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Type of lesson plans/ Grade

Term/ Learning theme

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

6-10

Numeracy lesson plans Primary 3 Organising the classroom for effective learning

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

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

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

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

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

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

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



Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Introduction

Organising the classroom for effective learning

Weeks

6—10



Organising the classroom for effective learning

Your classroom is a flexible space. You can change it to suit the learning activities.

Pupils take part in many different activities during each week, eg: games, role plays, circle discussions, group tasks, copying from the chalkboard, using teaching aids, working with a partner, working alone, etc. All these activities need different ways of organising your classroom, eg:

Tables arranged around the edge of the room so there is a space in the middle for games, songs or role play. Pupils can see each other and this helps communication.

Tables arranged in rows so that the pupils can see the chalkboard. This is useful when they need to see something you have written or drawn on the chalkboard.

Tables arranged in groups.
This helps pupils to talk together and share ideas. They can see each other clearly and can easily work with one set of number cards or one sheet of paper to produce a joint end product.

Each time you start the day you should think about the activities you need to do and decide if your classroom needs to be arranged differently. Work with the other teachers in your school and cluster, your head teacher and SSO to discuss different ways of arranging your classroom for learning.

Group and pair work

Group and pair work is the basis of a learner-centred classroom, they allow pupils to work together:

To discuss, solve problems or to play learning games.

To find their own way in their learning.

The main benefits of group and pair work are:

More pupils can be active at one time. Pupils can talk and listen to each other, or work on a problem together.

The teacher can walk around the room to monitor what groups and individuals are doing, and can stop with each group to help them with their task. Spending more time with the pupils helps teachers better understand what individual pupils know and can do.

Group work is also one of the best ways of teaching social skills to pupils. While working in groups, pupils are learning a variety of skills including:

Co-operation.

Taking turns.

Listening to others.

Sharing.

Working harmoniously with others.

Solving problems.

The development of these life skills is a major reason why group and pair work is undertaken in most modern classrooms.



Numeracy lesson plans Primary 3

Term 1
Organising the classroom for effective learning

Weeks

Introduction Essential low-cost or free teaching aids

Counters

Ask the pupils help you collect together as many bottle tops, small sticks and small stones as possible. Put each set of counters into a jar to keep in the classroom so they are available when the pupils need them.



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Halves and quarters

Cut out two identical circles, one plain and one coloured.

Draw a line from the centre of each to the edge of the circle.

Cut along this line on both circles.

Now slide one circle on top of the other through the slits.

You are now able to rotate the circles on top of each other to show:

$$\frac{1}{2} \frac{1}{4} \frac{2}{4}$$

The pupils could make their own.

Equivalent fraction game

Make a set of cards to play a matching game with the pupils. Write one of the following fractions on each card:

 $\frac{1}{2} \frac{2}{4} \frac{1}{3} \frac{2}{6} \frac{4}{6} \frac{4}{4} \frac{2}{3} \frac{3}{3}$

Ask the pupils to place the cards face down on the table and turn two cards over. If the fractions are equivalent they can take the pair. If not, they turn them over again and the next person tries to find a pair.

Use this game with pupils who finish their work quickly during and after Week 7.

Building a shop

Collect about 20 items and put them on a table in the corner of your classroom.

Label them with different prices, according to what the pupils are learning.

Encourage pupils to draw pictures of things they can find in the shop, along with their price, and stick or hang these on the wall around the 'shop'.

Make a label saying 'shop' and display it so the pupils can see.

Have a box with some Nigerian 'money' made out of cardboard. Encourage the pupils to go shopping, buying items and handing over the correct money.

This will develop their language skills as well as their understanding of money.



Term 1

Organising the classroom for effective learning

Weeks

Introduction Multiplication

Practise multiplication tables

It is very important that pupils know their multiplication tables from 0—10. If you ask them a random multiplication question they should be able to answer it instantly. In order for them to do this you will need to play lots of games with them.

Asking questions

Spend 5 minutes at the start or end of lessons asking pupils random multiplication questions. Ask them to raise their hand when they know the answer.

Quick multiplication

Multiplying by 2 and 4

To multiply by 2 double the number, eg: $4 \rightarrow 8$

If you know how to double a number, multiplying by 4 is easy.

