



**Numeracy lesson plans**  
**Primary 4,**  
**term 2, weeks 16—20**

**Multiplication, division,  
statistics and time**

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## Introduction

The commitment of the Lagos State Government towards improving the quality of education has continued to take priority in her efforts to move the State forward. This is evident in successes recorded so far in the School Improvement Programme (SIP) initiated for this purpose and supported by the Education Sector Support Programme in Nigeria (ESSPIN).

With the introduction of the full literacy and numeracy lesson plans, which came after the initial pilot abridged version, the story of ineffective methods of teaching of literacy and numeracy is changing. The introduction of the lesson plans was to ensure that classroom teachers' capacity was improved. Among other things, the lesson plans sought to address the issue of poor methods of teaching by offering a step-by-step guidance to teachers on how to deliver good quality lessons in literacy and numeracy.

The complete modules of the lesson plans for Primary 1 to 3 were produced through the efforts of school improvement personnel such as the State School Improvement Team (SSIT) and the technical assistance from ESSPIN, funded by the UK Department for International Development (DFID). Within the short period of being introduced, the Primary 1 to 3 lesson plans have yielded a significant improvement in the teachers' approach to handling literacy and numeracy in our schools. This in turn had impacted positively on the performance of our pupils in the two subjects.

It is therefore with the same expectation of positive results that I introduce the newly produced lesson plans in literacy and numeracy for Primary 4 and 5 for use in our 1007 public primary schools to further improve the quality of primary education, as the bedrock of our education system in Lagos State.

**Gbolahan K Daodu**  
Executive Chairman,  
Lagos State Universal Basic  
Education Board.

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

## How?

### How

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

## Learning expectations

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

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

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

---

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

## Assessment

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

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

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

### Daily practice

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

### Introduction

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

### Main activity

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

### Plenary

Finishes the lesson with different ways of reviewing learning.

## Weekly page

# Primary 4, numeracy lesson plans

## Week 16:

# Multiplication

Multiplication square

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Words/phrases

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

fraction  
equivalent  
multiplication square  
grid method  
place value  
decimal numbers  
tenths

### Learning expectations

By the end of the week:

**All pupils will be able to:**

Multiply a two-digit number by a single-digit number, using the grid method.

**Most pupils will be able to:**

Multiply decimal numbers using the grid method.

**Some pupils will be able to:**

Solve multiplication word problems that involve decimals.

## Assessment task

### Instructions:

1  
Ask individual pupils to write two three-digit numbers with one decimal place.

2  
Ask the pupils to place the numbers under the correct place value headings.

3  
Ask the pupils to solve the following sums using the grid method:  
 $23.5 \times 3 =$   
 $78.3 \times 4 =$

4  
Ask the pupils to solve the following word problem:  
Tunde wants to travel to his family four times a year. His family lives 256.7km away from Tunde. How many km does Tunde travel in one year?

## Example of a pupil's work

### This pupil can:

Place a decimal number under the correct value headings.

Multiply decimal numbers using the grid method.

Solve a word problem using decimal multiplication.

H T U . t  
2 5 6 . 7

X	200	50	6	0.7
4	800	200	24	2.8

Th H T U . t  
8 0 0  
2 0 0  
+        2 4  
-----  
1 0 2 6 . 4

Tunde needs to travel 1026.4 km in 1 year.

## Week 16: Multiplication

## Day 1: The grid method

### Learning outcomes

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

Identify simple fractions.

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

### Preparation

**Before the lesson:**

Have ready **three pieces of paper**.

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

Draw a **multiplication square** on the chalkboard, as shown on this week's weekly page, and leave it there for the week.

### How? Fractions



Draw a rectangle  
divided into eighths.



Shade in two eighths  
and ask a pupil  
to write the fraction  
that is shaded.



Draw a square,  
shade three quarters  
and ask a pupil  
to write the fraction.



Repeat the  
process, drawing  
more squares.



Ask the pupils  
to say and write  
the fractions.



15  
minutes

How

Paper

10  
minutes

Multiplication square

25  
minutes

10  
minutes

## Daily practice

### Whole class teaching

Remind the class that a fraction is a part of a whole.

Demonstrate by folding **pieces of paper** into halves, quarters and eighths.

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

Ask the pupils to draw squares in their exercise books showing the following fractions:

$$\frac{5}{8} \quad \frac{4}{10} \quad \frac{1}{4}$$

## Introduction

### Pair task

Ask the pairs to say the 2, 3, 4 and 5 times tables to each other.

Show the class how to find the answer to  $7 \times 8$ , using the **multiplication square**.

Put a finger on the 7 in the first column and a finger on the 8 in the first row. Move one finger down the column and the other finger along the row until they meet at the answer, 56.

Ask the pairs to find the answers to the following multiplication sums, using the **multiplication square**:

$$\begin{array}{l} 6 \times 9 \\ 8 \times 6 \\ 7 \times 9 \\ 4 \times 7 \end{array}$$

## Main activity

### Whole class teaching

Write ' $48 \times 3 =$ ' on the chalkboard and ask the pupils what method they could use to work it out.

Revise the grid method with them:

$$\begin{array}{r|rr} \times & 40 & 8 \\ 3 & 120 & 24 \end{array}$$

$$120 + 24 = 144$$

Remind them to add the Units, then the Tens.

Repeat with  $28 \times 3 =$

### Pair task

Write the following sums on the chalkboard for the pairs to complete in their exercise books:

$$13 \times 4 =$$

$$19 \times 4 =$$

$$25 \times 5 =$$

$$26 \times 3 =$$

$$57 \times 5 =$$

$$56 \times 3 =$$

Remind them to use the grid method.

## Plenary

### Pair task

Choose some pairs to show how they worked out their answers on the chalkboard.

Ask the other pairs to check that they are correct.

## Week 16: Multiplication

## Day 2: Multiplying decimal numbers

### Learning outcomes

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

Order fractions.

Multiply a simple decimal  
number by one digit.

### Preparation

**Before the lesson:**

Display the [multiplication square](#) from  
Week 16, Day 1 (yesterday).

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

### How? Multiply decimals



Write, '0.3' on the  
chalkboard and  
write the place values  
above the digits.



Write, '0.3 x 3 =',  
explain that we now  
have nine tenths  
and write the answer.



Write, '0.4 x 3 ='  
and explain that the  
answer is 12 tenths.



Explain that  
12 tenths is 1 Unit  
and 2 tenths.  
Write in the answer.



Write, '0.8 x 4 ='  
then multiply the  
tenths and change  
the answer to  
Units and tenths.

15  
minutes

## Daily practice

### Pair task

Choose some pupils to help you draw squares on the chalkboard showing the following fractions:

$$\frac{1}{4} \quad \frac{1}{2} \quad \frac{1}{6} \quad \frac{1}{5}$$

Ask the class, 'Which is the biggest fraction?', 'Which is the smallest fraction?'

Remind the pupils of the meaning of the symbols < and >.

Ask the pairs to use the correct symbol to complete these number sentences in their exercise books:

$$\frac{1}{8} \square \frac{1}{10}$$

$$\frac{1}{6} \square \frac{1}{2}$$

10  
minutes

Multiplication square

## Introduction

### Whole class teaching

Remind the pupils how to use the **multiplication square**.

Choose some pupils to come and find the answers to the following sums:

$$8 \times 8 =$$

$$7 \times 7 =$$

$$4 \times 8 =$$

Ask the pairs to write four sums from the times tables in their exercise books.

Tell them to swap books and write the answers using the **multiplication square**.

25  
minutes

How

## Main activity

### Whole class teaching

Ask the pupils, 'How many tenths are there in a whole?' (10)

Explain that if we have 14 tenths then we have 1 Unit and 4 tenths.

Write it on the chalkboard under the correct place value headings.

Ask, 'If I have 16 tenths, how many Units and tenths do I have?'

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

Multiplication square

### Pair task

Write the following sums on the chalkboard for the pupils to complete in their exercise books:

$$0.7 \times 2 =$$

$$0.6 \times 3 =$$

$$0.5 \times 5 =$$

$$0.4 \times 7 =$$

$$0.6 \times 6 =$$

$$0.4 \times 9 =$$

$$0.8 \times 7 =$$

$$0.6 \times 8 =$$

Remind them to look at the **multiplication square** if they need to.

10  
minutes

## Plenary

### Whole class teaching

Write this word problem on the chalkboard, 'Kehinde needs 0.4m of fabric to make a skirt. How many metres does he need to make eight skirts?'

Ask a pupil to write the calculation needed to solve this on the chalkboard. (0.4 × 8 =)

Choose some pupils to help you complete the calculation on the chalkboard.

## Week 16: Multiplication

### Day 3: Multiplying decimals with the grid method

#### Learning outcomes

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

Generate equivalent  
fractions.

Multiply decimal numbers  
using the grid method.

#### Preparation

**Before the lesson:**

Read [How? Grid method with decimals](#),  
as shown below.

Display the [multiplication square](#) from  
Week 16, Day 1 (earlier this week).

Have ready a large [piece of paper](#).

#### How? Grid method with decimals



Write ' $45.4 \times 4 =$ ' on  
the chalkboard.



