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**Oando Foundation**

**Numeracy  
lesson plans**  
Primary 3

**Term 3**  
Assessment for  
learning

**Weeks**  
26—30

Type of lesson plans/  
Grade

Term/  
Learning theme

# Numeracy lesson plans Primary 3

Term 3

▶ Assessment for learning

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



## Introduction

Over the years, the citizens of Lagos have benefited from a government orchestrated free basic education programme. This has resulted in mass enrolment of school-age children in public primary institutions across the state, and significant expense on education facilities and continuous teacher improvement programmes.

However, the learning outcomes of these public primary schools have not justified the colossal amount of money that has been spent on education in the state. The school system has inadequately equipped our school leavers for everyday life. A baseline assessment of teachers revealed a general weakness around effective teaching methodologies to improve learning outcomes in our schools.

The State Government, with the support of the Education Sector Support Programme in Nigeria (ESSPIN) and with funding from UK Aid from the Department for International Development, has recently introduced pilot literacy and numeracy lesson plans in public primary schools (starting with Primary 1—3) to improve classroom teachers' capacity. These lesson plans sought to address the challenges by offering step-by-step guidance to teachers on how to deliver good quality literacy and numeracy lessons effectively.

Now, the hard work of all our personnel – the State School Improvement Team, the school support officers and technical partners from ESSPIN – has brought about the production of a complete module of lesson plans.

I am convinced that the use of these complete versions of the literacy and numeracy lesson plans by teachers in all our 1,003 public primary schools will further raise the standards of education to which we are wholly committed.

**Mrs Olayinka Oladunjoye**  
Honourable Commissioner  
for Education  
Lagos State

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**Numeracy**  
**lesson plans**  
Primary 3

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**Term 3**  
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**Weeks**  
26—30

# Introduction

## ▶ Assessment for learning

## 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 3**

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**Term 3  
Assessment for  
learning**

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**Weeks  
26—30**

# Introduction

▶ Songs, rhymes,  
games and teaching aids  
for the term

## Seven days song

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There are seven days,  
there are seven days /  
There are seven days  
in a week /  
Sunday, Monday, Tuesday,  
Wednesday, Thursday,  
Friday, Saturday /  
There are seven days,  
there are seven days /  
there are seven days  
in a week!



## Days of the week rhyme

On Monday I walk to school /  
On Tuesday I run to school /  
On Wednesday I jump to school /  
On Thursday I skip to school /  
On Friday I walk, run, jump and skip to school /  
On Saturday I stay at home /  
And on Sunday I stay at home.

## Months of the year rhyme

January  
(right hand faces down) /  
February  
(left hand faces down) /  
March  
(right hand faces up) /  
April  
(left hand faces up) /  
May  
(right hand on left shoulder) /  
June  
(left hand on right shoulder) /  
July  
(right hand on left ear) /  
August  
(left hand on right ear) /  
September  
(right hand on left waist) /  
October  
(left hand on right waist) /  
November  
(right hand on right hip) /  
December  
(left hand on left hip) /  
12 months in a year!  
(wiggle hips)

## Buzz game

Stand or seat the class in a circle.

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

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

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

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

## Multiplication bingo game

Play this in groups.

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

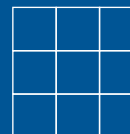
Call out some multiplication questions, eg:  $3 \times 6$  and  $3 \times 5$ .

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

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

You can use the same game for other times tables.

Multiplication bingo grid



## Find a friend game

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

Write the answers on separate flash cards.

Give each pupil a card.

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



## Order the times tables game

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

Make enough for each group to have a set.

Shuffle the cards in each set.

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

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

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

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

## What is in the bag? game

Hide some two-dimensional and three-dimensional shapes in a bag.

Dip your hand into the bag and choose a shape. Without pulling it out, describe the shape to the class according to its properties.

Ask the pupils to guess what shape you are holding.

Repeat, inviting the pupils to choose a shape and describe its properties for the class to guess.

## Multiplication tables missing numbers

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

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

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

This shows that  $3 \times 4 = 12$  as shown in the grid.

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

Prepare some blank cards to fit over the squares.

Ask the pupils to look away.

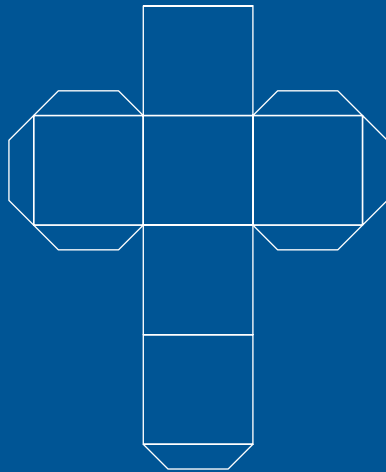
Place a square over a number and ask the pupils to tell you which number is missing.

Multiplication table

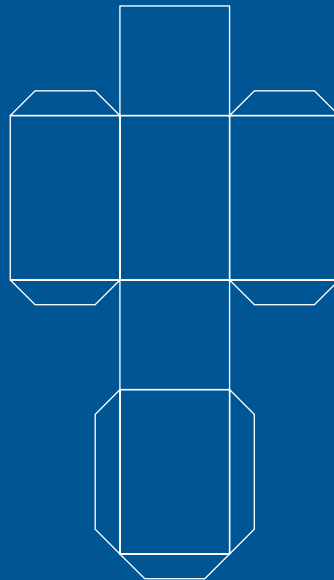
	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	5	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	2	12	18	24	30	36	42	48	54	60

## Nets of 3D shapes

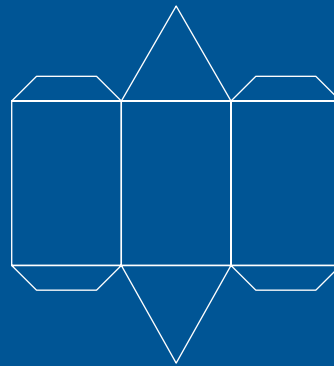
Cube net



Cuboid net



Triangular prism net



## Properties of 3D shapes

Name of solid (3D) shape	Number of faces	Number of edges	Number of corners	2D shapes



Week  
26  
Addition

## Words/phrases

Hundreds  
Tens  
Units  
multiply  
multiplication table  
add  
addition  
two-digit  
three-digit  
expanding  
number line  
altogether  
vertical

## Assessment

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

# Adding two-digit numbers

## Learning outcomes

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

Use a multiplication table.

Add two-digit numbers using the expanded form.

## Teaching aids

**Before the lesson:**

Copy the 'Multiplication table' from the introduction on to the chalkboard.

Find the multiplication table in Macmillan New Primary Mathematics 3, page 65.

## Daily practice

**Pair task**

Ask if anyone can say the 3 times table.

