |
| and 5).   |  |  | Ask them to expand 48.  |
| is needed for number 3<br>(addition).   | help you draw a number line<br>and work out the answer.  |  | Repeat with other two-digit numbers.                                      |
| Ask them to say the<br>sums needed for problems<br>1, 2, 4 and 5.             |  |  |   |

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Choose some pairs to come and write the sums

on the chalkboard.



### Words/phrases

Assessment

take away difference minus subtract clock long hand short hand minute hand hour hand hour minute o'clock half past quarter past quarter to estimate How long will it take to ...?

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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. ۲

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#### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 28 Time Day 1

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### Minutes

Lesson

title

#### Learning outcomes

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

Subtract two-digit numbers.

Identify where minutes are on a clock.

**Teaching aids** 

#### **Before the lesson:**

Have ready a Hundred square for each pupil, a real clock with a second hand and a large clock with moveable hands.

#### **Daily practice**

#### Pair task

15

minutes

Ask some pupils to call out two numbers from 0—9. Write the numbers on the chalkboard.

Ask the pupils to say the biggest and smallest two-digit numbers they can make with the numbers.

Write these two, two-digit numbers on the chalkboard.

Ask the pairs to subtract the smaller number from the bigger number in their exercise books.

Remind them to draw a number line and expand the smallest number.

| 10<br>minutes  | 25<br>minutes  |  | 10<br>minutes                                     |
|--|--|--|---|
| Introduction   | Main activity  |  | Plenary   |
| Whole class teaching                                 | Whole class teaching   |  | Whole class teaching                              |
| Ask the pupils to use their<br>Hundred square to put | Ask the pupils to discuss<br>in pairs why we need to tell                          | Tell the pupils it is<br>half past because the                           | Tell the pupils the long hand counts the minutes. |
| in 5s until they reach 60.                           | Ask them to share any times  | half way round the clock.  | Move the long hand around the clock, pointing     |
| Ask them to count forwards again and then backwards  | that they already know, eg:<br>playtime, home time.                                | Move the hands clockwise,<br>make different o'clock times,               | to the 5 minute sections.                         |
| in 5s from 60.                                       | Show the pupils the clock with moveable hands.                                     | and choose pupils to say the times shown.                                | in 5s and say there are<br>60 minutes in an hour. |
|  | Choose a pupil to move the hands to make 4 o'clock.                                | Write, '8 o'clock', '3 o'clock'<br>and '5 o'clock' on the<br>chalkboard. |   |
|  | Remind the class that the short hand is the <b>hour</b> hand.                      | Ask the pupils to draw pictures in their exercise                        |   |
|  | When the big hand points to 12 it is <mark>o'clock</mark> .                        | books to show things they do at each time.                               |   |
|  | Move the hands to make<br>half past 4 and ask if anyone<br>can say the time shown. | Tell them to write the time under each picture.                          |   |

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 28 Time Day 2

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## Minutes past the hour

#### Learning outcomes **Daily practice** By the end of the lesson, most Pair task pupils will be able to: Ask each pair to estimate how Find the difference between two many times they can write their numbers using a number line. name in 1 minute and write the estimate in their exercise books. Read the minutes past the hour on a clock. Ask them to write their names as many times as they can for 1 minute as you time them. **Teaching aids** Tell them to count how many names they have written. Before the lesson: Ask the pupils how they can work out the difference between Have ready a set of 12 blank cards their estimate and the answer. for each group. Tell them to do a subtraction sum Have ready a set of 1—12 number cards for each group. using a number line. Have ready the large clock from Choose some pupils to explain their sums on the chalkboard. yesterday. Make card clocks with moveable hands for each pair.

15 minutes

| 10<br>minutes  | 25<br>minutes  |   | 10<br>minutes                                    |
|--|--|---|--|
| Introduction   | Main activity  |   | Plenary  |
| Group task   | Group task   |   | Whole class teaching                             |
| Use the large clock to show the pupils 3 o'clock.                                      | Ask each group to stand in a circle and count in 5s.                                     | Choose one pupil in<br>each group to be the   | Make different times<br>on the large clock up to |
| Ask,<br>'What is the time?'  | Give each group a set of blank cards and a set of  | be the 'minute hand'.   | half past.<br>Choose some pupils to              |
| Then ask,<br>'How do you know?'  | number cards from 1—12.  | Tell them to move around the number cards as you  | say the times.                                   |
| Repeat with 'half past'Ask them to drange the<br>number cards in the sh<br>of a clock. | number cards in the shape<br>of a clock.   | say the time, eg: '3 o'clock',<br>'5 minutes past 3', up to<br>half past.   | until most pupils have said a time.              |
|  | Ask the groups to use their<br>blank cards to make minute<br>cards that count in 5s from | Repeat, choosing different pupils and different times.  |  |
|  | 0—60, eg: 0, 5, 10, 15.  | Give each pair a card clock.  |  |
|  | Ask them to place the<br>minute cards around the<br>circle like clock numbers.           | Ask the pupils to make the<br>following times: 15 minutes<br>past 3, half past 3, 5<br>minutes past 3, 10 minutes<br>past 5, 25 minutes past 2,<br>20 minutes past 1. |  |