Expand the number,  
draw the grid  
underneath and  
write 'x 4'.



Multiply the tenths,  
Units and Tens.



Add the tenths, Units,  
Tens and Hundreds.



Put the number  
together:  
 $100 + 80 + 1.6 =$   
181.6

15 minutes | Paper

## Daily practice

### Whole class teaching

Remind the pupils that 'equivalent fractions' are fractions that have the same value.

Fold the large **piece of paper** to demonstrate that two quarters are the same as one half.

Remind the pupils that we can make equivalent fractions by multiplying the numerator and the denominator by the same number.

Choose some pupils to help you make equivalent fractions for  $\frac{3}{4}$  and  $\frac{2}{3}$

10 minutes

## Introduction

### Whole class teaching

Expand 368.2 on the chalkboard:  
 $300 + 60 + 8 + 0.2$

Ask different pupils to help you expand the following numbers:  
908.7  
560.2  
770.9  
888.8

Write on the chalkboard:  
 $600 + 80 + 0.3 =$   
 $500 + 40 + 0.7 =$   
 $500 + 90 + 7 + 0.3 =$

Ask the pupils to help you write the numbers under the correct place value headings.

25 minutes

How

Multiplication square

## Main activity

### Whole class teaching

Teach **How? Grid method with decimals**, as shown left.

Repeat, asking the pupils to help you solve the following:  
 $38.3 \times 5 =$   
 $27.5 \times 6 =$

### Pair task

Write the following sums on the chalkboard and ask the pairs to complete them in their exercise books, using the grid method:  
 $37.8 \times 2 =$   
 $25.6 \times 3 =$   
 $33.7 \times 4 =$   
 $42.9 \times 5 =$

Remind the pupils that they can use the **multiplication square** to help with the times tables.

10 minutes

## Plenary

### Whole class teaching

Write this word problem on the chalkboard, 'Each sack of mangoes weighs 28.8kg. How much do five sacks weigh?'

Ask a pupil to write the calculation needed to solve this on the chalkboard ( $28.8 \times 5 =$ ).

Choose some pupils to help you complete the calculation on the chalkboard.

## Week 16: Multiplication

## Day 4: Word problems

### Learning outcomes

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

Identify some common  
equivalent fractions.

Solve multiplication word  
problems involving decimals.

### Preparation

**Before the lesson:**

Prepare a set of [fraction flash cards](#) for  
each group, as outlined in [How? Matching  
fractions game](#), below.

Display the [multiplication square](#)  
from Day 1.

### How? Matching fractions game



Make a set of  
fraction flash cards  
for all the eighths  
and quarters.



Also make flash  
cards for thirds  
and sixths, and  
make three 'half'  
flash cards.



Place all of the  
flash cards face  
up so the pupils can  
see them.



Ask the pupils, in  
turn, to pick two  
equivalent fractions.



Continue until  
there are no more  
equivalent fractions.

15  
minutes

How

Flash cards

10  
minutes

25  
minutes

Multiplication square

10  
minutes

## Daily practice

## Introduction

## Main activity

## Plenary

### Whole class teaching

Write 'a half' on the chalkboard and ask the pupils to say some equivalent fractions.

Teach [How? Matching fractions game](#), as shown left.

Give each group a set of [fraction flash cards](#) to play the game.

Tell the pupils they can only keep the cards if they have equivalent fractions.

The pupil with the most cards at the end is the winner.

### Group task

Remind the pupils that they have been using the grid method to multiply numbers containing decimals.

Teach [How? Grid method with decimals](#), as shown in Week 16, Day 3 (yesterday).

Demonstrate with the following sums:

$$63.4 \times 3 =$$
$$24.8 \times 6 =$$

### Whole class teaching

Write the following word problems on the chalkboard:

'Nura travels 466.8km. Sani travels three times as far. How far does Sani travel?'

'A fence measures 56.4m. How much do four fences of the same length measure?'

'A sack of bricks weighs 30.5kg. How much do six sacks of bricks weigh?'

'A family uses 45.2 litres of water every day. How much water does the family use in a week?'

Read and explain each word problem.

Ask each group to say the calculation needed for one of the problems.

Ask each group to complete a different problem in their exercise books.

If there is time, tell the groups to complete some of the other problems.

Remind the pupils that they can use the [multiplication square](#) to help with the times tables.

### Pair task

Ask the pupils to work with a partner to make up their own word problem.

Ask one or two pairs to share their problem with the rest of the class.

## Week 16: Multiplication

## Day 5: More word problems

### Learning outcomes

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

Write the 9 times table  
quickly.

Solve multiplication word  
problems.

### Preparation

**Before the lesson:**

Have ready a set of matching **fraction  
flash cards** for each group.

Display the **multiplication square** from  
Week 16, Day 1 (earlier in the week).

Read about the grid method in Week 16,  
Days 1 and 3 (earlier this week).

Read **How? Times tables**, as shown below.

### How? Times tables



Ask a pupil to find  
the answer to  $7 \times 7$   
on the multiplication  
square.



Write the 9 times  
table on the  
chalkboard, using  
the multiplication  
square.



Ask the pupils if  
they can see  
any patterns in the  
9 times table.



Explain that the  
digits in each answer  
add to 9.



Explain that the first  
digit of each answer  
is one less than the  
number multiplied, so  
 $2 \times 9 = 18$ .



15 minutes | Flash cards

## Daily practice

### Group task

Give each group the matching **fraction flash cards**.

Tell the groups to place the flash cards face up on the desk.

Tell the pupils to take turns picking two cards.

Remind them that they can only keep the cards if they have equivalent fractions.

The pupil with the most cards at the end is the winner.

Ask some of the pupils to read their equivalent **fraction cards**.

10 minutes | **How** | Multiplication square

## Introduction

### Whole class teaching

Teach **How? Times tables**, as shown left.

Ask the pupils to think about the patterns as you ask them questions from the 9 times table.

Choose some pupils to come and check their answers on the **multiplication square**.

25 minutes

## Main activity

### Whole class teaching

Ask some pupils to help you demonstrate how to solve the following sums on the chalkboard using the grid method:

$$56 \times 3 =$$

$$31.2 \times 9 =$$

Remind them to think carefully about the place value of each number.

### Group task

Write the following word problems on the chalkboard:

'A farmer planted five rows of yams, with 39 yams in each row. How many yams did he plant?'

'A school has four classes, with 39 pupils in each. How many pupils are in the school?'

'Bode walks 28.5km every week. How many km does he walk in nine weeks?'

Read and explain the word problems.

Ask the groups to complete each problem in their exercise books, using the grid method.

10 minutes

## Plenary

### Whole class teaching

Ask the pupils some questions from the 9 times table.

Ask the pupils some questions from the 2, 3, 4 and 5 times tables.

## Weekly page

# Primary 4, numeracy lesson plans

## Week 17:

# Division

### Words/phrases

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

multiplication  
division  
divide  
share  
repeated subtraction  
multiples  
chunking  
tricky sixes  
remainder  
relay

### Songs

Write this song on the chalkboard and leave it there for the week.

**Tricky sixes:**  
Beat the drums,  
Clap your hands,  
We know these sums:  
 $6 \times 1$  is 6  
 $6 \times 2$  is 12  
 $6 \times 3$  is 18  
 $6 \times 4$  is 24  
 $6 \times 5$  is 30  
Tricky sixes! Tricky sixes!  
Pick up sticks,  
 $6 \times 6$  is 36  
Touch your shoe,  
 $6 \times 7$  is 42  
Shut the gate,  
 $6 \times 8$  is 48  
Lock the door,  
 $6 \times 9$  is 54  
and  $6 \times 10$  is 60  
Beat the drums,  
Clap your hands,  
We know these sums!

### Learning expectations

By the end of the week:

**All pupils will be able to:**

Divide small numbers using times tables.

**Most pupils will be able to:**

Divide a two-digit number by a single-digit number with remainders, using repeated subtraction.

**Some pupils will be able to:**

Solve word problems involving three-digit numbers and remainders.

## Assessment task

### Instructions:

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

1

Ask individual pupils to solve the following sums:

$$3 \times 6 =$$

$$7 \times 5 =$$

$$9 \times 6 =$$

2

Ask the pupils to solve the following sums using repeated subtraction:

$$112 \div 8 =$$

$$75 \div 5 =$$

$$95 \div 4 =$$

3

Ask the pupils to solve the following word problem using repeated subtraction: Aisha sells oranges at the weekends. She has 123 oranges and sells them in bags of eight. How many bags can she sell? How many oranges does she have left?

## Example of a pupil's work

### This pupil can:

Use the 5 and 6 times tables to solve simple multiplication sums.

Solve division sums using repeated subtraction and remainders.

Solve a division word problem with remainders.

$$3 \times 6 = 18$$

$$7 \times 5 = 35$$

$$9 \times 6 = 54$$

$$123 \div 8 =$$

	H T U	
	1 2 3	
-	8 0	<u>10</u> × 8
	4 3	
-	4 0	<u>5</u> × 8
	3	

$$10 + 5 = 15 \text{ r}3$$

Aisha can sell 15 bags of oranges.  
She will have 3 oranges left.