Show the pupils the multiplication table on the chalkboard and remind them how to use it to find answers to times table questions.

Ask the pupils to find the multiplication table in Macmillan New Primary Mathematics 3, page 65.

Ask them to find the answers to questions in the 3, 4 and 6 times tables, eg:  $4 \times 6$ .



10  
minutes

## Introduction

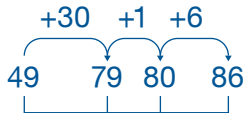
### Whole class teaching

Write '49 + 37 =' on the chalkboard.

Ask the pupils to help you work this out.

Remind them to start with the larger number and expand the smaller number, ie:  $49 + 30 + 7$ .

Draw this on a number line as shown below.



25  
minutes

## Main activity

### Individual task

Write the following sums on the chalkboard:

$$35 + 47 =$$

$$48 + 26 =$$

$$66 + 25 =$$

$$57 + 17 =$$

Ask the pupils to complete them in their exercise books using the same method.

10  
minutes

## Plenary

### Whole class teaching

Discuss the answers to the sums.

# Expanding numbers

## Learning outcomes

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

Say answers to the 4 times table.

Add three-digit numbers using a number line.

## Teaching aids

### Before the lesson:

Make cards for 'Order the times tables' using the 4 times table.

Write the following sums on the chalkboard:

$$164 + 232 =$$

$$332 + 454 =$$

$$463 + 621 =$$

$$543 + 235 =$$

## Daily practice

### Whole class teaching

Ask the pupils to say the 4 times table with you.

Go outside and play 'Order the times tables'.

Ask individual pupils questions from the 4 times table.

Ask,

'If you know  $3 \times 3$ , what is  $30 \times 3$ ?',  
'If you know  $2 \times 4$ , what is  $20 \times 4$ '

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

In pairs, ask them to work out the answers to  $20 \times 4 =$   
and  $30 \times 3 =$ .

Chose some pairs to say their answers and ask the class if they are correct.



10  
minutes

## Introduction

### Whole class teaching

Write on the chalkboard:  
' $147 + 252 =$ '.

Ask the pupils, 'How would you work this sum out?' and discuss their answers.

Explain that they can add three-digit numbers in exactly the same way as two-digit numbers using a number line.

Tell the pupils to start with the larger number.

25  
minutes

## Main activity

### Pair task

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

Tell them to expand the smaller number and use a number line.

Remind them to expand the smaller number into Hundreds, Tens and Units, ie:  $252 + 100 + 40 + 7$ .

Tell them to use a number line to count on.

Repeat with the sum  $135 + 344$ , inviting pupils to the chalkboard to explain different stages of the sum with you.

10  
minutes

## Plenary

### Whole class teaching

Choose some pairs to say the answers.

Ask other pairs if they are correct. If not, ask them to explain by using a number line on the chalkboard.

# Add three-digit numbers

## Learning outcomes

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

Say answers to the 6 and  
4 times tables.

Add three-digit numbers that  
cross the Ten on a number line.

## Teaching aids

### Before the lesson:

Make cards for 'Order the times  
tables' using the 6 times table.

Read Macmillan New Primary  
Mathematics 3, page 25,  
questions 2—8.

## Daily practice

### Whole class teaching

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

Go outside and play  
'Order the times tables'.

Ask individual pupils questions  
from the 6 times table.

Ask them to say the 4 times  
table with you.

Ask individual pupils questions  
from the 4 times table.

10  
minutes

## Introduction

### Whole class teaching

Write the following sum on the chalkboard and ask the pupils to help you do in it the quickest way: '257 + 238 ='.

Write the largest number on the number line.

Expand the other number:  
 $238 = 200 + 30 + 8$ .

25  
minutes

Macmillan New  
Primary  
Mathematics 3

## Main activity

### Group task

Ask the pupils to open Macmillan New Primary Mathematics 3, page 25.

Ask them to look at questions 2—8.

Give each group one of these questions to work on.

Ask them to discuss how to solve it using a number line.

Tell them to draw a number line and complete the sum in their exercise books.

If time, give them another sum to complete.

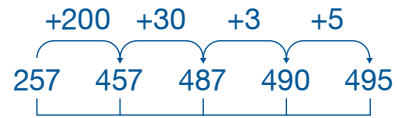
10  
minutes

## Plenary

### Whole class teaching

Ask a pupil from each group to demonstrate on the chalkboard how they worked out their sum.

Draw this on a number line, remembering to add the 200, then the 30 and then break up 8 to jump to the nearest Ten and complete the sum:



$$257 + 238 = 495$$

Repeat with  $538 + 226 =$ .

# Adding two-digit numbers using vertical calculation

## Learning outcomes

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

Say answers to the 6 and 4 times tables.

Begin to add two, two-digit numbers vertically.

## Teaching aids

### Before the lesson:

Read the instructions for 'Find a friend' in the introduction and make flash cards of sums and answers from the 6 times table.

## Daily practice

### Whole class teaching

Ask the pupils to stand in a circle and count forwards in 6s, starting at zero (0).

Repeat this activity with a different start number.

Then, starting with a different pupil, ask them to count backwards in 6s.

Play 'Find a friend'.

Ask individual pupils questions from the 6 times table.

Ask them to say the 4 times table with you.

Ask individual pupils questions from the 4 times table.

10  
minutes

## Introduction

### Whole class teaching

Ask,  
'What methods have  
you been using to add  
numbers?'

Explain that you are going  
to look at another method  
called the 'vertical method'.

Look together at the sum  
 $24 + 63 =$ .

Explain to the pupils that  
they need to expand each  
number into Tens and Units.

Tell the pupils to add the  
Units together, ie:  $4 + 3 = 7$ ,  
then add the Tens together,  
ie:  $20 + 60 = 80$ .

T U		T U
2 4	$4 + 3 =$	7
$+ 6 3$	$20 + 60 =$	8 0
<hr style="width: 100%;"/>		<hr style="width: 100%;"/>
8 7		8 7

Then tell them to add the  
Tens and the Units totals,  
ie:  $7 + 80 = 87$ .

25  
minutes

## Main activity

### Group task

Write ' $35 + 24 =$ ' on the  
chalkboard.

Tell the pupils to write  
the sum vertically in their  
exercise books and write 'T'  
and 'U' above the numbers.

Tell them to add the Units  
and the Tens in sums at the  
side, ie:

T U		T U
3 5	$5 + 4 =$	9
$+ 2 4$	$30 + 20 =$	5 0
<hr style="width: 100%;"/>		<hr style="width: 100%;"/>
5 9		5 9

Write the following sums  
on the chalkboard

$$71 + 18 =$$

$$52 + 36 =$$

$$25 + 23 =$$

Ask the pupils to  
complete the sums in  
their exercise books  
using the vertical method.