Lesson

title

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 28 Time Day 3

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# Minutes past the hour

#### Learning outcomes

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

Use different terms for subtraction.

Use a clock to say minutes past the hour.

**Teaching aids** 

#### **Before the lesson:**

Have ready flash cards containing subtraction words: 'take away', 'minus', 'difference', 'subtract from'.

Have ready the card clocks with moveable hands for each pair and the large clock.

Read New Method Mathematics 2, page 87.

#### **Daily practice**

15

minutes

#### Group task

Ask one group to stand in front of the class and take away two pupils.

Ask the class to say a sum to describe what has happened, eq: 6 - 2 = 4.

Write the '-' sign on the chalkboard and ask the pupils to say some names for it, eg: minus, subtract.

Display and read the subtraction word cards.

Bring another group of pupils out and take some away.

Ask the rest of the class to describe what has happened using the word 'minus'.

Repeat, using other words for subtract.

| 10<br>minutes   | 25 New Method<br>minutes Mathematics 2   |  |   | 10<br>minutes  |
|---|--|--|---|--|
| Introduction  | Main activity  |  |   | Plenary  |
| Pair task   | Individual task  | Pair task  |   | Whole class teaching   |
| Give out the card clocks.<br>Ask the pupils to make<br>some o'clock times.<br>Ask them what number<br>the big hand points to<br>when it has gone half way<br>round the clock.<br>Remind them this is called | Ask the pupils to look at<br>the clocks in New Method<br>Mathematics 2, page 87,<br>examples P—U.<br>Ask them to say some of the<br>times in the exercise and<br>write the answers in their<br>exercise books. | Demonstrate moving the<br>hands on the large clock to<br>show 5-minute intervals.<br>Show the pupils 4 o'clock.<br>Say each time as you<br>move the hands to make 5<br>minutes past 4, 10 minutes<br>past 4. | Choose some pupils to say<br>the times they have made.<br>Repeat with minutes past<br>other hours, asking the<br>pupils to follow you with<br>their clocks. | Make 10 past 6 on the<br>large clock and choose<br>someone to say the time.<br>Repeat with other times, eg:<br>5 past 8, 25 past 7. (Do not<br>go beyond half past). |
| 'half past'.  |  | Continue changing the time<br>by 5 minutes until half past<br>the hour.<br>Repeat, and ask the pairs<br>to do the same with their<br>clocks.   |   |  |

| title      |   | 15<br>  minutes   |
|------------|---|---|
| Minutes to | Learning outcomes   | Daily practice  |
| the hour   | By the end of the lesson, most pupils will be able to:                                  | Group task  |
|            | Subtract two-digit numbers.   | flash card.   |
|            | Use a clock to say minutes to the hour.   | Ask each group to make up<br>a sum with two, two-digit numbers<br>using that term, eg: 46 minus 15.   |
|            | Teaching aids   | Write their sums on the chalkboard.   |
|            | Before the lesson:  | Give each group a sum to complete in their exercise books.  |
|            | Have ready the card clocks<br>with moveable hands for each<br>pair and the large clock. | Remind the pupils that they can expand the numbers and use a number line.   |
|            | Have ready the subtraction word cards from yesterday.                                   | -<br>Share the answers as a class<br>and check they are correct.  |
|            | Minutes to<br>the hour  | Minutes to<br>the hourLearning outcomesBy the end of the lesson, most<br>pupils will be able to:Subtract two-digit numbers.Use a clock to say minutes to<br>the hour.Teaching aidsBefore the lesson:Have ready the card clocks<br>with moveable hands for each<br>pair and the large clock.Have ready the subtraction<br>word cards from yesterday. |