## Week 17: Division

### Day 1: Using multi- plication for division

#### Learning outcomes

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

Say answers to questions  
from the 5 times table.

Solve simple division  
problems.

#### Preparation

**Before the lesson:**

Copy the [multiplication square](#) from  
the Week 16 weekly page and display it  
in the classroom.

Read [How? Quick division](#),  
as shown below.

#### How? Quick division



Tell the pairs to write  
a division sum in  
their exercise books.



Tell them to swap  
books.



Tell them to write the  
multiplication sum  
needed to work out  
the division sum.



Tell them to give the  
book back to their  
partner and write in  
the answer.



Repeat this process  
several times.

15  
minutes

Multiplication square

10  
minutes

How

25  
minutes

Fraction strips

10  
minutes

## Daily practice

### Whole class teaching

Ask some pupils to point to answers to the 2, 3 and 4 times tables in the [multiplication square](#).

Choose some pupils to help you write the 5 times table on the chalkboard.

Ask the class, 'What do you notice?' (They end in 0 or 5.)

Ask the pupils to help you write the 10 times table.

Ask, 'What do you notice about the answers in the 5 times table and the 10 times table?' (Answers in the 5 times table are half of the answers in the 10 times table.)

Ask the pupils questions from the 5 times table.

## Introduction

### Pair task

Write ' $5 \times 7 = 35$ ' on the chalkboard and remind the pupils that this means 5 groups of 7.

Ask them what other facts they know using these numbers, ie:

$$7 \times 5 = 35$$

$$35 \div 7 = 5$$

$$35 \div 5 = 7$$

Remind the class that we can use times tables to work out division sums.

Teach [How? Quick division](#), as shown left.

## Main activity

### Whole class teaching

Write these word problems on the chalkboard:

'Five friends pick 40 mangoes. How many can they have each?'

'A rope measures 36cm. It is cut into four equal pieces. How long is each piece?'

'Fumni collects 24 litres of water. How many three-litre jugs can she fill with water?'

'Bayo's book has 96 pages. He reads six pages every day. How many days will it take him to read the book?'

Read and explain the questions and ask the pupils to say the calculation needed for each problem (division).

### Pair task

Tell the pairs to work out the word problems in their exercise books.

Remind them to use the times tables to help them.

## Plenary

### Whole class teaching

Tell the pupils to get into a circle.

Tell one pupil to say a division sum from the 5 times table, eg:  $40 \div 5 =$  and tell the next pupil to say the multiplication sum needed to answer it, eg:  $5 \times 8 = 40$ .

Repeat this process until all the pupils have had a turn.

## Week 17: Division

## Day 2: Division using repeated subtraction

### Learning outcomes

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

Say answers to questions  
from the 6 times table.

Use repeated subtraction  
to solve division calculations  
with remainders.

### Preparation

**Before the lesson:**

Have ready the [multiplication square](#)  
from Week 17, Day 1 (yesterday).

Write the [Tricky sixes song](#) from the  
weekly page on the chalkboard and leave  
it there for the rest of the week.

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

### How? Repeated subtraction



To solve  $95 \div 5$ ,  
ask the pupils to  
think of about  
the 5 times table.



$10 \times 5 = 50$ , so tell  
the pupils to subtract  
50 from 95 (45).



Ask them to think of  
a multiple nearest  
to 45 in the 5 times  
table ( $9 \times 5 = 45$ ).



Ask them to add  
together the answers.



$10 + 9 = 19$  so the  
answer is 19.

15  
minutes

Multiplication square/  
Song

## Daily practice

### Group task

Ask the class questions from the 5 times table and check their answers in the [multiplication square](#).

Ask the pupils to help you write the 6 times table on the chalkboard.

Explain that they already know some of it from the other times tables they have learned.

Teach the class the [Tricky sixes song](#) and make up actions for it.

Ask the pupils questions from the 6 times table and check their answers in the [multiplication square](#).

10  
minutes

How

## Introduction

### Group task

Remind the class that they can use 'repeated subtraction' to solve division sums with bigger numbers.

Ask the pupils to use repeated subtraction, as shown left in [How? Repeated subtraction](#), to help you solve  $95 \div 5 =$

Repeat with  $96 \div 4 =$

Explain that this method is also called 'chunking', because we try to find big chunks to take away.

Explain that sometimes there will be remainders (numbers left over).

25  
minutes

## Main activity

### Whole class teaching

Write ' $85 \div 6 =$ ' on the chalkboard and use repeated subtraction to solve it:

$$\begin{array}{r} \text{T U} \\ 85 \\ - 60 \text{ (10 x 6)} \\ \hline 25 \end{array}$$

Ask, 'What multiple in the 6 times table is closest to 25?' ( $4 \times 6 = 24$ ).

Continue the calculation:

$$\begin{array}{r} \text{T U} \\ 85 \\ - 60 \text{ (10 x 6)} \\ \hline 25 \\ - 24 \text{ (4 x 6)} \\ \hline 1 \end{array}$$

Explain that we cannot subtract further multiples of 6 so 1 is a remainder, or 'R'.

Add the multiples and the remainder ( $10 + 4 \text{ R}1$ ) to find the answer: 14 R1.

### Pair task

Ask the pairs to help you calculate  $73 \div 4 =$  in the same way.

Write the following sums on the chalkboard for the pairs to complete in their exercise books:

$$\begin{array}{l} 81 \div 4 = \\ 56 \div 5 = \\ 55 \div 6 = \\ 92 \div 6 = \end{array}$$

10  
minutes

Song

## Plenary

### Whole class teaching

Ask one of the pairs to solve  $92 \div 6 =$  on the chalkboard.

Sing the [Tricky sixes song](#) with the class.

## Week 17: Division

## Day 3: Remainders

### Learning outcomes

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

Say answers to questions  
from the 5 and 6 times tables.

Solve division word problems  
involving remainders.

### Preparation

**Before the lesson:**

Make a set of **1—10 flash cards** for  
each group.

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

Make sure the **Tricky sixes song**,  
from this week's weekly page, is still on  
the chalkboard.

### How? Multiplication bingo



Tell the pairs to look  
at the multiples  
of 6 and 5 on the  
chalkboard.



Ask the pairs to  
write 10 of the  
multiples in their  
exercise books.



Call out questions  
from the 5 and 6  
times table.



If the pupils have  
the correct answer  
in their exercise  
book, tell them to  
cross it out.



Tell them to shout,  
'Bingo' when all  
of their numbers are  
crossed out.



15  
minutes

How

## Daily practice

### Pair task

Choose some pupils to write the multiples of 6, up to  $10 \times 6$ , on the chalkboard.

Repeat, with multiples of 5.

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

10  
minutes

## Introduction

### Whole class teaching

Remind the class that they have been using repeated subtraction for division calculations.

Ask the pupils to use repeated subtraction, as shown in [How? Repeated subtraction](#) on Week 17, Day 2 (yesterday) to help you solve the following:  
 $72 \div 5 =$   
 $87 \div 4 =$

Explain that these sums will have remainders (numbers left over).

25  
minutes

## Main activity

### Group task

Write the following word problems on the chalkboard:

'Lola has 88 pens. She shares them between her five friends. How many will each friend get? How many are left?'

'Tade has 74 apples. He has six bags. He needs to put an equal amount of apples in each bag. Can he do this? Will any apples be left over?'

'There are 59 pupils in Primary 4. They need to be split equally into two classes. How many pupils should there be in each class? Is there a problem?'

10  
minutes

Song

## Plenary

### Whole class teaching

Sing the [Tricky sixes song](#) with the class.

Ask the class questions from the 5 and 6 times tables.

## Week 17: Division

## Day 4: Division of bigger numbers

### Learning outcomes

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

Use the 6 times table to  
solve division calculations.

Use repeated subtraction to  
divide bigger numbers.

### Preparation

**Before the lesson:**

Read [How? Quick division](#), as shown  
in Week 17, Day 1.

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

### How? Repeated subtraction with bigger numbers



Ask a pupil to say  
a multiple of 5  
( $10 \times 5 = 50$ ). Subtract  
50 from 165 (115).



Tell pupils a bigger  
multiple of 5  
can be used, eg:  
 $20 \times 5 = 100$ .



Subtract 100 from  
165 (65). Ask pupils  
for a multiple near  
to 15 ( $3 \times 5 = 15$ ).



Subtract 15 from  
165 (150).



Add the multiples  
( $10 + 20 + 3$ ) and  
write in the answer:  
 $165 \div 5 = 33$ .

15  
minutes

## Daily practice

### Whole class teaching

Remind the class that we can use times tables to work out simple division sums.

Ask, 'Which times table will help me solve  $54 \div 6$ ?' ( $6 \times 9 = 54$ , so the answer is the 9 times table).

Teach [How? Quick division](#), as shown in Week 17, Day 1 (earlier in the week).

10  
minutes

How

## Introduction

### Whole class teaching

Write ' $165 \div 5 =$ ' on the chalkboard.

Explain that we can use repeated subtraction to solve calculations with big numbers but we need to find bigger chunks to take away.