10  
minutes

## Plenary

### Whole class teaching

Choose some pupils  
from different groups to  
show how they worked  
a sum out vertically.

# Adding two-digit numbers using a vertical calculation

## Learning outcomes

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

Know the 6 and 4 times tables.

Add two, two-digit numbers vertically.

## Teaching aids

### Before the lesson:

Have ready the 'Find a friend' cards from yesterday.

Have ready the multiplication table from Day 1.

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

## Daily practice

### Whole class teaching

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

Play 'Find a friend'.

Remind the pupils how to use the multiplication table.

Ask them to find the answers to questions in the 3, 4 and 6 times tables, eg:  $4 \times 6$ .

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

10  
minutes

## Introduction

### Whole class teaching

Ask, 'Which method did we use yesterday to add numbers?'

Remind the pupils of the vertical method.

Look together at the sum  $36 + 26 =$ .

Demonstrate it again, talking through each stage and asking pupils if they can help explain.

25  
minutes

## Main activity

### Group task

Write 'In Primary 3, 64 pupils are learning to play football. In Primary 4, there are 26 pupils learning. How many pupils are learning altogether?'

In groups, ask the pupils to discuss the sum needed to solve this problem.

Ask them to use the vertical method in their exercise books to work out the answer.

Choose different groups to explain different stages of their working out on the chalkboard.

10  
minutes

## Plenary

### Pair task

Write the following sums on the chalkboard:  
 $38 + 24 =$   
 $45 + 26 =$   
 $37 + 36 =$

Ask the pupils to use the vertical method to complete them in their exercise books.

Choose some pairs to say their answers and ask other pairs to say if they agree.





Week  
27  
Factors and  
multiples

## Words/phrases

## Assessment

**fraction**  
**half**  
**third**  
**quarter**  
**sixth**  
**eighth**  
**factor**  
**multiple**  
**tables**  
**multiplication**  
**product**

**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.**

# Investigating multiplication tables

## Learning outcomes

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

Say what a fraction is.

Use times table knowledge to work out number sentences.

## Teaching aids

### Before the lesson:

Cut some paper into three strips of the same size for each group.

Have ready the 'Multiplication table' from the introduction on the chalkboard or a large piece of card.

Copy the multiplication table in Macmillan New Primary Mathematics 3, page 65 on to the chalkboard but miss out 10 random numbers.

## Daily practice

### Group task

Remind the pupils that a **fraction** is a part of a whole.

Give each group three strips of paper.

Ask them to fold the first strip in half and write ' $\frac{1}{2}$ ' on each half.

Help the pupils to fold the second strip in quarters and write ' $\frac{1}{4}$ ' on each quarter.

Help them to fold the third strip into 8 equal sections and ask what fraction they have made.

Show them how to write ' $\frac{1}{8}$ ' on each eighth.

10  
minutes

## Introduction

### Whole class teaching

Remind the pupils that it is important to learn their times tables.

Display the multiplication table.

Ask the pupils to use the table to find the answers to multiplication sums, eg:  $3 \times 2$ ,  $5 \times 5$ .

Choose some pupils to complete the table on the chalkboard.

25  
minutes

## Main activity

### Whole class teaching

Write  
 $4 \times \square = 24$   
on the chalkboard.

Ask, 'What are you being asked to do here?', 'What do you already know that will help you?'

Explain that knowing the 4 times table will help to find the missing number.

Ask, '4 times what is 24?' (6).

Show the pupils how to find the answer in the multiplication table.

Point to 4 on the top row then move down the 4 column until you touch 24.

Move your finger from 24 along the row to the left. The number on the end is 6.  
 $6 \times 4 = 24$ .

### Pair task

Write  
 $7 \times \square = 21$   
 $2 \times \square = 10$  and  
 $8 \times \square = 32$   
on the chalkboard.

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

Repeat with

$5 \times \square = 25$  and  
 $3 \times \square = 12$ .

10  
minutes

## Plenary

### Whole class teaching

Tell the pupils to use the multiplication table to check their answers.

# Multiplication and division

## Learning outcomes

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

Compare fractions.

Use knowledge of times tables to solve division sums.

## Teaching aids

### Before the lesson:

Cut pieces of paper into two strips of the same size for each group.

Have ready enough counters for each group to have at least 60.

## Daily practice

### Group task

Give two strips of paper to each group.

Help them to fold the first strip into 3 equal parts.

Tell them that each part is called a 'third' and show them how to write ' $\frac{1}{3}$ '

Help the pupils to fold the second strip into 6 equal parts and tell them that each part is a 'sixth'.

Ask someone to write ' $\frac{1}{6}$ ' on the chalkboard.

Ask,  
'Which is bigger –  $\frac{1}{6}$  or  $\frac{1}{3}$  ?'

Display the strips in the classroom.



10  
minutes

## Introduction

### Whole class teaching

Write ' $4 \times 5 = 20$ ' on the chalkboard.

Use counters and show the pupils 4 lots of 5 and 5 lots of 4.

Write ' $5 \times 4 = 20$ '.

Write ' $20 \div 4$ ' and ask, 'How many lots of 4 are there in 20?'

Demonstrate with counters.

Write ' $20 \div 4 = 5$ '.

Repeat with  $20 \div 5$ .

25  
minutes

## Main activity

### Group task

Give each group the counters.

Write the following on the chalkboard:

$$7 \times 2 = 14$$

$$6 \times 4 = 24$$

$$8 \times 6 = 48$$

Ask the pupils to write the sums in their exercise books and write three more facts under each sum.

Tell them to use the counters to help them.

10  
minutes

## Plenary

### Whole class teaching

Write ' $40 \div 5 = 8$ ' on the chalkboard.

Say, '40 shared in 5 lots makes 8 each. What other facts do we know?'

Ask the pupils to use their counters to find three more facts.

# Understanding factors of numbers

## Learning outcomes

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

Order fractions.

Begin to understand factors of numbers.

## Teaching aids

### Before the lesson:

Have ready at least 28 counters for each group.

## Daily practice

### Group task

Give each group the fraction strips they have made this week and ask them to look at each fraction carefully.

Tell the pupils to write the fractions in order of size in their exercise books, starting with the biggest.

Check they have the fractions in the correct order ( $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}$ ).

Chose a pupil to write their fractions in order on the chalkboard.

Ask if anyone can point to where a fifth and a seventh would be in the order.

Ask if they would rather have half or a third of a cake, a quarter or a fifth.



10  
minutes

## Introduction

### Whole class teaching

Explain to the pupils that they are going to look at **factors**.

Say, 'Any number that divides another number equally is called the **factor** of the number', eg: 1, 2, 4 and 8 divide into 8 exactly so they are factors of the number 8.