Double a number and then double it again, eg: $4 \rightarrow 8 \rightarrow 16$

When you multiply by 2 or 4 the answer will always be an even number.

Multiplying by 9

Use your fingers to answer the question 9 x 3 =

Hold both hands in front of you with your palms facing you.

Bend down the third finger, counting from your thumb, on your left hand.

You now have 2 fingers to the left of the bent finger and 7 to the right of the bent finger.

Put the two numbers together and it will give you 27. $9 \times 3 = 27$

Try this technique to multiply another number by 9.

Multiplication snap

Use a quick way to answer the question 3 x 11 =

Multiplying by 11

Write down the number that is being multiplied by 11.
Then write the same number again next to it.

 $3 \Rightarrow 33$ $3 \times 11 = 33$

This will work for any number up to 10, eg: $4 \times 11 = 44$

Make two sets of cards –

one set with multiplication sums on them and one set with the answers.

Give one pupil the sum cards and the other the answer cards.

Ask each pupil to put their top card down on the table in front of them. If a question and an answer match, the pupils say 'snap' and put their hand on their pile of cards.

The first pupil to put their hand down collects all the cards on the table.

The game continues until one pupil has all the cards and the other has none.

Circle multiplication

Sit the pupils in a circle and ask the first pupil to point to another pupil in the circle and ask them a multiplication question, eg:

'What does 3 x 6 equal?'

The person they have pointed to answers the question and then uses one of the numbers from the previous question to ask the next pupil, eg: 'What does 6 x 5 equal?'

This continues until all the pupils in the circle have had a turn.









Lesson

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 6 **Fractions** Day 1

title

Fractions of shapes

Learning outcomes

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

Count in Hundreds.

Find fractions of a concrete object.

Teaching aids

Before the lesson:

Collect plenty of ground nuts, kola nuts and sugar cane pieces.

Have ready sheets of newspaper, one for each pupil.

Read Macmillan New Primary Mathematics 3, pages 12—14.

Daily practice

minutes | New Primary

Whole class teaching

Macmillan

Mathematics 3

Ask the pupils to count in Tens to 100.

Ask them to count in Hundreds to 1,000, using Macmillan New Primary Mathematics 3, page 2 to help them.

Ask the class the following questions, using the table to help them if they want:

'Which number is 100 more than 400?'

'Which number is 100 more than 600?'







25 minutes

Macmillan
New Primary
Mathematics 3

10 minutes

Introduction

Main activity

Whole class teaching

Give each pupil a sheet of newspaper.

Ask them to fold it into four equal parts.

Ask them to shade one of the segments.

Write the fraction on the chalkboard: 1

Now ask them to shade another quarter. Ask the class how you would write that fraction: 2

Repeat until the whole shape is shaded and the fraction written is $\frac{4}{4}$

Group task

Give each group a selection of the materials prepared above.

Look together at the fraction example in Macmillan New Primary Mathematics 3, page 13.

Ask the pupils to use the objects you brought to demonstrate the fractions as you read.

Individual task

Ask the pupils to look at Macmillan New Primary Mathematics 3, pages 13—14, Exercise A.

Ask them to copy the examples and shade the correct fraction.

Tell them to write the fraction next to the shaded shape.

Plenary

Whole class teaching

Ask the pupils to tell you anything they can remember about fractions.





Lesson title

Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Week 6
Fractions
Day 2

Fractions of shapes

Learning outcomes

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

Add on in Hundreds.

Find a third of a shape.

Teaching aids

Before the lesson:

Draw a triangle on the chalkboard.

Have a piece of newspaper ready for each pair.

Daily practice

minutes

Whole class teaching

Draw a number line with the pupils which shows jumps of 100, up to 1,000, as shown opposite below.

Ask them about 10 questions to answer using the number line, eg:

'How many is 100 add 300?'

'What do you get if you add 500 and 200?'



25 minutes 10 minutes

Introduction

Main activity

Plenary

Whole class teaching

Divide the triangle into three equal parts.

Ask the pupils how many parts you have divided the triangle into.

Shade one part of the triangle and ask pupils to tell you what fraction of the triangle they have shaded.