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

Repeat with  $96 \div 3 =$

25  
minutes

## Main activity

### Group task

Write the following division calculations on the chalkboard:

$$186 \div 6 =$$

$$82 \div 2 =$$

$$145 \div 5 =$$

$$148 \div 4 =$$

Ask each group to work on a different calculation in their exercise books.

If there is time, ask them to choose other calculations to work on.

Ask each group to explain their calculation on the chalkboard.

10  
minutes

Song

## Plenary

### Whole class teaching

Ask each group division questions from the 6 times table, eg:  $48 \div 6$ ,  $24 \div 6$ .

Sing the [Tricky sixes song](#).

## Week 17: Division

## Day 5: Division word problems

### Learning outcomes

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

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

Solve division word problems  
involving bigger numbers.

### Preparation

**Before the lesson:**

Make sets of **flash cards** of the  
**multiples of 5 and 6** for each group  
and shuffle each set well.

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

### How? Multiplication relay



Mark a starting  
line and place the  
sets of flash cards  
at intervals.



Tell each group to  
stand in a line behind  
a set of cards.



Shout, 'Go!' and  
tell the pupils  
to run, in turn,  
to collect a card.



Tell each group to  
arrange their cards,  
in order, into the  
5 and 6 times tables.



The first group ready  
is the winner.

15  
minutes

How

## Daily practice

### Group task

Ask the class to say the 5 and 6 times tables with you.

Find a space for the pupils, inside or outside of the classroom, and play [How? Multiplication relay](#), as shown left.

10  
minutes

## Introduction

### Whole class teaching

Write '143 ÷ 5 =' on the chalkboard.

Ask the class, 'What method can I use to calculate this?'

Tell the pupils to think of big multiples and demonstrate:

$$\begin{array}{r}
 \text{H T U} \\
 143 \\
 - 100 \text{ (20 x 5)} \\
 \quad 43 \\
 - 40 \text{ (8 x 5)} \\
 \quad \quad 3
 \end{array}$$

Explain we cannot subtract further multiples of 5, so 3 is the remainder.

Add the multiples:  
 $20 + 8 = 28$

Write the answer:  
 $143 \div 5 = 28 \text{ R}3$ .

25  
minutes

## Main activity

### Group task

Write the following word problems on the chalkboard:

'Five girls share N152.00 equally among them. How much does each girl get?'

'A log of wood 220cm long is sawn into pieces 6cm long. How many 6cm pieces are there? What is the remainder?'

'A book contains 186 pages. How many days would it take to read the book if you read two pages a day?'

Read and explain each problem carefully.

Ask the groups to complete the word problems in their exercise books using repeated subtraction.

10  
minutes

Song

## Plenary

### Pair task

Sing the [Tricky sixes song](#).

Ask the pupils division questions from the 3, 4, 5 and 6 times tables.

## Weekly page

# Primary 4, numeracy lesson plans

## Week 18:

# Statistics

### Words/phrases

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

tally  
frequency  
pictogram  
symbol  
most popular  
least popular  
bar chart  
vertical axis  
horizontal axis  
mode  
data  
statistics

### Songs

Write this song on the chalkboard and leave it there for the week.

#### Tricky sevens:

Beat the drums,  
Clap your hands,  
We know these sums:  
 $7 \times 1$  is 7  
 $7 \times 2$  is 14  
 $7 \times 3$  is 21  
 $7 \times 4$  is 28  
 $7 \times 5$  is 35  
 $7 \times 6$  is 42  
Tricky sevens! Tricky sevens!  
Hang the washing  
on the line,  $7 \times 7$  is 49.  
Feed the chicks, chick,  
chick, chicks!  $7 \times 8$  is 56.  
Climb the ancient  
mango tree,  $7 \times 9$  is 63  
and  $7 \times 10$  is 70  
Beat the drums,  
Clap your hands,  
We know these sums!

### Learning expectations

By the end of the week:

**All pupils will be able to:**

Interpret a simple pictogram.

**Most pupils will be able to:**

Draw a simple but accurate pictogram.

**Some pupils will be able to:**

Draw a bar chart with intervals labelled in twos.

## Assessment task

### Instructions:

1  
Ask individual pupils to draw a pictogram representing the following numbers:

Fish	12	
Cat	7	
Goat	15	

2  
Ask the pupils to make a bar chart with intervals of two, using the following information from the hockey world cup:

Country	Goals
Ghana	12
Spain	23
Nigeria	18
England	22
Brazil	27
United States	14
South Africa	18
Sweden	6

3  
Ask the pupils to find the mode of the hockey goals in this bar chart.



## Example of a pupil's work

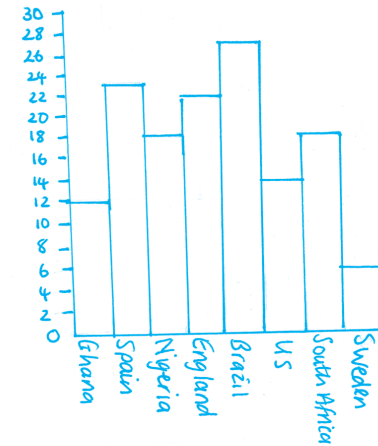
### This pupil can:

Draw a pictogram for the correct number of animals.

Draw a bar chart with intervals of two showing information from the hockey world cup.

Find the mode of the hockey world cup goals from the bar chart.

fish	12	
cat	7	
goat	15	



The mode is 17

## Week 18: Statistics

### Day 1: Tally charts

#### Learning outcomes

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

Say some answers for  
the 7 times table.

Make and interpret a simple  
tally chart.

#### Preparation

**Before the lesson:**

Write the [Tricky sevens song](#), from this  
week's weekly page, on the chalkboard.

Read the [Tricky sixes song](#) from the Week 17  
weekly page (last week).

Read [How? Tally chart](#), as shown below.

#### How? Tally chart



On the chalkboard,  
demonstrate how  
to count to 20 using  
a tally.



Write the months of  
the year vertically  
on the chalkboard.



Ask the pupils  
to say their birthday  
month.



Record the results  
as a tally next  
to each month.



Write 'Tally chart  
of pupils' birthdays'  
above the results.



15  
minutes

Songs

10  
minutes

How

25  
minutes

10  
minutes

## Daily practice

### Whole class teaching

Sing the [Tricky sixes song](#) with the class.

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

Choose some pupils to point to parts that they already know.

Teach the class the [Tricky sevens song](#) and make up some actions for it.

Ask the pupils some questions from the 7 times table.

## Introduction

### Whole class teaching

Tell the class that we can use a tally chart when we are collecting information.

Teach [How? Tally chart](#), as shown left.

Ask the pupils to look at the tally chart you have made and find the frequency for each month.

Explain that 'frequency' means 'how many?' or 'how often'. Explain that the table is called a 'frequency table'.

Ask the pupils, 'What other information does this tally chart show?' (The most common/least common month for birthdays.)

## Main activity

### Whole class teaching

Choose some pupils to write the following numbers as a tally on the chalkboard: 7, 11, 22, 18 and 34.

Take the class outside and ask the pupils to collect as many pebbles (or leaves) as they can in 2 minutes.

Tell them that each group is going to make a tally chart to show the number of pebbles they collected.

### Group task

Write 'Pebbles collected' on the chalkboard and ask the groups to copy it into their exercise books.

Ask each group to write the names of the pupils in their group vertically under this title.

Tell them to write the number of pebbles each pupil collected by their name.

Tell them to write the number as a tally.

## Plenary

### Group task

Ask each group to say some of the information their tally chart shows, eg: who collected the most and the least.

## Week 18: Statistics

## Day 2: Pictograms

### Learning outcomes

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

Say the answers to the  
7 times table.

Interpret a pictogram.

### Preparation

**Before the lesson:**

Make a set of **1—10 flash cards**  
for each group and shuffle each set.

Display the **multiplication square**  
from Week 16 in the classroom.

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

### How? Multiplication cards



Place a set of  
number flash cards  
face down in front  
of each group.



Tell the pupils, in  
turn, to take a card  
and say the number.



Ask them to times  
the number by 7 in  
their exercise books.



Tell the pupils to  
check the answer  
on the multi-  
plication square.



Continue until all  
the number cards  
have been taken.

15  
minutes

How

Song

## Daily practice

### Group task

Sing the [Tricky sevens song](#) from Week 18, Day 1 (yesterday).

Teach [How? Multiplication cards](#), as shown left.

10  
minutes

Macmillan New Primary  
Mathematics 4

## Introduction

### Whole class teaching

Choose some pupils to write tallies for the following numbers on the chalkboard: 7, 10, 13, 23.

Ask the pupils to open [Macmillan New Primary Mathematics 4, page 166](#).

Remind the pupils that we can also use pictograms to present information.

Tell them to look at 'How 38 pupils in a class go to school' and discuss.

25  
minutes

Macmillan New Primary Mathematics 4

## Main activity

### Whole class teaching

Look at 'Number of beds in each ward of a hospital' in [Macmillan New Primary Mathematics 4, page 168](#).

Explain that one symbol represents 10 beds and ask, 'Why is this a good way to represent information?'

Explain that having a symbol to represent 10 means that we have fewer symbols to draw.

Read and discuss questions a, b and c in [Macmillan New Primary Mathematics 4, page 168](#).