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| 10<br>minutes   | 25<br>minutes  |  |  | 10<br>minutes  |
|---|--|--|--|--|
| Introduction  | Main activity  |  |  | Plenary  |
| Pair task   | Pair task  |  |  | Whole class teaching   |
| Give out the card clocks to each pair.                            | Remind the pupils how to show minutes past on  | Choose some pairs to hold<br>up their clocks and ask   | Explain that the time is 5 minutes to 4 o'clock.   | Move the hands on the large clock to make different  |
| Ask the pairs to show<br>you some o'clock and<br>half past times. | <ul> <li>a clock.</li> <li>Write on the chalkboard:</li> <li>5 minutes past 2</li> <li>25 minutes past 6</li> <li>15 minutes past 8</li> <li>20 minutes past 3</li> <li>25 minutes past 4</li> <li>10 minutes past 10</li> </ul> | the class if they are correct.<br>Remind the pupils that<br>when we get to 30 minutes<br>past we say 'half past'.<br>Explain that after half past<br>we count the minutes left<br>until the next hour and say<br>'minutes to'. | Ask the pairs to make the<br>same times that you make<br>with your clock.<br>Demonstrate 10 minutes<br>to 4, 15 minutes to 4,<br>20 minutes to 4, 25 minutes<br>to 4.<br>Each time, ask the pupils | times showing minutes to.<br>Choose some pupils<br>to say the times shown.<br>Repeat this activity<br>until most pupils have<br>said a time. |
| 5 minutes past 5  | Show the pupils 5 minutes to 4 on the large clock.   | to say the times they have<br>made by counting how   |  |  |
|   | Read the times and ask<br>the pairs to make them on<br>their card clocks.  | Remind them that the long<br>hand takes 5 minutes to<br>move between the numbers<br>around the clock.  | many spaces of 5 minutes<br>are left until the next hour.  |  |

|                  | •  |  |
|------------------|--|--|
| Lesson<br>title  |  | 15   Game<br>  minutes   |
| Telling the time | Learning outcomes  | Daily practice   |
|                  | By the end of the lesson, most pupils will be able to:   | Whole class teaching<br>Stand the pupils in a circle and                               |
|                  | Count forwards and backwards in 5s.  | explain they are going to play<br>a game that involves counting<br>- in 5s.            |
|                  | Say the time on a clock.   | Throw the ball to a pupil across the circle and say '5'.                               |
|                  |  | Ask them to add 5 and say the answer.  |
|                  | Have ready a ball or object to throw and catch.  | Tell them to throw it to the next<br>pupil and ask them to add 5 to the<br>new answer. |
|                  | Have ready a clock with moveable hands for each pair.  | Continue until you reach 50.   |
|                  | Copy the 'Hours and minutes<br>clock' from the introduction on<br>to a piece of card for each group. | from 50.   |

Numeracy lesson plans Primary 2

Term 3 **Assessment for** learning

**Week 28** Time Day 5

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| 10<br>minutes   | 25<br>minutes   |  | 10<br>minutes   |
|---|---|--|---|
| Introduction  | Main activity   |  | Plenary   |
| Group task  | Group task  |  | Whole class teaching  |
| Give each group an<br>'Hours and minutes clock'.<br>Ask them to write in<br>the missing numbers for<br>the hours. | Ask them how many minutes<br>there are in an hour.Remind the pupils that<br>we count in 5s as we say<br>minutes past.Ask them what happens<br>when we get to half past.Ask the groups to put in<br>the missing numbers for<br>the minutes.Tell the pupils that<br>15 minutes past is also<br>called 'quarter past'<br>and 15 minutes to is<br>also called 'quarter to'.Remind them that 60<br>minutes is called 'o'clock' | Ask the groups to show the<br>class their completed clocks<br>and check they are correct.Demonstrate 4 o'clock<br>with the large clock.Make each time between<br>4 o'clock and 5 o'clock,<br>going round the clock<br>in 5-minute intervals and<br>choosing some pupils to<br>say the time.Tell the groups to use the<br>'Hours and minutes clock'<br>to help them.Make different times<br>on the clock and ask,<br>'What time is it?' | Give each pair a clock.<br>Ask them to make the<br>following times as you say<br>them and hold up their<br>clocks for you to see:<br>half past 4<br>20 minutes past 6<br>10 minutes to 9<br>15 minutes to 7 |

### Week 29 Multiplication using repeated addition

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#### Words/phrases

Assessment

#### X

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multiply times multiplication multiplied by lots of groups of sets of repeated addition word problem 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. ۲

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Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 29 Multiplication using repeated addition Day 1

### **Repeated addition**

Learning outcomes

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

Order numbers up to 99.

Count equal sets of objects.

**Teaching aids** 

#### **Before the lesson:**

Have ready a large selection of counters or bottle tops and sets of 0—9 number cards for each group.