Explain that one part out of three has been shaded, which can be written as the fraction 1

Whole class teaching

Ask the class to draw a triangle in their books and divide it into three equal parts.

Ask them to shade one of the parts and write the fraction.

Ask them to draw another triangle and split it into three parts, this time shading two parts and writing the fraction.

Repeat by shading all three parts and ask them what 3 is equal to.

3

Give each pair a piece of newspaper and ask them to fold it into three equal parts.

Ask them to number each section, from 1 to 3.

Ask: 'What fraction is each section?'

Explain to the class that each section is 1

3

Whole class teaching

Hold up a piece of newspaper, fold it into four, and ask the class:

'What fraction is each section?'

'What fraction is two sections?'

'What fraction is three sections?'

'What fraction is four sections?'

Repeat, but this time fold the newspaper into six.

Daily practice number line







Lesson title

Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Week 6
Fractions
Day 3

Fractions of groups By the er

Learning outcomes

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

Add on in Hundreds, from different starting points.

Find fractions of amounts.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, page 14, Exercise B.

Collect enough counters for each pupil to have eight.

Daily practice

minutes

Whole class teaching

Ask the class to count in Hundreds from different starting points, drawing a number line to help them, as shown opposite below left.

If they find this difficult, start with 26 and add 10 sets of Ten to help them understand, as shown opposite below right.



25 minutes

Macmillan
New Primary
Mathematics 3

10 minutes

Introduction

Whole class teaching

Give each pupil eight counters and ask them to divide them into half, or two groups.

Ask the pupils: 'How many counters in each group?'

Explain that what they have just done can be written as $\frac{1}{2}$ of 8 = 4

Now ask them to divide their eight counters into quarters, or four groups.

Ask how many in each group.

Write:
$$\frac{1}{4}$$
 of $8 = 2$

Main activity

Group task

Ask the pupils to look at Macmillan New Primary Mathematics 3, page 14, Exercise B, questions 1–4.

Read the questions through together.

Ask the pupils to use their counters to divide the numbers into the correct equal parts.

Ask them to write the sum and answer in their exercise books.

Walk around each of the groups to check they understand.

Plenary

Whole class teaching

Select 10 pupils to come to the front of the class.

Ask them to divide into half.

Count how many pupils are in one half and write on the chalkboard:

1 of 10 = 5

Select 12 different pupils to come to the front of the class.

Ask them to divide into quarters.

Count how many pupils are in one quarter and write on the chalkboard: $\frac{1}{4}$ of 12 = 3

Daily practice number line

Daily practice number line





Lesson title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 6 **Fractions** Day 4

amounts

Fractions of Learning outcomes

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

Add three-digit numbers together.

Find fractions of amounts.

Teaching aids

Before the lesson:

Prepare lots of different counters for the pupils to use.

Read Macmillan New Primary Mathematics 3, page 14, Exercise B.

minutes

Daily practice

Whole class teaching

Ask the pupils to remind you how to add the following numbers together: 45 + 53

Explain that they can use the same system to add together Hundreds, Tens and Units.

Show them the following example on the chalkboard: 123 + 526 =

Tell them to expand the smallest number first and then use a number line to add the two numbers together, ie: 526 + 100 + 20 + 3



Introduction

Main activity

Plenary

Whole class teaching

Give each pupil 12 counting objects and ask them to divide them into quarters, or four groups.

Ask how many counters they have in each group.

Write:
$$\frac{1}{4}$$
 of 12 = 3

Give each pupil 20 counting objects and ask them to divide them into quarters or four groups.

Ask how many counters in each group.

Write:
$$\frac{1}{4}$$
 of 20 = 5

Group task

Ask the pupils to look at Macmillan New Primary Mathematics 3, page 14, Exercise B, questions 5—9.

Ask the pupils to use their counters to help them find fractions of amounts.

Walk around each of the groups to check they understand.

Whole class teaching

Select nine pupils to come to the front of the class.

Ask them to divide into thirds.

Count how many pupils are in one third and write on the chalkboard:

$$\frac{1}{3}$$
 of 9 = 3

Select eight different pupils to come to the front of the class.