### Individual task

Ask the pupils to complete the answers to the questions in their exercise books.

10  
minutes

Macmillan New Primary  
Mathematics 4

## Plenary

### Whole class teaching

Explain that a symbol can be used to represent any number.

Tell the pupils to look at 'Number of houses built in a city per year' in [Macmillan New Primary Mathematics 4, page 181](#).

Read and discuss the answers to the questions a, b and c.

## Week 18: Statistics

## Day 3: Late for school

### Learning outcomes

### Preparation

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

Give division facts  
corresponding to the 6  
and 7 times tables.

Draw a simple pictogram.

**Before the lesson:**

Draw the **frequency table**, shown  
opposite, on the chalkboard.

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

### How? Pictograms



Discuss the  
frequency table and  
explain that you are  
going to make it  
into a 'pictogram'.



Explain that a  
circle will represent  
2 pupils.



On the chalkboard,  
write the days  
of the week  
in a vertical list.



Choose some  
pupils to draw circles  
for the pupils who  
were late each day.



Remind them that  
some numbers  
(odd numbers) will  
need half a circle.

15  
minutes

Songs/  
Game

10  
minutes

25  
minutes

How

Frequency table

10  
minutes

## Daily practice

### Whole class teaching

Sing the **Tricky sixes** and **Tricky sevens songs** with the pupils.

Explain to the class that they are going to play a game called '**call back**'.

Start with the 6 times table.

Explain that you are going to say an answer from the 6 times table.

Tell the pupils to shout out the number that would go with 6 to get the answer, eg: for 54 the pupils shout '9'.

## Introduction

### Whole class teaching

Remind the class that pictograms use symbols to represent numbers.

Draw a square on the chalkboard and say, 'This represents 2 sheep.'

Choose some pupils to draw squares to represent 6 sheep and 10 sheep.

Ask the class, 'How can I represent 7 sheep?' (Draw 3 squares and half a square.)

Choose some pupils to draw squares to represent 11 sheep and 15 sheep.

## Main activity

### Whole class teaching

Teach **How? Pictograms**, as shown left, using the **frequency table** on the chalkboard.

### Group task

Rub out the pictogram on the chalkboard.

Ask the groups to draw a pictogram in their exercise books using the **frequency table of pupils who came to school late**, as shown below.

Frequency table

Day	Pupils
Monday	16
Tuesday	13
Wednesday	8
Thursday	3
Friday	2

## Plenary

### Whole class teaching

Ask the class to use their pictograms to answer the following questions:

'How many pupils were late on Tuesday?'

'Which day had the most number of late pupils?'

'How many pupils were late altogether that week?'

## Week 18: Statistics

## Day 4: A bar chart

### Learning outcomes

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

Say answers from the  
7 times table.

Interpret a simple bar chart.

### Preparation

**Before the lesson:**

Copy the [bar chart of favourite colours](#) on  
to the chalkboard, as shown right.

Read [How? Bar chart](#), as shown below.

Have ready the [word/phrase flash cards](#).

### How? Bar chart



Explain that you  
need to add more  
information  
to the bar chart.



Tell the class that  
19 pupils like yellow.



Choose a pupil  
to draw a bar to  
represent 19.



Ask a pupil to draw  
a bar to show that  
18 pupils like pink.



Ask a pupil to  
draw a bar to show  
the fact that 10  
pupils like orange.

15 minutes | Songs/  
Game

### Daily practice

#### Whole class teaching

Sing the **Tricky sixes** and **Tricky sevens songs** with the pupils.

Play the **call back game** from Week 18, Day 3 (yesterday) with the 7 times table.

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

10 minutes | Bar chart

### Introduction

#### Whole class teaching

Tell the class that we can also present information in a bar chart.

Discuss the **bar chart** on the chalkboard.

Explain that the bars show the number of pupils who prefer each colour.

Tell the pupils that the line with the colour names is called the 'horizontal axis' and the line with the numbers is called the 'vertical axis'.

Ask the class, 'What do you notice about the numbers?' (They go up in twos.)

Choose some pupils to point to 6, 8, 7 and 11 on the vertical axis.

25 minutes | **How** | Bar chart

### Main activity

#### Whole class teaching

Teach **How? Bar chart**, as shown left. Ask the class, 'What do you notice about green and orange?' (Both are liked by 10 pupils.)

Explain that 'mode' is the number that appears the most often in a set of numbers.

The number 10 appears the most in this **bar chart**, and so it is the 'mode of the data' (information).

Write these questions on the chalkboard:

'What is the most popular colour?'

'What is the least popular colour?'

'How many more pupils like pink than green?'

10 minutes | Flash cards

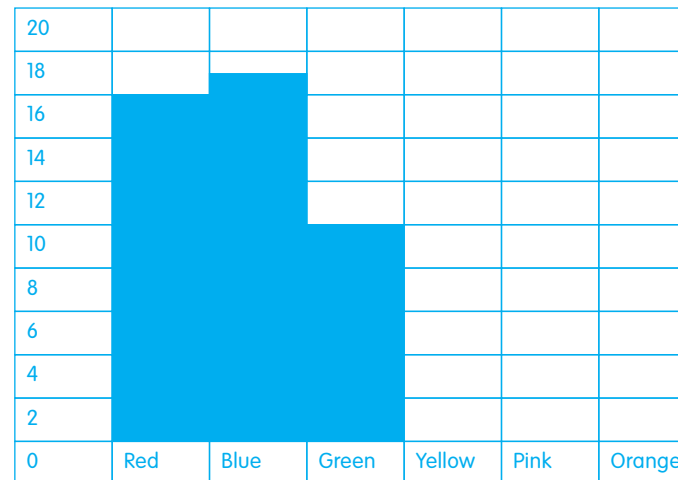
### Plenary

#### Whole class teaching

Flash the **word/phrase cards** and read and explain them to the class.

Read and discuss the questions and ask the groups to complete them in their exercise books.

Bar chart



## Week 18: Statistics

### Day 5: Absent from school

#### Learning outcomes

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

Answer questions from  
the 6 and 7 times tables.

Draw a simple bar chart.

#### Preparation

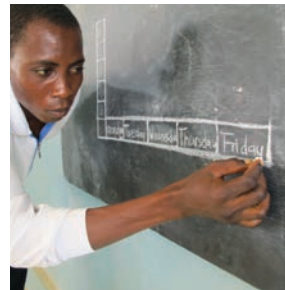
**Before the lesson:**

Write [frequency table of pupils  
absent from school](#), as shown opposite,  
on the chalkboard.

Read [How? Bar chart 2](#), as shown below.

Have ready [rulers](#) for each group,  
and the [word/phrase flash cards](#).

#### How? Bar chart 2



Draw a horizontal  
axis and write the  
days of the week  
(Monday to Friday)  
along it.



Draw a vertical  
axis and write the  
numbers 0—10  
in twos.



Make sure that  
each number space  
is the same – check  
with the ruler.



Ask a pupil to draw  
a bar to show  
that 9 pupils were  
late on Monday.



Ask other pupils to  
draw the bars for  
the rest of the week.



15 minutes | Songs

### Daily practice

#### Whole class teaching

Sing the [Tricky sixes](#) and [Tricky sevens songs](#) with the pupils.

Play [How? Multiplication bingo](#) from Week 17, Day 3 (last week), using the 6 and 7 times tables.

10 minutes

### Introduction

#### Pair task

Remind the pupils that mode is the number that appears the most often in a set of numbers.

Ask the pairs to find the mode of each set of data in:  
8, 7, 9, 9, 10, 14, 12, 13  
7, 8, 7, 8, 7, 8, 6, 7, 8, 6, 5, 4

25 minutes

How

Frequency table

Rulers

### Main activity

#### Whole class teaching

Discuss the [frequency table of pupils absent from school](#), shown below, with the pupils.

Ask, 'What number is the mode?' (8)

Teach [How? Bar chart 2](#), as shown left.

Frequency table

Day	Number
Monday	9
Tuesday	8
Wednesday	5
Thursday	6
Friday	8

#### Group task

Rub the bars off the chart, leaving the horizontal and vertical axis on the chalkboard.

Ask the groups to use the [frequency table](#) on the chalkboard to draw a bar chart in their exercise books.

Give each group a [ruler](#) and tell them to use the [rulers](#) to keep their lines straight.

Ask the groups to make sure that the number spaces are the same and try to draw the bars accurately.

Go and help each group in turn.

10 minutes | Flash cards

### Plenary

#### Whole class teaching

Flash the [word/phrase cards](#) and choose some pupils to read and explain them.

Grade/  
Type of lesson plan

Lesson  
title

---

## Weekly page

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# Primary 4, numeracy lesson plans

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## Week 19:

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# Statistics and time

### Words/phrases

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

seconds  
minutes  
hours  
weeks  
months  
year  
tally chart  
bar chart  
analogue clock  
digital clock  
24-hour clock  
am  
pm

### Learning expectations

By the end of the week:

**All pupils will be able to:**  
Tell the time using an  
analogue clock.

**Most pupils will be able to:**  
Tell the time using  
a digital clock.

**Some pupils will be able to:**  
Change analogue times  
to digital times.

## Assessment task

### Instructions:

1  
Ask individual pupils to draw a clock and set the time for half past 8.

2  
Ask individual pupils to show these times on an analogue clock:

03:00  
19:30  
22:45

3  
Ask individual pupils to draw clocks showing the following times:  
4 o'clock in the afternoon  
half past 5 in the morning  
quarter to 10 at night

## Example of a pupil's work

### This pupil can:

Record the time on an analogue clock.