25  
minutes

## Main activity

### Group task

Write '16, 20, 24, 28' on the chalkboard.

Ask the pupils to find the factors for each number and write them under each number in their exercise books.

Tell them to use the counters or their knowledge of the times table to help them.

When they have finished, ask each group to say the factors they found.

Ask the other groups if they have found different factors and discuss.

10  
minutes

## Plenary

### Whole class teaching

Tell the pupils to think of their times tables as you ask the following questions:

Is 4 a factor of 16?

How do you know?

Is 5 a factor of 24?

Is 3 a factor of 18?

Is 8 a factor of 16?

# Understanding the product of a number

## Learning outcomes

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

Find fractions of numbers.

Find the product of numbers.

## Teaching aids

### Before the lesson:

Have ready 12 counters for each pair.

## Daily practice

### Pair task

Give each pair the counters.

Write

' $\frac{1}{2}$  of 12 = ' on the chalkboard.

Ask the pupils how they can use the counters to find the answer, ie: put them in 2 groups and count how many there are in each group.

Repeat with  $\frac{1}{4}$  of 12.

Write the following fraction sums on the chalkboard:

$$\frac{1}{2} \text{ of } 24 = \quad \frac{1}{4} \text{ of } 24 =$$

$$\frac{1}{8} \text{ of } 24 = \quad \frac{1}{6} \text{ of } 24 =$$

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

10  
minutes

25  
minutes

Macmillan  
New Primary  
Mathematics 3

10  
minutes

## Introduction

### Whole class teaching

Ask the pupils,  
'What is a **factor**?'

Write their ideas on  
the chalkboard.

## Main activity

### Pair task

Say,  
'There are 30 pupils in  
a class. How many different  
ways can the teacher  
group them equally?'

Explain that the problem  
involves finding the factors  
of 30.

Ask the pairs to look at  
the multiplication chart in  
Macmillan New Primary  
Mathematics 3, page 65.

Tell them to point to 30  
in the table and show them  
how to find the factors.

Tell them to find as many  
different factors of 30 as  
they can.

### Whole class teaching

Explain that when  
two or more numbers  
are multiplied together,  
the answer is called  
the **product** of these  
numbers. For example,  
 $2 \times 3 = 6$ , so 6 is  
the product.

Ask what the products  
of  $5 \times 5$ ,  $6 \times 3$  and  
 $3 \times 3$  are.

Write the following  
numbers on the chalkboard:  
'3 and 4', '6 and 6',  
'6 and 8', '5 and 7',  
'3 and 9', '4 and 4'.

Tell the pupils to write  
the product of each  
pair of numbers in their  
exercise books.

Tell them to use the  
multiplication chart to  
check their answers.

## Plenary

### Whole class teaching

Ask each group to say  
a product they have found  
and ask the other groups  
if they agree.

# Factors and multiples

## Learning outcomes

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

Understand fractions of numbers.

Find multiples of numbers.

## Teaching aids

### Before the lesson:

Have ready counters for each pair.

Have ready the multiplication table from Macmillan New Primary Mathematics 3, page 65 on the chalkboard.

## Daily practice

### Pair task

Give out the counters.

Tell the pupils to use their counters to make a quarter and a third of 12.

Ask one pair, 'Would you rather have a quarter or a third of 12 sweets?'

Ask another pair if they agree.

Tell them to give a reason for their decision.

Ask, 'Would you rather have a quarter or a fifth of 20 sweets?'

Repeat with other fractions and numbers.

10  
minutes

## Introduction

### Whole class teaching

Show the pupils the multiplication table.

Choose someone to touch 24.

Ask if anyone can come and find the **factors of** 24.

Repeat with other numbers.

Ask someone to come and find the **product of** 6 and 3.

25  
minutes

## Main activity

### Group task

Explain to the class that they are going to look at **multiples of** numbers.

Tell the pupils that to find a multiple of 2 they should think of all the possible answers in the 2 times table, ie: 4, 6, 8, 10, 12, 14...

Ask,

'Who can give me a multiple of 5?'

'And who can give me a multiple of 4?'

Give each group one of the following numbers: 3, 4, 5, 6, 10.

Ask them to find 5 multiples for their number and write them in their exercise books.

10  
minutes

## Plenary

### Whole class teaching

Tell the pupils to look at the multiplication table in Macmillan New Primary Mathematics 3, page 65.

Ask each group to say the multiples they have found.

Ask the other groups to check using the multiplication table.

Macmillan  
New Primary  
Mathematics 3



Week  
28  
Number  
investigations





## Words/phrases

**Naira  
Kobo  
calculation  
addition  
subtraction  
multiplication  
division  
sequences  
rounding**

## Assessment

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

**Numeracy  
lesson plans  
Primary 3**

**Term 3  
Assessment for  
learning**

**Week 28  
Number  
investigations  
Day 1**

# Missing numbers

## Learning outcomes

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

Recognise Nigerian bank notes.

Find missing numbers in multiplication and division calculations.

## Teaching aids

**Before the lesson:**

Set up a shopping corner. Stick labels with N50, N100, N200, N250, N500 and N750 on to cartons and packets.

Read Macmillan New Primary Mathematics 3, page 91.

Write the following missing number calculations on the chalkboard:

$$'6 \times \square = 24', '40 \div \square = 4',$$

$$'40 \div \square = 10', '\square \times \square = 30',$$

$$'\square \div \square = 4', '\square \times \square = 36',$$

$$'\square \div \square = 8'.$$

## Daily practice

**Group task**

Ask if anyone can say some bank notes that are used today.

Tell the pupils to look in Macmillan New Primary Mathematics 3, page 91 and discuss the coins and notes.

Show them the shopping corner and the tins and packets 'for sale'.

Ask them to discuss what notes they could use to buy the N50 carton.

Ask groups to share their ideas and write different combinations on the chalkboard, eg:

$$N20 + N20 + N10$$

$$N50$$

$$N5 + N5 + N20 + N20.$$



10  
minutes

## Introduction

### Pair task

Ask the pupils mixed calculation questions, eg:

‘Tell me two numbers that total 17.’

‘What does 3 plus 7 = ?’

‘What is 2 times 4?’

‘Which two numbers could I subtract to make 13?’

‘What is 12 divided by 3?’

Ask the pupils to discuss each question with their partner.

Choose different pairs to say the answers and ask the others if they think they are correct.

25  
minutes

Macmillan  
New Primary  
Mathematics 3

## Main activity

### Whole class teaching

Write,

$$\square \times \square = 35$$

on the chalkboard. Ask, ‘What could the missing numbers be?’

Remind the pupils that they can use the multiplication table in Macmillan New Primary Mathematics 3, page 65 to find answers.

Discuss the range of answers.

10  
minutes

## Plenary

### Whole class teaching

Ask some pairs to say their answers and explain how they worked them out.