Ask them to divide into quarters.

Count how many pupils are in one quarter and write on the chalkboard:

$$\frac{1}{4}$$
 of 8 = 2



Lesson

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 6 **Fractions** Day 5

title

Fractions of amounts

Learning outcomes

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

Add three-digit numbers together.

Find fractions of amounts.

Teaching aids

Before the lesson:

Have ready lots of counters for the pupils to use.

Read Macmillan New Primary Mathematics 3, page 14, Exercise B, questions 10—14.

Write these questions on the chalkboard:

- 1. Divide 12 eggs into 2 equal parts.
- 2. Divide 12 eggs into 3 equal parts.
- 3. Divide 30 kernels into 5 equal parts.

minutes

Daily practice

Whole class teaching

Ask the pupils to add two numbers together using a number line, eg:

Ask them to solve the following in their exercise books:

$$324 + 145 =$$
 $632 + 257 =$
 $423 + 455 =$

Ask pupils to exchange their books and mark each other's work.

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25 minutes Macmillan New Primary Mathematics 3 10 minutes

Introduction

Whole class teaching

Look together at the questions on the chalkboard.

Give the pupils counters to use and work though questions 1—3 as a whole class.

Ask the pupils questions to check their understanding, eg:

'How many equal groups will you split the counters into if you are finding half?'

'How many equal groups will you split the counters into if you are finding thirds?'

Main activity

Group task

Ask pupils to work together in groups to complete Macmillan New Primary Mathematics 3, page 14, Exercise B, questions 10—14.

They must use counters to help them.

Plenary

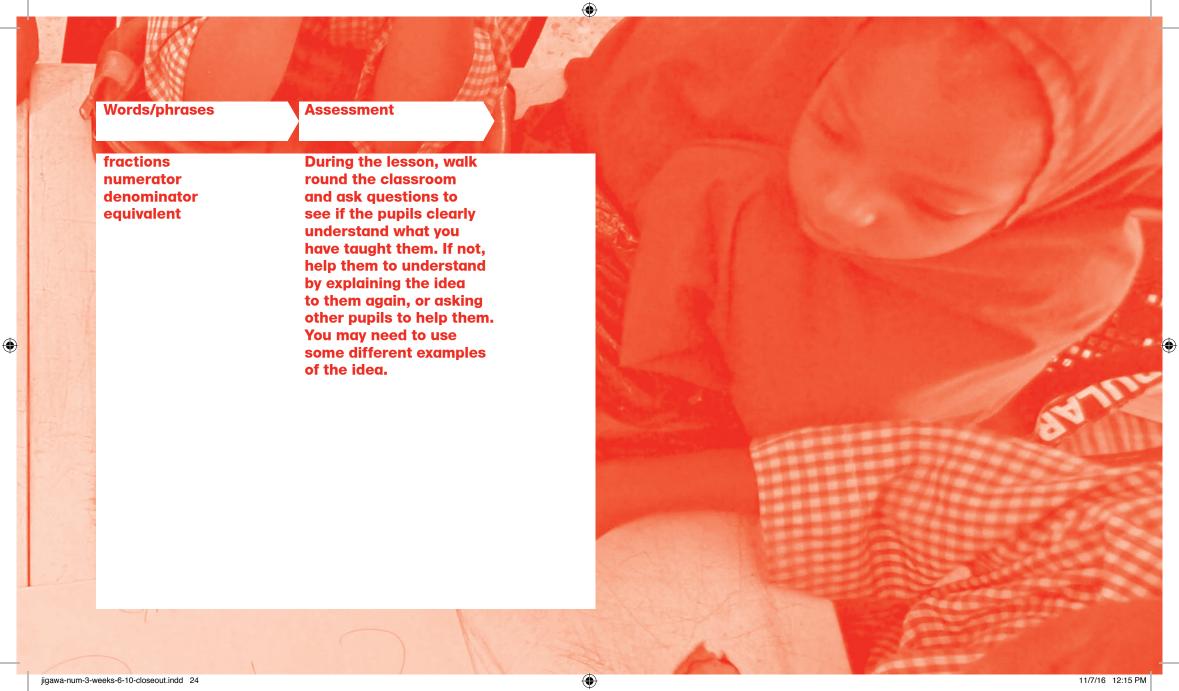
Whole class teaching

Mark the work together as a whole class.