Record the time on a digital clock.

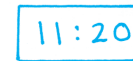
Change the time from analogue to digital.



25 minutes to 4



10 minutes past 9



## Week 19: Statistics and time

## Day 1: Three minute tally chart

### Learning outcomes

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

Use number bonds  
to complete subtraction  
sums quickly.

Make a tally chart to record  
information about time.

### Preparation

**Before the lesson:**

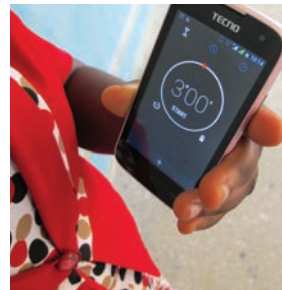
Have ready a [stopwatch](#) (or the timer  
on a mobile phone).

Read [How? Time tally](#), as shown below.

### How? Time tally



Ask six pupils to  
come out. Give each  
pupil a space  
on the chalkboard.



Set the stopwatch  
for 3 minutes.



Tell the pupils  
to write their first  
names as many  
times as they can.



Count the  
names and write  
the results in  
a frequency table.



Choose some  
pupils to help you  
write the results as  
a tally chart.

15  
minutes

## Daily practice

### Whole class teaching

Ask the class to help you to write the number bonds for 12 and 13 on the chalkboard.

Write the following sums on the chalkboard:

$$12 - 9 =$$

$$12 - 7 =$$

$$12 - 6 =$$

$$12 - 8 =$$

$$12 - 5 =$$

$$13 - 7 =$$

$$13 - 9 =$$

$$13 - 8 =$$

$$13 - 5 =$$

$$13 - 6 =$$

Remind the pupils how to use the number bonds to complete these sums quickly in their exercise books.

10  
minutes

## Introduction

### Whole class teaching

Ask the pupils to say some of the units used to measure time.

Write their ideas on the chalkboard.

Ask the following questions:

'What is the smallest unit of time?' (seconds)

'How many seconds are there in a minute?'

'How many minutes are there in an hour?'

'How many hours are there in a whole day and night?'

'How many days are there in a year?'

'How many weeks are there in a year?'

25  
minutes

How

Stopwatch

Frequency table

## Main activity

### Whole class teaching

Ask the pupils to estimate how many jumps they can do in 1 minute.

Write some of their estimates on the chalkboard.

Use the **stopwatch** to time the pupils as they jump for 1 minute and ask them to count their jumps.

Ask some pupils, 'How many jumps did you do? Did you do more or less than your estimate?'

Ask some pupils, 'How many times do you think you can write your name in 3 minutes?'

Teach **How? Time tally**, as shown left.

### Group task

Ask the groups to say two things that the tally chart shows, eg: who wrote their name the most number of times.

Rub the tally chart off the chalkboard.

Ask the groups to draw the tally chart in their exercise books using the **frequency table** to help them.

10  
minutes

Stopwatch

## Plenary

### Whole class teaching

Explain that you want to find out if the pupils know how long a minute is.

Set the **stopwatch** or timer for 1 minute but do not let the class see it.

Tell the pupils to put up their hands when they think a minute has passed.

Ask them to say some units of time and put them in order from the smallest to the biggest.

## Week 19: Statistics and time

## Day 2: Times taken to run 60m

### Learning outcomes

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

Use place value to add  
numbers quickly.

Draw bars on a bar chart  
to represent times.

### Preparation

**Before the lesson:**

Write the following sums on **large  
flash cards**:  $180 + 19 =$ ,  $140 + 28 =$ ,  
 $130 + 27 =$ ,  $120 + 48 =$ ,  $600 + 150 =$ ,  
 $600 + 270 =$ ,  $400 + 340 =$

Find a **measuring tape** or a **metre stick**  
and a **ruler** for each group.

Read **How? Times taken to run 60m**,  
as shown below.

### How? Times taken to run 60m



Mark out 60 metres  
with the measuring  
tape, to use as  
a running track.



Time each pupil  
as they run 60  
metres and tell them  
their time.



Go back inside  
and write the pupils'  
names and times  
on the chalkboard.



Draw a bar chart  
and write the  
pupils' names on  
the horizontal axis,  
evenly spaced.



Evenly space the  
seconds in twos on  
the vertical axis.

15 minutes | Game/  
Flash cards

## Daily practice

### Group task

Remind the class that they can use place value to add quickly.

Tell them they are going to play the **speedy addition game**.

Hold up a **sum flash card** and ask the groups to discuss the answer.

Tell them to put up their hands when they have an answer and ask the first group with their hands up to answer.

Give points if the answer is correct.

Repeat until you have shown all the **flash cards**.

The group with the most points wins.

10 minutes

## Introduction

### Whole class teaching

Ask the pupils, 'How many seconds are there in 1 minute?'

Demonstrate changing 3 minutes into seconds on the chalkboard:

$3 \times 60 =$   
First multiply by 6:  
 $3 \times 6 = 18$

Then move the numbers in the answer one place value to the left:  
 $3 \times 60 = 180$

Demonstrate changing 4 minutes and 25 seconds into seconds:  
 $4 \times 60 = 240$   
 $240 + 25 = 265$  seconds

Ask the pupils to change 2 minutes and 13 seconds into seconds in their exercise books.

25 minutes

How

## Main activity

### Whole class teaching

Tell the pupils that they are going to find out how quickly some pupils can run 60 metres.

Ask some pupils to say some estimates in seconds.

Ask, 'How can we record these results?' (In a tally chart, frequency table or bar chart.)

Choose three girls and three boys to be the runners and take the class outside.

Teach **How? Times taken to run 60m**, as shown left.

Bar chart

### Group task

Ask a pupil to help you shade in the first bar on the **bar chart**.

Remind them that they are counting in twos. Explain that some numbers will be in between the twos, so you will need to position them carefully.

Ask the groups to copy and complete the bar chart in their exercise books.

Give the groups the rulers to keep their lines straight.

Ask the groups to make sure the number spaces are the same and try to draw the bars accurately.

Go and help each group in turn.

10 minutes | Bar chart

## Plenary

### Whole class teaching

Ask some pupils to draw their bars on the **bar chart** on the chalkboard.

Ask the pupils, 'Who had the fastest time?'

## Week 19: Statistics and time

### Day 3: Telling the time

#### Learning outcomes

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

Subtract single-digit  
numbers from two-digit  
numbers quickly.

Tell the time using an  
analogue clock.

#### Preparation

**Before the lesson:**

Make a set of 1—10 flash cards  
for each group.

Make **card clocks** with moveable  
hands for each group, leaving blank  
boxes for the numbers and have  
ready a real **clock**.

Read **How? Telling the time**,  
as shown below.

#### How? Telling the time



Ask the groups to  
write the numbers on  
their card clocks.



Tell them to write  
'past' on one half  
and 'to' on the  
other half of the  
clock face.



Ask the groups to  
make 8 o'clock  
and half past 7 with  
their clocks.



Ask them to make  
times with minutes  
past the hour.



Ask them to make  
times with minutes  
to the hour.



15 minutes | Game/  
Flash cards

## Daily practice

### Group task

Explain to the pupils that they are going to play the **final countdown game**.

Give each group a set of **1—10 flash cards**, and ask them to shuffle them and put them in the middle of the table.

Tell the pupils to choose a number card, take that number away from 99 and write down the answer.

Ask them to choose another card, then subtract that number from their answer.

Tell them to repeat until they can't subtract any more numbers.

The group with the lowest number is the winner.

10 minutes | How

## Introduction

### Group task

Teach **How? Telling the time**, as shown left.

25 minutes | Clock/  
Card clocks

## Main activity

### Group task

Hold up the **clock**.

Move the hands to make times, and ask the pupils to say the time.

Continue until most of the pupils have had a turn.

Ask, 'If it is 5 past 4 now, what time will it be in 10 minutes?'

Tell the groups to move the hands on their **card clocks** to find the answer.

Ask, 'If it is 5 to 7 now, what time will it be in 10 minutes?'

10 minutes

## Plenary

### Whole class teaching

Ask the class the following questions:

'How many days are there in a week?'

'How many days are there in a year?'

'How many months are there in a year?'

Ask the class to say the names of the months with you, in order.

## Week 19: Statistics and time

### Day 4: 24-hour clock

#### Learning outcomes

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

Use renaming to subtract  
two-digit numbers.

Convert analogue times to  
24-hour digital times.

#### Preparation

**Before the lesson:**

Have ready an [analogue clock](#)  
and a [digital clock](#), eg: on a mobile phone.

Read [How? Digital clock](#), as shown below.

#### How? Digital clock



Show the time for  
midnight on the  
digital clock and the  
analogue clock.



Show the hours  
from 1am to midday  
on both clocks.



Write both times on  
the chalkboard.