# Open number sentences

## Learning outcomes

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

Make N100 using different combinations of bank notes.

Find missing numbers in addition and subtraction calculations.

## Teaching aids

**Before the lesson:**

Cut 53 small pieces of paper for each group to use as 'bank notes'.

Write the following missing number calculations on the chalkboard:

$$46 + \square = 62$$

$$37 + \square = 50$$

$$80 - \square = 54$$

$$78 - \square = 59$$

$$92 - \square = 28$$

## Daily practice

**Group task**

Ask the pupils to name the different amounts on Naira notes.

Give each group the pieces of paper and ask them to write N100 on one piece.

Ask, 'How many N50s are the same as N100?' and tell them to write N50 on two pieces of paper.

Repeat with N20, N10 and N5.

Ask the pupils to use their paper money to find different ways to make N100.

Ask groups to share their ideas.

Keep the paper money for the next day.

10  
minutes

## Introduction

### Whole class teaching

Write  
 $38 + \square = 60$   
on the chalkboard.

Demonstrate how to find  
the missing number using  
a number line.

Write 38 at the start and  
count the jumps to get to 60.

Write  
 $62 - \square = 26$

Choose some pupils to  
help you demonstrate how  
to find the missing number.

Count back from 62 and  
count the jumps to get to 26.

25  
minutes

## Main activity

### Pair task

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

Tell them to use number  
lines to help them.

### Whole class teaching

Choose some pairs to  
demonstrate their answers  
on the chalkboard.

Write  
 $\square \times 4 = 24$   
and ask pairs to say  
the missing number.

Remind them to use  
their times tables.

Repeat with  
 $\square \times 3 = 21$  and  
 $\square \div 3 = 8$ .

10  
minutes

## Plenary

### Whole class teaching

Ask the class some mixed  
calculation questions.

# Number sequences

## Learning outcomes

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

Make N100 using different combinations of bank notes.

Find the missing numbers in a sequence.

## Teaching aids

**Before the lesson:**

Have ready the sets of paper money from yesterday.

Write the following number sequences on the chalkboard:

6, 9, 12, 15, ,

12, 17, 22, 27, ,

, 31, 33, 35, 37,

, 101, 201, 301, ,

## Daily practice

**Group task**

Give the pupils the paper money.

Ask the groups to make N100 using different combinations of Naira.

Ask each group to say the notes they used.

Ask the other groups if they used different notes and write the different combinations on the chalkboard.

10  
minutes

## Introduction

### Whole class teaching

Ask the pupils to stand in a circle.

Ask them to count in 2s forwards from 10.

Then count in 3s backwards from 19.

Choose different start numbers to count forwards and backwards in 2s, 3s, 4s, 5s and 10s.

25  
minutes

## Main activity

### Whole class teaching

Explain that knowing counting methods and times tables can help with finding missing numbers in sequences.

Write,  
2, 4, 6, 8, ,   
on the chalkboard.

Ask  
'What are the next numbers in the sequence?'  
'How do you know?'  
(The numbers are going up in 2s and are in the 2 times table.)

Write,  
25, 29, 33, 37, ,

Ask,  
'What are the next numbers in the sequence?'  
'How do you know?'  
(The numbers are going up in 4s but they are not in the 4 times table.)

Ask the pupils to copy and complete the number sequences in their exercise books.

10  
minutes

## Plenary

### Pair task

Ask each pair to say their number sequence and ask another pair to say the next 2 numbers in the sequence.

Ask other pairs to say if they are correct and how they know.

# Rounding

## Learning outcomes

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

Choose the correct bank notes to buy items from a shop.

Round two-digit and three-digit numbers to the nearest Ten or Hundred.

## Teaching aids

### Before the lesson:

Have ready the shopping corner and paper money for each group.

Have ready three small pieces of paper to use as bank notes for each group.

Write on the chalkboard:

'Round these numbers to the nearest 10: 37, 42, 55, 123, 684.'

'Round these numbers to the nearest 100: 77, 361, 439, 360, 710.'

## Daily practice

### Group task

Give the groups the paper money.

Ask them to look at it and say what other bank notes are used today.

Give each group three pieces of paper and tell them to write N200 on one piece, N500 on another and N1,000 on the last one.

Tell each group to choose an item from the shopping corner and find the correct paper money.

Check the amounts are correct.

Repeat with other items.

10  
minutes

## Introduction

### Whole class teaching

Count together in Tens and then in Hundreds.

Explain that sometimes it is useful to round numbers up or down to the nearest Ten.

When rounding to the nearest Ten, the number is rounded up if the Unit is 5 or above, and rounded down if the Unit is less than 5, eg: 36 can be rounded up to 40, 22 can be rounded down to 20.

Write the following on the chalkboard:

37  
24  
65

Ask,  
'What number is the nearest multiple of Ten to 37?' (40).

Repeat with the other numbers.

25  
minutes

## Main activity

### Whole class teaching

Explain that when rounding to the nearest Hundred, the number is rounded up if it is 50 or above, and rounded down if it is less than 50.

For rounding to the nearest Hundred in this way, we look at the number in the Tens column not the Units.

Write the following on the chalkboard:  
140  
129

Ask, 'What number is the nearest multiple of Hundred to 140?' (100).

### Pair task

Ask the pairs to round the numbers written on the chalkboard and write the answers in their exercise books.

Tell them to write the answers like this:  
37 → 40

10  
minutes

## Plenary

### Whole class teaching

Call out a selection of numbers and ask pupils to put up their hands and tell you that number rounded to the nearest Ten or Hundred.



# More missing numbers

## Learning outcomes

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

Give change from N1,000.

Find missing numbers in addition problems.

## Teaching aids

### Before the lesson:

Have ready enough cartons or tins with price labels for each group to have a set.

Write the following problems on the chalkboard:

'Three numbers add up to 70.  
Two of the numbers are 20 and 28.  
What is the third?'

'Three numbers add up to 65.  
Two of the numbers are 20 and 15.  
What is the third?'

## Daily practice

### Group task

Demonstrate giving change from N1,000 when you have bought an item for N750.

Count on from N750 with the notes, ie: give an N50 and say, '800 Naira', give N200 and say, '1,000 Naira'.

Repeat with an item costing N50, giving change from N200.

Give each group a selection of items to set up their own shop.

Tell them to take turns being the shopkeeper and the customer, choosing an item and paying for it.

Tell the shopkeeper to count out any change and other pupils to check the customer gives the correct money or receives the correct change.

10  
minutes

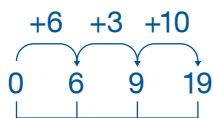
## Introduction

### Whole class teaching

Ask the class to give you 3 numbers that total 19.

Ask them how they could work this out.