If you are given any wrong answers, ask pupils to use counters as you demonstrate the correct answer.









Lesson

Numerator

and denominator

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 7 **Writing fractions** Day 1

title

Learning outcomes

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

Practise the 3 and 4 times tables.

Find the numerator and denominator of a fraction.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, pages 18—20 and make sure you understand fractions.

Daily practice

minutes

Whole class teaching

Game

Ask the pupils to stand facing their partner and tell them they are going to clap the 3 times table.

Teach them to follow this clapping pattern:

Tap your hands once on your thighs (whisper the number 1)

Tap your hands once on your stomach (whisper the number 2)

Clap hands together with a partner (say the number 3).

Continue to the number 36.

Explain that every time they clap hands with their partner they will be saying a number from the 3 times table.

Repeat for the four times table, with a tap on the shoulders for the extra number.



Introduction

Whole class teaching

Ask the pupils:
"What is a fraction?"
(Part of a whole.)

Ask pupils to draw a rectangle in their books and divide it into four equal parts.

Ask them to count the number of parts. Tell them that the number of parts (4) is referred to as the denominator. This number is placed at the bottom of the fraction.

Ask pupils to colour in one of the four parts. The shaded part is called the numerator. This number is written at the top of the fraction, eg: $\frac{1}{4}$

Repeat with another shape.

Main activity

Individual task

Ask pupils to draw a rectangle in their books,

Ask them to choose two numbers less than 5.

Tell them to write down the largest number they chose as the denominator.

Ask them to divide their rectangle into that number of parts.

Tell pupils to write down the smallest number and shade that number of parts.

Ask them to look at how many parts they have shaded and write that number on the shape. This number is the numerator. Ask them to write a fraction to describe their work, eg: if they have divided the

rectangle into four equal parts and shaded two parts they have shaded

$$\frac{2}{4}$$
 (or $\frac{1}{2}$)

of the rectangle. In this case, 2 is the numerator and 4 the denominator.

Walk around the class and help pupils to label their fractions correctly.

Ask the pupils to repeat with different numbers.

Plenary

Whole class teaching

Ask five pupils to share what they have learned with the rest of the class





Lesson title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 7 **Writing fractions** Day 2

fractions

Learning outcomes Equivalent

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

Practise the 3, 4 and 5 times tables.

Identify equivalent fractions.

Teaching aids

Before the lesson:

Write the following on the chalkboard:

Circle the numerators in these fractions:

 $\frac{3}{5} \frac{3}{4} \frac{1}{2} \frac{2}{3} \frac{2}{4}$

Collect plenty of counters for each pupil to have about six.

Daily practice

minutes

Game

Whole class teaching

Repeat the clapping game from yesterday with the 3 and 4 times table.

Make up a pattern for clapping the 5 times table.







25 minutes 10 minutes

Introduction

Main activity

Plenary

Whole class teaching

Draw and label on the chalkboard:

 $\frac{4}{5}$ = numerator $\frac{4}{5}$ = denominator

Tell them to ask questions if they don't understand.

Pair task

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

Whole class teaching

Go through the answers with the pupils and ask them to check that they are correct.





Lesson title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 7 **Writing fractions** Day 3

Equivalent

fractions

Learning outcomes

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

Remember their multiplication tables.

Use shaded shapes to write equivalent fractions.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, page 16, Exercise F and pages 18—19.

Have ready 0—9 number cards, one set for each pair of pupils.

Daily practice

Pair task

minutes

Give each pair a set of 0—9 number cards.

Ask them to place the cards face down on the table.

The first person turns over two cards and multiplies them together, saying the answer aloud. Their partner checks the answer.

Tell pupils to replace the cards and continue taking turns to turn over two cards and multiply the two numbers.





25 minutes 10 minutes

Introduction

Main activity

Plenary

Whole class teaching

Ask pupils to draw the rectangles shown below in their exercise books.

Ask them to tell you what the fractions of the shaded areas are.

Explain that they are equivalent fractions as they have the same amount of the whole shape shaded.