Choose pupils to  
write the times from  
1pm to midnight.



Ask the pupils to  
say the digital  
and analogue times  
with you.

15  
minutes

## Daily practice

### Whole class teaching

Write '76 – 28 =' on the chalkboard.

Set the sum out vertically, expand the numbers and rename them:

$$\begin{array}{r} \text{T U} \\ 76 \\ - 28 \\ \hline \end{array}$$

Step 1:

$$\begin{array}{r} 70 + 6 \\ - 20 + 8 \\ \hline \end{array}$$

Step 2:

$$\begin{array}{r} 60 + 16 \\ - 20 + 8 \\ \hline 40 + 8 \end{array}$$

$$40 + 8 = 48 \\ 76 - 28 = 48$$

Write this sum on the chalkboard for pupils to complete:  $82 - 36 =$

10  
minutes

## Introduction

### Whole class teaching

Ask the class to say how many hours there are in a day.

Remind the class that we say 'am' for times from midnight to midday and 'pm' for times from midday to midnight.

Ask some pupils to say what they do at 11am and 11pm.

Repeat, with 8am and 8pm, and 6am and 6pm.

Remind the class that an analogue clock breaks the day into two halves.

It measures 12 hours for 'am' times and 12 hours for 'pm' times.

25  
minutes

How

## Main activity

### Pair task

Explain that digital time does not break up the 24 hours of the day into two halves.

It does not use 'am' or 'pm'. Instead, it counts each of the 24 hours of the day.

Teach **How? Digital clock**, as shown left.

Ask a pupil to write 2am as digital time (02:00).

Ask a pupil to write 2pm as digital time.

Explain that it is 14:00 because it is two hours after 12:00.

Repeat with 3pm (three hours after 12 so it is 15:00).

10  
minutes

## Plenary

### Whole class teaching

Write the following word problems on the chalkboard:

'Tunde starts work at 08:00 and finishes at 16:00. How long does he work for?'

'Lola leaves home at 14:00 and returns at midnight. How long is she away from home?'

Read and explain the problems to the class, then ask the pairs to work them out.

Choose some pairs to say the answers to the class.

## Week 19: Statistics and time

## Day 5: Digital time

### Learning outcomes

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

Solve simple subtraction word  
problems with renaming.

Convert analogue times to  
digital times.

### Preparation

**Before the lesson:**

Make a set of [analogue and digital clock  
cards](#) for each group, as shown below  
in [How? Clock matching game](#) and shuffle  
each set well.

Have ready an [analogue clock](#)  
and a [digital clock](#).

### How? Clock matching game



Show the 4 o'clock  
card and the  
matching analogue  
and digital clock  
time cards.



Give the groups a  
set of analogue and  
digital time cards.



Ask the groups to  
match the analogue  
times with  
the digital times.

15  
minutes

### Daily practice

#### Pair task

Write the following word problems on the chalkboard:

'Sabo had 44 apples in a box. He sold 27. How many are left?'

'There are 93 books on a shelf. The teacher takes 58. How many are left?'

Read and explain the problems and ask the pairs to say the calculations needed.

Tell the pairs to complete the problems in their exercise books.

10  
minutes

### Introduction

#### Whole class teaching

Ask, 'How many minutes are there in an hour?'

Explain that on analogue clocks we break each hour into two halves.

We say the first 30 minutes are 'past' the hour and the next 30 minutes are 'to' the hour.

Explain that on a digital clock, we count all the 60 minutes. So 20 to 8 o'clock in the morning is 07:40 because 40 minutes have passed since 7am.

25  
minutes

How

### Main activity

#### Group task

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

Write the following times on the chalkboard:  
10 past 6am  
25 past 7am  
quarter past 9am  
10 to 7am  
20 past 6pm  
half past 9pm

Ask the groups to say the times as 24-hour digital times.

Remind them to change the hour to the 24-hour time for the pm times.

Ask the groups to write the 24-hour digital times in their exercise books.

10  
minutes

Analogue clock

### Plenary

#### Whole class teaching

Make times on the [analogue clock](#) and choose some pupils to say them.

Ask them to write the times as digital times on the chalkboard.

## Weekly page

# Primary 4, numeracy lesson plans

## Week 20:

# Time problems

### Words/phrases

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

calendar  
leap year  
date  
number line  
slow  
fast  
hour boundary  
day boundary  
timetable  
journey times

### Rhymes

Write this rhyme on the chalkboard and leave it there for the week.

**Days in the months:**  
30 days have September,  
April, June and November.  
All the rest have 31  
Except February alone,  
Which has 28 days clear  
And 29 in each leap year.

### Learning expectations

**By the end of the week:**

**All pupils will be able to:**

Use a calendar to say what day a date falls on.

**Most pupils will be able to:**

Use a number line to calculate time problems.

**Some pupils will be able to:**

Use a timetable to calculate how long a journey takes.

## Assessment task

### Instructions:

1  
Ask individual pupils to use the November calendar on the chalkboard and tell you what day of the week 22nd November was.

2  
Ask individual pupils to tell you the time difference between 9.45 and 10.25, using a number line.

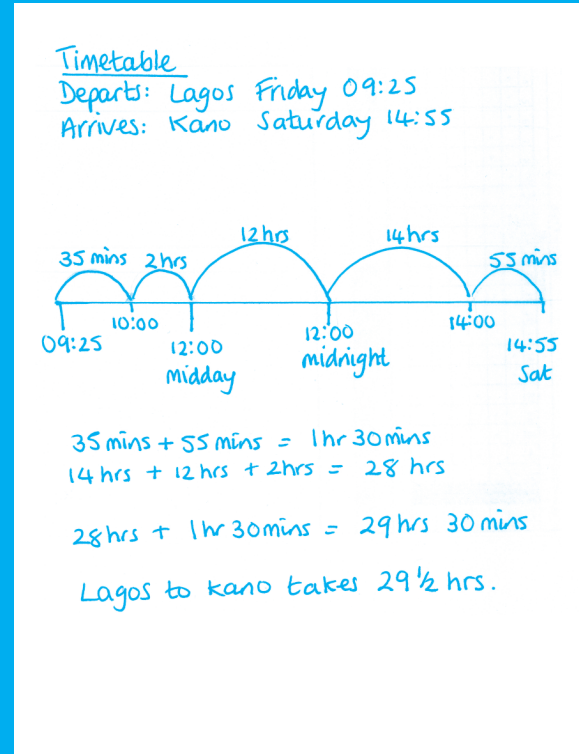
3  
Ask individual pupils to use the Nigerian train timetable and tell you how long the journey from Lagos to Kano will take.

## Example of a pupil's work

### This pupil can:

Use a train timetable to calculate the time a journey will take.

Use a number line to calculate time differences.



## Week 20: Time problems

## Day 1: A calendar

### Learning outcomes

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

Say the time 10 minutes  
before a given time.

Work out the length of  
time between dates, using  
a calendar.

### Preparation

**Before the lesson:**

Have ready the [card clocks](#) from Week 19  
(last week) for each group.

Write the [Days in the months rhyme](#)  
on the chalkboard, as shown on this week's  
weekly page.

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

### How? Calendar



Ask some pupils  
to help you make  
a November  
2014 calendar on  
the chalkboard.



Ask some pupils  
to find what day the  
27th was on. Repeat  
with other dates.



Ask, 'How many  
Mondays are there?'



Ask, 'Can you work  
out which day  
December 2nd falls  
on?' (Wednesday).



Ask, 'Can you work  
out which day  
was October 29th?'



15 minutes | Card clocks

## Daily practice

### Group task

Give a **card clock** to each group.

Ask the groups to make the following times on the **clocks**:

10 to 7  
5 to 6  
half past 1  
quarter to 8  
20 past 2  
25 to 7  
10 past 4  
5 past 1  
2 o'clock

After they make each time ask the groups, 'What time was it 10 minutes earlier?'

10 minutes | Rhyme

## Introduction

### Whole class teaching

Choose some pupils to help you write the months of the year on the chalkboard.

Ask the class:

'How many days are there in a year?'

'How many months are there in a year?'

Remind them that some months have different numbers of days.

Ask them to say the **Days in the months rhyme** with you and explain it.

Ask pupils to help you to write the number of days in each month on the chalkboard.

25 minutes

How

## Main activity

### Whole class teaching

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

Ask, 'If it is November 24th now, what date will it be in 2 weeks?'

Choose some pupils to explain how to solve the problem, helping them to count the days into the next month and the previous month.

### Group task

Write on the chalkboard: 'It is my birthday on October 24th. I am having a party on the Saturday after my birthday. When is my party? How many days is it after my birthday?'

Ask the groups to discuss the answer and choose a group to explain their answer.

Give each group a different date, eg: November 10th, 3rd, 18th, 2nd.

Ask them to work out what the date and day is 10 days later.

Tell the groups to say their answers and ask the class if they agree.

10 minutes | Rhyme

## Plenary

### Whole class teaching

Tell the pupils to say the **Days in the months rhyme** with you.

Ask them to write the number of days in each month in their exercise books.

## Week 20: Time problems

## Day 2: Time number lines

### Learning outcomes

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

Work out the correct time  
if a clock is fast or slow.