Write the following sums on the chalkboard:  $4 \times 2 =$  $2 \times 3 =$  $4 \times 3 =$  $5 \times 4 =$  $5 \times 3 =$ 

3 x 3 =

#### **Daily practice**

15

minutes

Whole class teaching

Write a list of two-digit numbers on the chalkboard.

Ask the pupils to tell you the value of each digit, eg: 54 = 5 Tens and 4 Units.

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

Tell them to arrange the numbers in order on the number line, from the lowest to the highest.

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| 10<br>minutes   |   | 25<br>minutes  |   | 10<br>minutes                          |
|---|---|--|---|--|
| Introduction  |   | Main activity  |   | Plenary                                |
| Group task  |   | Group task   |   | Whole class teaching                   |
| Give each group<br>some counters and<br>0—9 number cards.           | Ask,<br>'How many counters<br>do you have altogether?'                                  | Write:<br>'4 + 4 + 4 + 4 + 4 = 20'<br>on the chalkboard.   | Tell them this is also<br>called '5 <mark>times</mark> 4' and<br>'5 multiplied by 4'. | Choose some pupils to say the answers. |
| Ask each group to pick<br>a number card.                            | <ul> <li>Tell the pupils to write<br/>this as a sum, eg:<br/>4 + 4 + 4 = 12.</li> </ul> | Tell the pupils that when we<br>add up the same number it  | Write '3 x 2' on the chalkboard. Ask the  | as a repeated addition sum.            |
| Tell them they are going<br>to make that number of<br>piles, eg: 3. | Repeat, until each pupil has written 3 different sums.                                  | Ask,<br>'How many lots of 4 can  | three different ways.   |  |
| Ask them to pick another<br>card and put that number                | _   | you see?' (5)<br>Tell them the sign for  | and write it as an addition<br>sum, ie: $(2 + 2 + 2 = )$ .                            |  |
| eg: 3 piles of 4 counters.  |   | 'lots of' is ' $\underline{x}$ ' and write it<br>on the chalkboard.<br>Write '5 x 4 = 20' on the | Tell the groups to use<br>piles of counters to find<br>the answer.                    |  |
|   |   | chalkboard.<br>Tell them this is a short way   | Ask the groups to complete<br>the sums on the chalkboard<br>in their exercise books.  |  |
|   |   | or writing $5   015   014 = 20$ .  | Tell them to use the counters to help them.   |  |

#### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 29 Multiplication using repeated addition Day 2

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### Multiplication using a number line

Lesson title

| Learning outcomes                    | Daily practice  |
|--------------------------------------|---|
| By the end of the lesson, most       | Pair task   |
| pupils will be able to:              | Give each pair a set of 0—9                                       |
| Expand two-digit numbers.            | number cards.   |
| Multiply numbers using               | Ask the pairs to pick 3   |
| repeated addition.                   | number cards.   |
|                                      | Ask them to make as many  |
| Teaching aids                        | two-digit numbers as possible                                     |
|                                      | with the number cards and record                                  |
| Before the lesson:                   |   |
|                                      | Tell the pairs to write the expanded                              |
| cards and a large selection of       | humber next to each number they baye written, eq: $25 - 20 \pm 5$ |
| counters for each pair.              | - Have written, eg. 25 – 26 + 5.                                  |
| Write: 'lots of', 'times' and        |   |
| 'multiplied by' on large flash cards |   |

15 minutes

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| 10<br>minutes   | 25<br>minutes  |  | 10<br>minutes  |
|---|--|--|--|
| Introduction  | Main activity  |  | Plenary  |
| Whole class teaching  | Pair task  |  | Whole class teaching                                   |
| Write '2 x 4' on the chalkboard. Ask a pupil  | Write '4 x 3' on the chalkboard.                     | If it is easier for the pupils<br>to understand, write all                           | Ask the pupils to check if their answers are the same. |
| to read it out and explain what it means.   | Remind the pupils that it is a auick way of writing  | on the numbers from 0—20   | If not, check their counting and number lines.         |
| Ask if anyone can remember some of the words for 'x'.                               | (3 + 3 + 3 + 3'.                                     | each time.   |  |
| Hold up the flash cards and read them with the pupils.                              | a number line to work<br>this out, starting at 0 and | Ask the pupils to complete<br>the sums they did earlier,<br>but this time use number |  |
| Write '3 x 6', '5 x 2' and<br>'4 x 5' on the chalkboard.                            | adding 3 on each time,<br>as shown below.            | lines instead of counters to work out the answers.                                   |  |
| Choose some pupils to say<br>what each one means, eg:<br>'3 x 6' means 3 lots of 6. |  |  |  |

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Tell the pupils to complete the sums in their exercise books using piles of counters.

#### Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 29 Multiplication using repeated addition Day 3

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## **Counting in 2s**

Lesson title

| Learning outcomes   | Daily practice  |
|---|---|
| By the end of the lesson, most  | Whole class teaching  |
| Subtract two-digit numbers.   | Remind the pupils how to subtract using the expanded method.        |
| Count in 2s.  | Demonstrate how to subtract 28 from 36.                             |
| Teaching aids   | Write, '42 – 27' and '51 – 26' on the chalkboard.                   |
| Before the lesson:  | Ask the pupils to complete these sums in their exercise books using |
| Draw a number line on the chalkboard.   | a number line.  |
| Have ready a number line for each pair.   |   |
| Draw a Hundred square on<br>a large piece of card and display<br>it in the classroom. |   |

15 minutes

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| 10<br>minutes  | 25<br>minutes   |  | 10<br>minutes   |
|--|---|--|---|
| Introduction   | Main activity   |  | Plenary   |
| Whole class teaching   | Whole class teaching  | Individual task  | Whole class teaching  |
| Show pupils the Hundred square and count in 2s, pointing out all the multiples             | Tell the class that we can<br>use a number line to find<br>8 lots of 2. | Write '6 x 2', '9 x 2' and<br>'4 x 2' on the chalkboard.<br>Ask the pupils to complete | Remind the pupils of<br>the words we use for the<br>- sign 'x'.                               |
| Stand them in a circle.  | Choose someone to write the sign for 'lots of',                         | the sums in their exercise books using number lines.                                   | Ask them to say '6 x 2' in<br>three ways, ie: '6 lots of 2',                                  |
| Say 'zero' (0) and go round<br>the circle encouraging each<br>pupil to count in 2s, saying | ie: ' <mark>X</mark> '.   | Ask them to check<br>each other's work<br>to make sure they have                       | <ul> <li>'6 times 2', '6 multiplied<br/>by 2'.</li> <li>Repeat with the other sums</li> </ul> |

it is their turn.

need to.

Tell them to look at the Hundred square if they

Continue until each pupil has given a multiple of 2.

Repeat, starting with a different pupil.

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| Lesson<br>title |   | 15<br>  minutes  |  |  |
|-----------------|---|--|--|--|
| Using sets      | Learning outcomes   | Daily practice   |  |  |
|                 | By the end of the lesson, most  | Pair task  |  |  |
|                 | pupils will be able to:   | Ask the pupils to look at their  |  |  |
|                 | Order numbers to 100.   | Hundred square.  |  |  |
|                 | Multiply numbers using sets.  | Ask them to say some numbers that are less than 50.  |  |  |
|                 | Teaching aids   | Ask them to say some numbers that are more than 50.  |  |  |
|                 | Before the lesson:  | Draw two circles on the chalkboard.  |  |  |
|                 | Read New Method Mathematics 2, page 58.   | Write 'more than 50' above one and 'less than 50' above the other.                                     |  |  |
|                 | Have ready a Hundred square for each pupil and the multiplication words on flash cards. | Ask the pupils to copy this into<br>their exercise books and write<br>5 numbers of the correct size in |  |  |
|                 | Write the multiplication sums, shown opposite, on the chalkboard.                       | each circle.   |  |  |

Numeracy lesson plans Primary 2

Term 3 **Assessment for** learning

**Week 29 Multiplication** using repeated addition Day 4

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| 10<br>minutes  | 25 New Method<br>minutes Mathematics 2  |   | 10<br>minutes   |
|--|---|---|---|
| Introduction   | Main activity   |   | Plenary   |
| Whole class teaching   | Whole class teaching  | Pair task   | Whole class teaching  |
| Write '6 x 2' on the<br>chalkboard and ask the<br>pupils to say what it means. | Tell the pupils to look at<br>the cups in New Method<br>Mathematics 2, page 58.               | Tell the pupils to look at the picture of the beans and orange.                               | Choose some pupils to read<br>out the multiplication sums,<br>using the word 'times'. |
| Flash the multiplication<br>cards and ask the pupils<br>to say them with you.  | Explain how they are arranged.  | Ask them to discuss how many groups are in each   |   |
|  | Tell the class to look<br>at the small balls and say<br>how many groups of 3<br>they can see. | series of pictures.   |   |
| Tell them we can also say<br>'groups of' and 'sets of'.                        |   | Choose some pairs to<br>say their answers and ask<br>the others if they agree.                |   |
|  | Choose a pupil to write this<br>as a multiplication sum on<br>the chalkboard.                 | Look at the multiplication sums on the chalkboard together.                                   |   |
|  |   | Ask the pairs to<br>draw sets of beans or<br>oranges to represent<br>the multiplication sums. |   |

| Multiplication sums |         |  |  |
|---------------------|---------|--|--|
| 2 x 3 =             | 4 x 3 = |  |  |
| 2 x 5 =             | 5 x 4 = |  |  |
| 3 x 2 =             | 7 x 4 = |  |  |
| 3 x 6 =             | 2 x 6 = |  |  |
| 4 x 5 =             | 2 x 7 = |  |  |