Whole class teaching

Ask pupils to draw a circle in their exercise books and divide it into quarters.

Ask them to shade a half using one type of shading.

Ask them to shade two quarters using another type of shading.

Ask them what they have

found out, ie: $\frac{2}{4}$ is the same as $\frac{1}{2}$

Explain that it can also be written as $\frac{2}{4} = \frac{1}{2}$

Write further examples of equivalent fractions on the chalkboard:

$$\frac{1}{2}$$
 and $\frac{4}{8}$

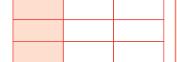
$$\frac{1}{4}$$
 and $\frac{3}{12}$

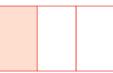
Ask pupils to draw the shapes in their exercise books.

Whole class teaching

Ask pupils to swap books and check each other's work.









Equivalent

fractions

Lesson

title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 7 **Writing fractions** Day 4

Learning outcomes

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

Quickly recall multiplication sums.

Find equivalent fractions.

Teaching aids

Before the lesson:

Have ready or make a ball to throw.

Collect enough newspapers for each group to have one.

Write on the chalkboard:

Which is greater,

$$\frac{1}{2}$$
 or $\frac{1}{4}$, $\frac{2}{3}$ or $\frac{3}{4}$

Which is less,

$$\frac{1}{2}$$
 or $\frac{1}{3}$, $\frac{1}{3}$ or $\frac{1}{4}$

minutes

Daily practice

Whole class teaching

Ask the pupils to stand in a circle while you stand in the middle with the ball.

Throw the ball to a pupil and at the same time ask a multiplication sum, eg: 2 x 8.

The pupil should answer quickly and throw the ball back to you.

Repeat, making sure all pupils have a turn.

If a pupil doesn't know the answer, they may throw the ball to a friend to answer for them.

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10 minutes

25 minutes 10 minutes

Introduction

Main activity

Whole class teaching

Write the sign > on the chalkboard and ask the pupils what it means (greater than).

Write the sign < and ask the pupils what it means (less than).

Write the following pairs of numbers on the chalkboard and ask pupils to put the correct sign in between them, eg:

3 < 7

12 57

45

Pair task

Give each pair two rectangles cut out of newspaper.

Tell the pairs to fold one rectangle into half and the other into quarters.

Ask them to shade one section of each rectangle and write the fraction for each rectangle in their

Ask them to look at their shapes and decide which fraction takes up the most sections.

exercise books.

Tell them to describe one of the fractions as areater than the other.

Tell them to write this in their books using the > sign between the two fractions.

Group task

Give each group a newspaper and ask them to use newspaper shapes to help them complete the questions on the chalkboard.

Plenary

Whole class teaching

Mark the answers together as a class.







Lesson title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 7 **Writing fractions** Day 5

Learning outcomes Equivalent fractions

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

Remember their multiplication tables.

Find an equivalent fraction.

Teaching aids

Before the lesson:

Read Macmillan New Primary Mathematics 3, pages 18—20.

Have ready 0—9 number cards, one set for each pair of pupils.

minutes

Daily practice

Pair task

Give each pair a set of 0—9 number cards.

Ask them to place the cards face down on the table.

The first person should turn over two cards and multiply them together, saying the answer aloud. Their partner should check the answer.

Tell pupils to replace the cards and continue taking turns to turn over two cards and multiply the numbers.







Macmillan **New Primary** minutes Mathematics 3

Whole class teaching

Ask pupils to look at

the fraction diagram in

Macmillan New Primary

Mathematics 3, page 18.

Ask pupils to put a counter on all the fractions that are

minutes

Macmillan **New Primary** Mathematics 3 10 minutes

Plenary

Introduction

Main activity

questions 1—9 in

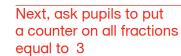
Tell them to use the diagram on page 18 to help them.

Pair task

Ask pupils to answer Macmillan New Primary Mathematics 3, page 20, Exercise A.

Whole class teaching

Ask pupils to tell you something they have learned about fractions over the past two weeks.





equal to 1









Addition of three-

digit numbers

Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Week 8
Addition of threedigit numbers
Day 1

Learning outcomes

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

Write addition sums up to 10.