Tell the pupils they could use counters or draw 3 jumps on a number line, for example as shown below.



Draw an empty number line and ask pupils to draw on different ways to make 19.

Repeat with 28.

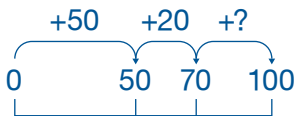
25  
minutes

## Main activity

### Group task

Write on the chalkboard, 'Three numbers add up to 100. Two of the numbers are 50 and 20. What is the third number?'

Choose some pupils to help you find the missing number using a number line.



$50 + 20 = 70$ . Ask, 'How much further do I need to jump to get to 100?'

$70 + 30 = 100$ , so the missing number is 30.

Ask the pupils to solve the problems on the chalkboard in their exercise books.

10  
minutes

## Plenary

### Whole class teaching

Choose a group to say the missing numbers and ask the others if they agree.

Ask other groups to explain their answers on a number line on the chalkboard.



Week  
29  
Calendars

## Words/phrases

## Assessment

**Sunday**  
**Monday**  
**Tuesday**  
**Wednesday**  
**Thursday**  
**Friday**  
**Saturday**  
**January**  
**February**  
**March**  
**April**  
**May**  
**June**  
**July**  
**August**  
**September**  
**October**  
**November**  
**December**  
**days**  
**months**  
**calendar**  
**date**  
**leap year**

**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.**

# Reading a calendar

## Learning outcomes

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

Use multiplication tables to solve division calculations.

Find dates on a calendar.

## Teaching aids

### Before the lesson:

Find a calendar and make charts showing the days of the week and months of the year.

Practise the 'Days of the week' rhyme.

Read Macmillan New Primary Mathematics 3, pages 142, 144 and 145.

## Daily practice

### Whole class teaching

Write ' $\frac{6}{2}$ ' on the chalkboard and choose some pupils to say what it means.

Remind the pupils that knowing the times tables helps us to solve division sums.

Write ' $1 \times 3 =$ ' on the chalkboard.

Ask the pupils to copy it in their exercise books and write the answer.

Tell them to write ' $3 \div 1 =$ ' and write the answer.

Repeat using the 3 times table until you reach  $15 \div 3$ .

Choose some pupils to say their answers and ask the others if they are correct.



10  
minutes

Rhyme

Macmillan  
New Primary  
Mathematics 3

25  
minutes

Macmillan  
New Primary  
Mathematics 3

10  
minutes

## Introduction

### Whole class teaching

Say the 'Days of the week' rhyme.

Ask the pupils to open Macmillan New Primary Mathematics 3, page 142.

Read and discuss questions 1—10.

Tell the pupils to close their books.

Ask different pupils to come and help you write the days of the week in the correct order on the chalkboard.

## Main activity

### Group task

Show the pupils the calendar.

Ask them to help you write the months of the year in the correct order.

Ask:

'In which month were you born?'

'Which is your favourite month?'

'How many months are there in a year?'

'In which month is the new year?'

Look together at the calendars in Macmillan New Primary Mathematics 3, page 144 and discuss.

Ask the pupils how many days there are in November and December.

Explain how to find and read the date.

Ask,

'In which month was the 9th on a Wednesday?'

'On which day was the 5th of November?'

Ask the pupils to copy and complete Macmillan New Primary Mathematics 3, page 145, question 1.

Go round and ask each group to say some of their answers to you.

If they are not correct, explain how to use the calendar again.

## Plenary

### Whole class teaching

Show the pupils the days of the week and months of the year charts.

Ask them to touch the first month, the fifth and the last.

Display the charts in the classroom for the next day.

# Birthdays

## Learning outcomes

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

Use multiplication tables to solve division calculations.

Order the months of the year.

## Teaching aids

### Before the lesson:

Write the months of the year on the chalkboard to make a birthday chart.

Write each month of the year on a flash card. Make a set for each group.

## Daily practice

### Whole class teaching

Ask pupils to say different words to describe the sign ' $\div$ ' and write their answers on the chalkboard.

Write ' $6 \times 3 =$ ' on the chalkboard. Ask the pupils to copy it in their exercise books and write the answer.

Tell them to write ' $6 \div 3 =$ ' and write the answer.

Repeat using the 3 times table until you reach  $30 \div 3$ .

Choose some pupils to say their answers and ask the others if they are correct.

10  
minutes

Rhyme

25  
minutes

10  
minutes

## Introduction

### Whole class teaching

Say the 'Days of the week' rhyme.

Ask,  
'When is your birthday?'

Start with January and ask pupils to come out and line up according to their birth month.

Tell pupils who share the same birth month to form a group and line up according to the date of their birthday.

## Main activity

### Whole class teaching

Tell the pupils to look at the birthday chart on the chalkboard.

Ask them to go in order (start with January) and write in their name and the date, month and year of their birth.

Look at the calendar and show what day some of their birthdays are on this year.

Invite the pupils to come and find their birthday in the calendar.

### Group task

Shuffle the month of the year flash cards and give a set to each group.

Ask them to arrange the cards in the correct order.

Ask each group to read their cards out and ask the other groups if they are correct.

## Plenary

### Whole class teaching

Ask individual pupils how many months there are in a year, how many days there are in a week, how many weeks there are in a year and how many days there are in a year.

Write the correct answers on the charts in the classroom.



# Days of the week

## Learning outcomes

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

Use a number line to solve division sums.

Order the days of the week and the months of the year.

## Teaching aids

### Before the lesson:

Learn the 'Seven days' song.

Have ready the month flash cards.

Have ready a chart showing the days of the week and a calendar.

## Daily practice

### Pair task

Remind the pupils they can use a number line to solve division sums, especially with larger numbers.

Write ' $45 \div 3 =$ ' on the chalkboard and ask pupils to help you use a number line to solve it.

Start from 0 and move forwards in 3s.

Ask,  
'How many jumps of 3 make 45?'  
The number of jumps is 15,  
so  $45 \div 3 = 15$ .

Write these sums on the chalkboard:

$$54 \div 9 =$$

$$42 \div 8 =$$

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

10  
minutes

Rhyme

Song

25  
minutes

10  
minutes

Rhyme

Song

## Introduction

### Whole class teaching

Say the 'Days of the week' rhyme and sing the 'Seven days' song.

Ask,

'Which is the first day of school every week?'

'Which is the last day of school every week?'

'On which days do you not come to school?'

## Main activity

### Group task

Ask each group to discuss and then tell the class what they do on different days.

Choose some groups to say how many months there are in a year.

Give out the month flash cards and ask the pupils to arrange them in the correct order.

Ask each group to say the months in order.

### Whole class teaching

Write on the chalkboard:

Today is \_\_\_\_ .

Yesterday was \_\_\_\_ .

Tomorrow is \_\_\_\_ .