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 29 Multiplication using repeated addition Day 5

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# Sets and number lines

Learning outcomes

#### By the end of the lesson, most Whole class teaching pupils will be able to: Stand the pupils in a circle and Solve subtraction word problems. ask them to count to 100. Solve multiplication word problems. Say 'zero' and go round the circle in a clockwise direction. encouraging each pupil to **Teaching aids** count in 1s. Repeat, starting with Before the lesson: a different pupil. Write the following problems Write on the chalkboard: on the chalkboard: 'There are 42 pupils in class A and 28 pupils in class B. 1 There are 2 sweets in 4 bowls. Which class has the least pupils? How many sweets are there How many less pupils do altogether? they have?' 2 5 pupils have 2 exercise books Read and explain this problem. each. How many exercise books are there altogether? Ask the pupils to solve it 3 There are 8 pens with 3 hens in their exercise books using in each. How many hens are a number line. there altogether?

15 minutes

**Daily practice** 

| 10<br>minutes  | 25<br>minutes  | 10<br>minutes   |  |
|--|--|---|--|
| Introduction   | Main activity  | Plenary   |  |
| Whole class teaching   | Pair task  | Whole class teaching                                      |  |
| Ask the pupils the following<br>word problem: 'If a goat   | Read the problems on the chalkboard to the class.          | Ask the pupils to help you<br>draw sets on the chalkboard |  |
| 5 goats, how many legs are<br>there altogether?'   | Choose some pupils to come and write the sum for each one. | Ask if they got the same answers using                    |  |
| Ask them how they can work out the answer.   | Ask the pupils to solve the sums in their exercise books   | a number line.<br>If they did not, check                  |  |
| Ask if anyone can write<br>the sum on the chalkboard,<br>ie: '5 x 4 ='.  | by drawing a number line.                                  | on the number line.                                       |  |
| Demonstrate the sum,<br>drawing five sets of legs<br>and ask the pupils to count<br>the legs to find the answer. |  |   |  |
| Demonstrate the sum by drawing a number line.  |  |   |  |

Ask the pupils to count in 4s to find the answer.

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### Week 30 Multiplication tables

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Words/phrases

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#### Assessment

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multiply times multiplication multiplied by lots of groups of sets 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 2

Term 3 Assessment for learning

Week 30 Multiplication tables Day 1

### The 2 times table

#### Learning outcomes

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

Count in 2s.

Say the 2 times table.

**Teaching aids** 

#### **Before the lesson:**

Have ready the Hundred square from last week and some counters for each pair.

Copy 'Making the 2 times table' from the introduction on to the chalkboard.

#### **Daily practice**

15

minutes

#### Whole class teaching

Remind the pupils that they have been counting in 2s.

Show pupils the Hundred square and count in 2s with them, pointing out all the multiples of two.

Stand the pupils in a circle.

Say 'zero' and go round the circle, encouraging the pupils to say the next multiple of 2 when it is their turn.

Tell the pupils to look at the Hundred square if they need to.

Continue until each pupil has given a multiple of 2.

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| 10<br>minutes   |  | 25<br>minutes   |  | 10<br>minutes   |
|---|--|---|--|---|
| Introduction  |  | Main activity   |  | Plenary   |
| Whole class teaching  |  | Pair task   | Whole class teaching   | Whole class teaching                                    |
| Ask the pupils how we can multiply two numbers  | Say,<br>'We now have 2 sets of 2.'                     | Tell the pupils to look at<br>'Making the 2 times table'. | Ask the pupils to say the sums and the answers                   | Read out the sums they have just completed and          |
| together, ie: use a number<br>line or draw sets.  | Point to the second row on the table and show the      | Tell them to use counters<br>to make the sets of 2.       | <ul> <li>with you.</li> <li>Tell them it is important</li> </ul> | ask different pupils to tell<br>— you the answers.<br>— |
| Ask 2 pupils to come out to the front.  | pupils the picture.<br>Explain that $(2 + 2)$ is the   |   | to know these times tables really well.                          |   |
| Say, 'This is 1 set of 2.'  | same as $2 \times 2^{2}$ .                             |   | Ask them to find the   |   |
| Point to the first row<br>of 'Making the 2 times<br>table' and show the<br>pupils the picture.Repeat, calling pupils<br>out in sets of 2 until you<br>have 10 sets.Tell the pupils they have<br>just made the 2 times table | _  | 10 x 2, using counters.                                   |  |   |
|   | Tell the pupils they have just made the 2 times table. | -   |  |   |
| Ask 2 more pupils to come and stand by the first set.   | -  |   |  |   |