Add three-digit numbers using the expanded form.

Teaching aids

Before the lesson:

Have ready a set of 0—9 number cards for each pair.

Read Macmillan New Primary Mathematics 3, page 25 and make sure you understand addition using the expanded form. minutes

Daily practice

Whole class teaching

Ask pupils to write the number 10 in their exercise books and ask them to make as many addition sums as they can that give the answer 10.

Ask individuals to read out one sum and write it on the chalkboard for everyone to check.





Introduction

Whole class teaching

Write on the chalkboard: 156 + 231.

Ask pupils:

'How would you work this sum out?'

Take answers from a couple of pupils.

Explain the expanded form as shown below, reminding pupils that they should only expand the smallest number:

$$156 = 100 + 50 + 6$$
$$= 100 + 10 + 10 +$$
$$10 + 10 + 10 + 6$$

(most pupils will not need this step, they should be able to add 50 directly without expanding).

Remind pupils how to use a number line to help them work out the sum.

Repeat the exercise with the sum 124 + 235.

Main activity

Individual task

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

$$345 + 543 =$$

Tell them to use the method you have shown them.

Observe individual pupils working out the sums and help them if needed. Check they are using the number lines.

Ask pupils who finish quickly to choose four numbers between 0 and 5 and use them to make

Ask them to add those numbers together.

two, two-digit numbers.

Plenary

Whole class teaching

Ask the pupils the following question: 'You are given a shopping list and asked to buy 4 yams for 230 Naira and some onions for 122 Naira. How much money would you need?'

Tell them they can use any method to solve the problem.





Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 8 **Addition of three**digit numbers Day 2

Addition of twodigit numbers

Learning outcomes

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

Write addition sums up to 9.

Add two-digit numbers that bridge the Ten on a number line.

Teaching aids

Before the lesson:

Read the lesson plan carefully and make sure you understand the method.

minutes

Daily practice

Whole class teaching

Write the number 9 and ask pupils to see who can think of the most ways of making 9.

Write their sums around the number 9.





Introduction

Whole class teaching

Write this sum on the chalkboard: 57 + 39 =

Ask the pupils the following questions:

'Which number would vou write on the number line first?'

'Look at the smallest number. What could you do with it to make it easier to add to 57?'

Ask the pupils to explain their ideas, and then show the following method: 39 = 30 + 9

Draw a number line as below, and keep it on the chalkboard for the rest of the lesson.

Main activity

Whole class teaching

Give the pupils the following sums, stopping after each one to check they are using the correct method:

$$38 + 18 =$$
 $66 + 25 =$

Ask if anyone has a quicker way of adding the units.

Show them the following: 57 + 39 =

$$39 = 30 + 9$$

Start by adding 30 and then ask how many they jumps would need to reach the nearest Ten, eg: 3

Ask them to work out how many more jumps they would need to make 9 jumps altogether, eg:

Write this on the number line as below.

Explain that using this will be quicker than adding in jumps of 1.

Ask pupils to try the following sums using the same method:

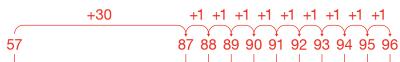
$$47 + 26 = 53 + 28 =$$

Plenary

Whole class teaching

Go through the sums with the class and check they are using the correct method.

Number line



Number line



Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 8 **Addition of three**digit numbers Day 3

Addition of twodigit numbers

Learning outcomes

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

Write addition sums up to 8.

Add two-digit numbers, which bridge the Ten on a number line.

Teaching aids

Before the lesson:

Read the lesson plan carefully and make sure you understand the method.

minutes

Daily practice

Whole class teaching

Ask pupils to write as many sums as they can which give the answer 8.

Write different ideas on the chalkboard and ask pupils how they decided which sums to write.





25

minutes

minutes

Introduction

Main activity

Whole class teaching

Write the following sum on the chalkboard and ask pupils to help you do in it the quickest way: 46 + 28 =

Write the largest number on the number line.

Expand the number 28: 28 = 20 + 8

Draw this on a number line, remembering to add the 20 first, then break up 8 to jump to the nearest Ten and complete the sum.