This month is \_\_\_\_ .

Next month it will be \_\_\_\_ .

There are  days in a week.

There are  months in a year.

Discuss what the missing words and numbers are.

Tell the pupils to copy and complete the sentences in their exercise books.

Remind them to use the charts to help them.

## Plenary

### Whole class teaching

Say the 'Days of the week' rhyme and sing the 'Seven days' song.

Lesson  
title

15  
minutes

Macmillan  
New Primary  
Mathematics 3

**Numeracy  
lesson plans**  
Primary 3

**Term 3**  
Assessment for  
learning

**Week 29**  
Calendars  
Day 4

# Leap years

## Learning outcomes

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

Solve division word problems.

Explain the meaning of a leap year.

## Teaching aids

### Before the lesson:

Read Macmillan New Primary Mathematics 3, pages 85 (questions 11—15) and 142—143 (questions 11—22).

## Daily practice

### Pair task

Ask the pupils to look at Macmillan New Primary Mathematics 3, page 85, questions 11—15.

Ask the pupils what kind of calculation is needed (division).

Remind them they can use a number line or times tables to solve division problems.

Ask them to complete questions 11—15 in their exercise books.

Ask some pairs to come and explain their answers on the chalkboard.

10 minutes | Macmillan  
New Primary  
Mathematics 3

25 minutes | Macmillan  
New Primary  
Mathematics 3

10 minutes

## Introduction

### Pair task

Ask the pupils to look at Macmillan New Primary Mathematics 3, pages 142—143, questions 11—22.

Read each question with the pupils and ask them to discuss the answer with their partner.

Choose a pair to say the answer and ask the other pairs if they are correct.

Repeat until all the questions are answered, choosing different pairs to answer each time.

## Main activity

### Pair task

Look together at the chart in Macmillan New Primary Mathematics 3, page 141.

Ask, 'Which months have only 31 days?', 'Which months have only 30 days?', 'Which month can have 28 or 29 days?'

Ask if anyone can tell you what sum they would do to work out how many days there are in one year.

Give them 5 minutes to work in pairs to add up the number of days in total.

Ask each pair to call out their total and see if anyone is correct.

Explain to the class why February has 28 or 29 days.

Explain that the total number of days in a year is 365 and one quarter, ie: the time it takes for the Earth to travel once round the Sun.

A quarter of a day cannot be put in the calendar so the days in a year become 365 days and 366 days every fourth year.

A year with 366 days is called a 'leap year'. In leap years February has 29 days. There are 28 days in February for any year that is not a leap year.

## Plenary

### Whole class teaching

Choose some pairs to say some other years that are leap years.

Write their answers on the chalkboard, eg: 2008, 2012.

Ask them what they notice about these dates, (they are every four years and the last two digits can be divided by four).

# Writing dates

## Learning outcomes

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

Divide whole numbers.

Write dates using numbers.

## Teaching aids

### Before the lesson:

Practise the 'Months of the year' rhyme.

Have ready calendars that show the important dates in Nigeria for each group of pupils.

## Daily practice

### Pair task

Write the following sums on the chalkboard:

$$42 \div 6 =$$

$$12 \div 3 =$$

$$56 \div 7 =$$

$$10 \div 5 =$$

As you write the sums, ask the pupils to say them, eg: '42 divided by 6 equals'.

Ask the pupils how else they could say them, eg: 'How many groups of 6 are in 42?', 'What is 42 shared among 6?'

Tell the pairs to complete the sums in their exercise books using their times tables, a number line or a multiplication table.

Choose some pairs to say their answers and ask the other pairs if they are correct.

10 minutes | Rhyme

## Introduction

### Whole class teaching

Say the 'Months of the year' rhyme and do the actions with the class.

Ask pupils to help you write a list of the months of the year in order on the chalkboard and number them 1—12.

Ask the pupils to say which is the first month of the year, which is the fourth and which is the sixth.

25 minutes

## Main activity

### Whole class teaching

Explain that we can write dates using words or numbers.

Tell the pupils that the fifth day of June 2014 can be written as 5/6/2014.

Explain that the 5 is the day and the 6 is the month because June is the sixth month of the year.

Choose someone to write today's date in numbers on the chalkboard.

### Group task

Discuss with the class some important dates in Nigeria.

Give each group a calendar.

Ask them to find the important dates and say what day they are on.

If you have calendars from different years, the answers will be different.

Ask them to write some of the important dates in number form in their exercise books, eg: new year's day 1/1/2014.

10 minutes | Rhyme

## Plenary

### Whole class teaching

Ask a pupil from each group to write one of their number form dates on the chalkboard.

Ask the other groups to say the date in word form.

Say the 'Months of the year' rhyme and do the actions with the class.

A young boy with dark skin and hair is looking intently at a piece of lined paper. The paper has some handwritten numbers and symbols, including '3', '2', 'X', 'H', '7', '2', '7', '2', '5', '7', and 'M'. The background is a solid blue color.

Week  
30  
Properties of  
three-dimensional  
shapes



## Words/phrases

times table  
multiples  
cube  
cuboid  
cylinder  
cone  
sphere  
flat face  
curved face  
edge  
corner  
net  
three-dimensional (3D) shape  
properties of 3D shapes  
two-dimensional (2D) shape

## Assessment

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



# Identifying three-dimensional shapes

## Learning outcomes

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

Recall answers in the 4 times table quickly.

Identify three-dimensional shapes.

## Teaching aids

### Before the lesson:

Remind yourself how to play 'Multiplication bingo'.

Display the multiplication table in the classroom.

Find examples of three-dimensional shapes (a cube, a cuboid, a cylinder and a sphere), eg: boxes, tins, balls.

## Daily practice

### Whole class teaching

Remind the pupils that it is important to know the times tables really well so they can calculate quickly.

Ask them to say the 4 times table with you.

Tell the pupils they are going to play 'Multiplication bingo'.

Ask them to draw the grid in their exercise books and put in some multiples (answers) from the 4 times table.

Tell them they can look at the multiplication table if they need help.

Play 'Multiplication bingo'.

10  
minutes

## Introduction

### Whole class teaching

Show the pupils the shapes.

Ask if anyone can remember what we call solid shapes, ie: three-dimensional.

Write 'cube', 'cuboid', 'cylinder' and 'sphere' on the chalkboard.

Ask the pupils to read the words with you.

Choose some pupils to come and touch a shape as you say their names

Hold up each shape and point to its **faces**.

Explain that some have flat faces and others curved faces or both.

25  
minutes

## Main activity

### Group task

Write on the chalkboard, 'This shape is a \_\_\_\_ . It has  flat faces and  curved faces.'

Give each group a different shape.

Ask them to look at it carefully.

Tell them to complete the sentences on the chalkboard for their shape.