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 30 Multiplication tables Day 2

### The 3 times table

#### Learning outcomes

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

Say the 2 times table.

Count in 3s.

**Teaching aids** 

**Before the lesson:** 

Display the Hundred square in the classroom.

Write the 3 times table on the chalkboard without the answers and leave it there for the week.

Have ready enough counters for each pair to have 30.

#### **Daily practice**

15

minutes

#### Whole class teaching

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

Tell them to say the 2 times table with you.

Say it, but miss out the answers and ask the pupils to shout them out.

| 10<br>minutes  | 25<br>minutes   |   | 10<br>minutes  |
|--|---|---|--|
| Introduction   | Main activity   |   | Plenary  |
| Whole class teaching   | Pair task   |   | Whole class teaching   |
| Show the pupils the<br>Hundred square and<br>count in 3s, pointing out<br>all the multiples of three.<br>Stand the pupils in a circle.<br>Say 'zero' and go round the<br>circle, encouraging each<br>pupil to say the next multiple<br>of 3 when it is their turn.<br>Tell the pupils to look at<br>the Hundred square if they<br>need to. | Tell the pupils that yesterday<br>they counted in sets of 2 to<br>make the 2 times table.<br>Tell them they are going<br>to make sets of 3 today to<br>make the 3 times table.<br>Point to '1 x 3' on the<br>chalkboard and explain<br>that this is 1 set of 3 so the<br>answer is 3.<br>Point to '2 x 3' and explain<br>that this means 2 sets of 3. | Tell the pupils to add them<br>up, ie: '3 + 3 = 6'.<br>Point to '3 x 3' and ask<br>the pairs to make 3 sets<br>of 3 with their counters.<br>Tell the pupils to add them<br>up, ie: '3 + 3 + 3 = 9'.<br>Tell them to copy the<br>3 times table into their<br>exercise books.<br>Tell them to use their<br>counters to work out | Ask the pupils to say<br>the sums and the answers<br>with you.<br>Tell them it is important<br>to know these times tables<br>really well.<br>Ask them to find the<br>answers to multiples of 3,<br>eg: 4 x 3, 8 x 3, 10 x 3. |
| Continue until each pupil has given a multiple of 3.   | Ask the pairs to make 2 sets of 3 with their counters.  | the answers.  |  |

Go round again, starting with a different pupil.

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Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 30 Multiplication tables Day 3

### **Counting in 5s**

Learning outcomes

**Daily practice** 

15

minutes

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

Use addition and subtraction facts.

Count in 5s.

**Teaching aids** 

#### **Before the lesson:**

Have ready lots of counters for each pair.

Write the 5 times table up to '5 x 5' on the chalkboard, without the answers and leave it there for the rest of the week.

Have ready the Hundred square.

#### Pair task

Write '24' on the chalkboard.

Give out counters to each pair.

Tell them they have 5 minutes to write down as many addition and subtraction sums as they can that have the answer 24.

Choose some pupils to say some of their facts and write them on the chalkboard under the number 24.

| 10<br>minutes  | 25<br>minutes   |   | 10<br>  minutes  | Game  |
|--|---|---|--|---|
| Introduction   | Main activity   |   | Plena  | ry  |
| Whole class teaching   | Individual task   |   | Whole  | e class teaching  |
| Ask the pupils to help you<br>write the 2 times table on<br>the chalkboard.<br>Say it, but miss out the<br>answers and ask the<br>pupils to shout them out.<br>Repeat with the<br>3 times table. | Show the pupils the<br>Hundred square and count<br>in 5s with them, pointing  | Continue until each pupil<br>has given a multiple of five.<br>Go round again, starting<br>with a different pupil.<br>Ask them to complete the<br>sums from the 5 times table<br>on the chalkboard.<br>Tell them they can use the<br>Hundred square or their<br>counters to count in 5s. | Play the game 'Fizz'.Stand the pupils in a circle<br>and explain that they are<br>going to count around the<br>circle up to 50.Explain that every second<br>number they have to say<br>'fizz' instead of the number,<br>eg: '1, fizz, 3, fizz, 5, fizz,<br>7, fizz'. |   |
|  | Stand the pupils in a circle.   |   |  |   |
|  | Say 'zero' and go round the<br>circle, encouraging each<br>pupil to say the next multiple<br>of five when it is their turn. |   |  | n that every second<br>er they have to say<br>stead of the number,<br>fizz, 3, fizz, 5, fizz, |
|  | the Hundred square if they need to.   |   | Tell the<br>to con<br>miss th  | em that they have<br>centrate so they don't<br>ne number.                                     |

Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 30 Multiplication tables Day 4

### The 5 times table

### Learning outcomes

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

Use addition and subtraction facts.

Use a number line for multiplication sums.

**Teaching aids** 

#### **Before the lesson:**

Write the 5 times table from 6 x 5 to 10 x 5 on the chalkboard, without the answers and leave it there for tomorrow.

Have ready lots of counters for each pair.

Write '16' on the chalkboard. Give out the counters to each pair. Give the pupils 5 minutes to write as many number facts as they can with the answer of 16, using addition and subtraction. Ask them to discuss with

Ask them to alscuss with another pair,
'How many sums did you make?',
'How many are addition sums?',
'How many are subtraction sums?'

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15 minutes

**Daily practice** 

Pair task

| 10<br>minutes  | 25<br>minutes  |   | 10<br>minutes                                      |
|--|--|---|--|
| Introduction   | Main activity  |   | Plenary  |
| Whole class teaching   | Pair task  |   | Whole class teaching                               |
| Ask the pupils to help you<br>write the 2 times table on<br>the chalkboard | Remind the pupils that<br>they started to write the<br>5 times table vesterday | Ask the pairs to complete<br>the 5 times table in their<br>exercise books using | Ask the pupils to get into groups of 5.            |
| Tell them to say it with you.  | Show them how to draw  | - number lines.   | Ask, 'How many groups of 5 are there?'             |
| Say it, but miss out the answers and ask the pupils                        | 6 x 5', as shown below.  | choose different pairs  | Write this as a sum on the chalkboard.             |
| to shout them out.<br>Ask if anyone knows the<br>answer to '2 x 0 ='.      | 0 5 10 15 20 25 30   | on the chalkboard.  | Repeat, asking the pupils to get into groups of 3. |

Tell the pupils to show you 2 sets of zero counters.

Ask them what '3 x 0' and '5 x 0' equal.

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Numeracy lesson plans Primary 2

Term 3 Assessment for learning

Week 30 Multiplication tables Day 5

### Number problems

### Learning outcomes

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

Know some of the times tables.

Use a number line for multiplication sums.

**Teaching aids** 

#### **Before the lesson:**

Make sure that the times tables are on the chalkboard.

Read the instructions for the 'Find my friend' game in the introduction.

Have ready cards for the sums and answers in the 3 times table.

### Whole class teaching

**Daily practice** 

15

minutes

Ask the pupils to look at the 'Making the 2 times table' chart.

Tell them to say it with you.

Repeat with the 3 and 5 times tables.

Ask the pupils some questions from the chalkboard to help them become familiar with it, eg: 'What is 4 x 2?', 'What is 4 x 5?', 'What is 7 x 3?'

| 10<br>minutes   | 25 Game<br>minutes     |  | 10<br>minutes                                   |  |
|---|------------------------|--|---|--|
| Introduction  | Main activity          |  | Plenary   |  |
| Pair task   | Whole class teaching   | Individual task  | Whole class teaching                            |  |
| Ask 4 pupils to come to the front of the class.                               | Play 'Find my friend'. | Write the following sums on the chalkboard and ask   | Say the 2, 3 and 5 times tables with the class. |  |
| Ask the rest of the class,<br>'How many legs do they<br>have altogether?'     |                        | the pupils to complete them<br>in their exercise books:<br>6 x 3 =   |   |  |
| Ask the pupils to share their answer with their partner.                      |                        | $9 \times 3 = 4 \times 5 =$  |   |  |
| Write this as a sum on the chalkboard.  |                        | 9 x 2<br>Whe   | 9 x 2 =<br>When they have finished,             |  |
| Remind the pupils that<br>multiplication is a quick<br>way of doing addition. |                        | tell the pupils to look at<br>the times tables on the<br>chalkboard and check if<br>their answers are correct. |   |  |
| Demonstrate how to work out 8 x 3.  |                        |  |   |  |

#### Credits

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#### Special thanks go to:

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.

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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