Use a number line to  
calculate time problems.

### Preparation

**Before the lesson:**

Have ready the [card clocks](#) from  
Week 20, Day 1 (yesterday).

Read [How? Time number line](#),  
as shown below.

### How? Time number line



Ask the pupils, 'If  
it is 05:15 now, what  
will the time  
be in 15 minutes?'



Explain how to solve  
the problem  
with a number line.



Ask, 'If it is 06:15  
now, what will  
the time be  
in 35 minutes?'



Repeat with, 'If it  
is 06:25 now, what  
will the time  
be in 45 minutes?'



Explain how to  
expand the minutes  
to cross the  
hour boundary.

15 minutes | Card clocks

## Daily practice

### Group task

Explain that sometimes clocks can go wrong and become too slow or too fast.

Ask the groups to make 25 past 2 on their **card clocks**.

Tell them that the clocks are 10 minutes slow and ask them to show the real time (25 to 3).

Tell them to return the time to 25 past 2.

Tell the groups that the clocks are 10 minutes fast and ask them to show the real time (quarter past 2).

Repeat with different times.

Ask the groups to try to work out the correct times without using the clocks.

10 minutes | How

## Introduction

### Whole class teaching

Teach **How? Time number line**, as shown left.

25 minutes

## Main activity

### Whole class teaching

Write the following word problems on the chalkboard, then read and explain them:

'Femi leaves home at 07:45. It takes him 20 minutes to walk to school. When does he get to school?'

'Break lasts 45 minutes. It starts at 11:20. When does it finish?'

'Temi reads for 50 minutes. She starts at 10:30. When does she finish?'

'The clock says 02:15. It is 50 minutes slow. What is the real time?'

10 minutes

## Plenary

### Whole class teaching

Ask one or two groups to draw the number line they used for one of the word problems on the chalkboard.

Ask them to explain their calculations and ask the rest of the class if they agree.

## Week 20: Time problems

## Day 3: How much time has passed?

### Learning outcomes

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

Add minutes on  
a digital clock.

Calculate time that has  
passed using a number line.

### Preparation

**Before the lesson:**

Read [How? Time passed number lines](#),  
as shown below.

### How? Time passed number lines



Ask, 'If Tope walks from 6:10 until 7:20, how long does he walk for?'



Draw a number line and count the jumps.



Explain that 70 minutes = 1 hour and 10 minutes.



Draw a number line from 3:05 to 5:15 and ask, 'How much time has passed?'



Add up hours and minutes together to find the answer.

15  
minutes

### Daily practice

#### Whole class teaching

Ask the class to write the following as digital times on the chalkboard:

10 past 8 in the morning  
5 to 9pm  
25 past 4 in the afternoon  
quarter to 12am

Write the following digital times on the chalkboard: 11:45, 04:05, 02:55, 12:40, 09:50.

Tell the pupils that these times are 10 minutes slow and ask them to write the correct times in their exercise books.

Remind them to add 10 minutes to each time and take care crossing the hour boundary.

10  
minutes

### Introduction

#### Whole class teaching

Ask the pupils, 'How many minutes are there in an hour?'

Ask some pupils to help you change 250 minutes to hours on the chalkboard:  
 $250 \div 60 =$

$$\begin{array}{r} \text{H T U} \\ 250 \\ - 120 \quad (60 \times 2 = 120) \\ \hline 130 \\ - 120 \quad (60 \times 2 = 120) \\ \hline = 10 \end{array}$$

Add the hours and the remaining minutes: 4 hours and 10 minutes.

Ask the pupils to write 180 minutes and 210 minutes as hours and minutes in their exercise books.

25  
minutes

How

### Main activity

#### Whole class teaching

Teach **How? Time passed number lines**, as shown left.

Write the following word problems on the chalkboard:

'Yemi went shopping at 09:30. He arrived home at 10:45. How long was he out?'

'A lesson starts at 08:15 and finishes at 10:10. How long does the lesson last?'

'Tola arrived at the party at 14:03. She left at 16:10. How long did she stay at the party?'

Read and explain the problems.

#### Individual task

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

Tell them to use a number line.

Go round the class and help pupils.

10  
minutes

### Plenary

#### Whole class teaching

Choose a pupil to explain, on the chalkboard, how they solved the first word problem.

Ask the class to say if they are correct and if not, to explain why.

# Week 20: Time problems

## Day 4: A train timetable

### Learning outcomes

### Preparation

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

Subtract minutes on a digital clock.

Use a timetable to calculate journey times.

**Before the lesson:**

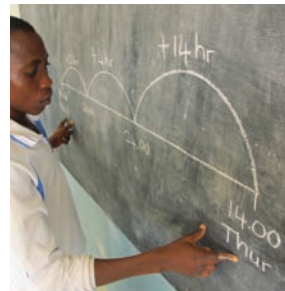
Copy the [Nigerian train timetable](#) from the introduction, shown right, on to a large piece of card.

Read [How? Journey times](#), as shown below.

### How? Journey times



Draw a number line starting at 18:00 on Wednesday and finishing at 14:00 on Thursday.



Calculate the time that passes, and explain that this crosses the 24-hour boundary.



Add up the hours.



Demonstrate finding the time of the train from Kano to Lagos on the train timetable.



Calculate how long the journey takes using a number line.

15  
minutes

## Daily practice

### Pair task

Tell the class that your digital clock says 11:05 but it is 15 minutes fast.

Use a number line to count back to find the answer (10:50).

Write the following times on the chalkboard: 10:15, 12:03, 08:13.

Explain that these times are 20 minutes fast.

Ask the pairs to calculate the real times in their exercise books, using a number line to help them.

10  
minutes

Train timetable

## Introduction

### Pair task

Show the class the **time-table** below:

#### Nigerian train timetable:

**Lagos – Ilorin (Tuesdays, Fridays and Saturdays)**

Departs: Iddo 09:00

Arrives: Ilorin 18:34

**Lagos – Kano (Every Friday)**

Departs: Iddo 12:00

Arrives: Kano 17:01 (the next day)

**Kano – Lagos (Every Monday)**

Departs: Kano 09:00

Arrives: Lagos 14:24 (the next day)

**Offa – Kano (Every Tuesday)**

Departs: Offa 22:00

Arrives: Kano 18:05 (the next day)

25  
minutes

How

Train timetable

## Main activity

### Whole class teaching

Ask 'How many hours are there in a day?'

Explain to the pupils that they are going to work out times that cross the 24-hour (day) boundary.

Teach **How? Journey times**, as shown left.

Write the following word problems on the chalkboard and discuss:

'How long is the journey from Lagos to Ilorin?'

'How long is the journey from Offa to Kano?'

'How long is the journey from Lagos to Kano?'

Ask the groups to calculate the answers using a number line and the **train timetable**.

10  
minutes

## Plenary

### Whole class teaching

Choose one group to explain, on the chalkboard, how they solved the first word problem.

Ask the rest of the class to say if they are correct and if not, to explain why.

## Week 20: Time problems

## Day 5: Multiplication time problems

### Learning outcomes

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

Say the numbers of days  
in each month.

Calculate multiplication  
time problems.

### Preparation

**Before the lesson:**

Make a set of [month flash cards](#) for  
each group.

Write the [Days in the months rhyme](#)  
from Week 20, Day 1 (earlier this week)  
on the chalkboard.

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

### How? Months



Ask the groups  
to shuffle the month  
flash cards.



Ask them to  
arrange them in  
the correct order  
on their desks.



Ask the groups to  
choose the months  
that have 31 days.



Ask them to choose  
the months that  
have 30 days.



Ask them to hold up  
the first month of  
the year, the seventh  
month, and so on.



15  
minutes

How

Rhyme

## Daily practice

### Whole class teaching

Ask each group to read the **Days in the months rhyme** with you.

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

10  
minutes

## Introduction

### Whole class teaching

Write the following on the chalkboard and ask the pupils to help you fill in the missing numbers:

- seconds in a minute.
- minutes in an hour.
- hours in a day.
- days in a week.
- weeks in a year.
- months in a year.
- days in a year.

Ask the pupils how they could calculate the number of days in six weeks, ie:  
 $6 \times 7 = 42$ .

25  
minutes

## Main activity

### Whole class teaching

Write this word problem on the chalkboard:  
'A hen lays four eggs every week. How many eggs does she lay in a year?'

Ask a pupil to write the calculation needed:  
 $52 \times 4 =$

Remind the class how to use the grid method:

$$\begin{array}{r|l|l} \times & 50 & 2 \\ 4 & 200 & 8 \end{array}$$

$$200 + 8 = 208 \text{ eggs}$$

### Individual task

Write these word problems on the chalkboard, then read and explain them:

'How many hours are there in six days?'

'How many minutes are there in five hours?'

'Tade saves N20 every day. How much does he save in a week?'

'If Segun reads six books every month, how many does she read in a year?'

Ask the pupils to complete the problems in their exercise books, using the grid method for the larger numbers.

10  
minutes

Rhyme

## Plenary

### Whole class teaching

Ask the pupils to say the **Days in the months rhyme**.

Tell the pupils the correct time.

Ask some pupils to say what the time will be 30 minutes later and what time it was 10 minutes earlier.

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