Tell them to write in the name of the shape.

Swap the shapes around several times.

10  
minutes

## Plenary

### Whole class teaching

Ask each group to say what they have learned about one of the shapes.

# Properties of shapes

## Learning outcomes

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

Recall answers in the 4 and 6 times tables quickly.

Identify the properties of cubes, cuboids, cylinders, spheres and cones.

## Teaching aids

### Before the lesson:

Have ready the three-dimensional shapes from yesterday and paper to label each one.

Read Macmillan New Primary Mathematics 3, pages 147—149.

## Daily practice

### Whole class teaching

Ask the pupils to say the 4 times table with you.

Ask them to say the 6 times table with you.

Play 'Multiplication bingo' using the 6 times table.

## Introduction

### Whole class teaching

Ask, 'What do we call solid shapes?'

Write '3D' on the chalkboard and explain this means three-dimensional.

Show the pupils the shapes and choose pupils to say what each one is called.

As they say each name, write it on a label and place it next to the shape.

Remind the pupils that yesterday they looked at the faces on the shapes.

## Main activity

### Group task

Ask the pupils to open Macmillan New Primary Mathematics 3, page 148 and look at the pictures.

Tell them to look at the cone and explain it has one curved face and one flat face, one edge and one point.

Read and explain the questions in Macmillan New Primary Mathematics 3, page 149, Exercise 2.

Ask the groups to discuss and answer the questions in their exercise books.

## Plenary

### Whole class teaching

Ask each group to say one of the answers.

Ask other groups if they agree. If not, ask them to explain why.

# Nets of 3D shapes

## Learning outcomes

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

Recall answers in the 4 times table quickly.

Describe the properties of a cube and a cuboid.

## Teaching aids

### Before the lesson:

Remind yourself how to play 'Find a friend' and prepare flash cards for the 4 times table.

Carefully copy the cube and cuboid nets on to pieces of paper and cut out one of each for each group.

Have ready glue or tape.

## Daily practice

### Whole class teaching

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

Give out the flash cards and play 'Find a friend'.

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

10  
minutes

Macmillan  
New Primary  
Mathematics 3

25  
minutes

10  
minutes

## Introduction

### Whole class teaching

Tell the pupils to look at the pictures in Macmillan New Primary Mathematics 3, page 148.

Ask if they can see any two-dimensional (2D) shapes on the 3D shapes.

Remind the pupils that 2D shapes are flat shapes.

Hold up the cylinder and point to the circles.

Ask someone to point to the faces on a cube and say what shape they can see.

Repeat with other 3D shapes.

## Main activity

### Group task

Show the pupils the cube net.

Explain that a **net** is what the outside of a 3D shape looks like when it is opened out.

Fold the net carefully along the lines to make a cube.

Give each group a cube net and a cuboid net.

Ask the groups to look at the nets carefully and say how they are different.

Ask them to fold the nets carefully and use glue or tape to make a 3D shape.

Ask them to count the edges, the corners and the faces.

Write on the chalkboard:

A cube has  faces,  
 edges and  corners.

A cuboid has   
faces,  edges and  
 corners'.

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

## Plenary

### Whole class teaching

Choose a group to read out their sentences and ask the other groups if they agree.

Ask each group to explain how the shapes are different. (A cube has square faces that are all equal. A cuboid has four rectangular faces that are equal and two square faces that are equal.)

Hang the shapes around the classroom.

# The triangular prism

## Learning outcomes

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

Order the 6 times table quickly.

Describe the properties of  
a triangular prism.

## Teaching aids

### Before the lesson:

Read the instructions for the  
'Order the times tables' game in  
the introduction and prepare flash  
cards for the 6 times table.

Have ready straws, matchsticks,  
corn stalks or wire and some  
masking tape.

Copy and cut out the triangular  
prism net from the introduction  
for each group.

## Daily practice

### Whole class teaching

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

Take them outside and play  
'Order the times tables'.

Ask them to write out the 6 times  
table in their exercise books.

10  
minutes

## Introduction

### Whole class teaching

Demonstrate how to make a cube using straws or other materials.

Ask the pupils to help you cut the straw.

Ask, 'How many pieces of straw do I need?', 'What size must the straws be?'

Choose some pupils to help you stick the straws together.

Ask, 'How many corners do I need?'

Ask the class how you could change the cube into a cuboid, ie: put in some different sized straws.

25  
minutes

## Main activity

### Group task

Tell the pupils they are going to look at a new shape today.

Write 'triangular prism' on the chalkboard and say it slowly.

Give each group a net and ask them to look at it carefully.

Ask the pupils to say the 2D shapes they can see.

Explain that a triangular prism is always made of 2 triangles. It can have 3 rectangles or squares.

Ask the groups to fold their net carefully.

Write on the chalkboard, 'A triangular prism has  faces,  corners and  edges'.

Ask the groups to discuss what the missing numbers are.

Tell them to complete the sentences in their exercise books.

10  
minutes

## Plenary

### Whole class teaching

Discuss the properties of the triangular prism.

Ask, 'How many faces has it got?'

'How many corners does it have?'

'What 2D shapes can you see?'



# Models of 3D shapes

## Learning outcomes

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

Recall the 3, 4, 5 and 6 times tables quickly.

Describe the properties of common 3D shapes.

## Teaching aids

### Before the lesson:

Read the instructions for 'Buzz' in the introduction.

Read the instructions for 'What is in the bag?' and find some 2D and 3D shapes.

Copy the 'Properties of 3D shapes' grid in the introduction on to a large piece of paper for each group.

## Daily practice

### Group task

Play 'Buzz' to practise the 3, 4, 5 and 6 times tables.

Ask groups in turn a question from these times tables. Give them 5 seconds to answer.

If they cannot answer or are incorrect, ask another group.

Give them a point for each correct answer.

Repeat until you have asked about 20 questions.

The group with the most points is the winner.

10  
minutes

Game

25  
minutes

10  
minutes

## Introduction

### Whole class teaching

Choose some pupils to name some of the 3D shapes they have been learning about this week.

Ask the pupils to describe some of the properties of a triangular prism, a cylinder and a cuboid.

Choose other pupils and ask them to say the names of some 2D shapes.

Play 'What is in the bag?' with the class.

## Main activity

### Group task

Give each group a 'Properties of 3D shapes' grid.

Ask them to find some 3D shapes in the classroom.

Ask them to look at each shape carefully and discuss its properties.

Tell the pupils to write the name of the shape in the grid.

Show them where to write how many faces, edges and corners it has.

Ask them to write down any 2D shapes they can see in the shape.

## Plenary

### Whole class teaching

Ask each group to describe one of their shapes.

Ask them to help you write the names of all the 3D shapes they have learned about this week.

## Credits

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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.

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

## Special thanks go to:

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