Pair task

Write the following sums on the chalkboard for the pupils to complete in pairs:

45 + 28 = 63 + 18 =

36 + 28 =

76 + 18 =

52 + 18 =

Whole class teaching

For each sum ask the pairs: 'How did you break up the 8?'

Write the different ways of breaking up the 8 next to the sum on the chalkboard.

Plenary

Pair task

Ask the pupils the following problem to solve using any method they can.

The farmer wants to sell some vams at the market. He cuts 55 from 1 field and 28 from another. How many yams does he have altogether?

Ask individual pupils to give you their answer and explain how they did it.





Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 8 **Addition of three**digit numbers Day 4

Addition of two- and threedigit numbers

Learning outcomes

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

Write addition sums up to 7.

Add two- and three-digit numbers, which bridge the Ten on a number line.

Teaching aids

Before the lesson:

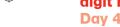
Read the lesson plan carefully and make sure you understand the method.

minutes

Daily practice

Whole class teaching

Ask pupils to make as many addition sums as they can which give the answer 7.







25

minutes

10 minutes

Introduction

Main activity

Whole class teaching

Give pupils the following numbers and ask them to write each one on a separate number line: 46, 23, 52, 61, 44, 25, 28, 77, 39.

Ask them to write the next multiple of 10 on the number line and make one jump to reach that number, eg:



Group task

Ask each group to complete the following sum using a number line and be prepared to say how they did it: 135 + 28 =

Ask one group to tell you their answer and explain how they did the sum.

Ask if any groups did it another way.

Whole class teaching

Show the pupils how to do the sum.

Explain that it is the same method they have been learning all week. but the first number contains three digits instead of two.

Individual task

Give the pupils some more sums to do.

Ask them to use as few jumps as possible to do the following sums: 328 + 23 =

564 + 18 =

437 + 28 =

644 + 27 =

455 + 35 =

Plenary

Pair task

Ask the pupils to compare their sums with each other.

Ask them to look at the different ways they broke up the numbers.





Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 8 **Addition of three**digit numbers Day 5

Learning outcomes Adding threedigit numbers

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

Write addition sums to 100.

Add two- and three-digit numbers, which bridge the Ten, using a number line.

Teaching aids

Before the lesson:

Read the lesson plan carefully and make sure you understand the method.

minutes

Daily practice

Whole class teaching

Ask pupils to write as many sums as they can which give the answer 100.

Write different ideas on the chalkboard and ask pupils how they decided which sums to write.





10 minutes

Introduction

Main activity

Pair task

Ask the pupils the following question: 'In Primary 1 there are 156 pupils and in Primary 2 there are 139 pupils. How many pupils are there altogether?'

Ask them to tell you how they would solve this problem using a number line.

Whole class teaching

Ask a pair to explain to the class how they did the sum.

Show them that it is the method they already know, but with bigger numbers, eg:

Remind the pupils to answer the question by putting a circle around the answer.

Pair task

Write the sums below on the chalkboard.

Ask the pupils to think of a sensible guess before they do their calculation and write some of the guesses next to the sum on the chalkboard.

Ask them to tell you how they chose their guesses.

Ask them to do the sums in their exercise books. using the number line:

$$419 + 326 =$$

$$304 + 427 =$$

$$715 + 135 =$$

Plenary

Whole class teaching

Compare their answers with the guesses on the chalkboard and see if any were close.

Ask the pupils to tell you what they know about addition using a number line.









Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 9 Addition of threedigit numbers Day 1

Addition of threedigit numbers

Learning outcomes

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

Multiply single digit numbers together.

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

Teaching aids

Before the lesson:

Have ready 25 counters for each pair of pupils.

Read Macmillan New Primary Mathematics 3, page 25.

Daily practice

Pair task

minutes

Write the multiplication sign (x) on the chalkboard and ask pupils to tell you what it means.

Write the following sum on the chalkboard and ask the pupils to tell you how they would find the answer: $2 \times 3 =$

Give each pair 25 counters.

Remind them that they should make three groups of two and count how many they have altogether.

Ask pupils to use the same method to answer the following questions:

- $2 \times 2 =$
- $3 \times 4 =$
- $2 \times 4 =$
- $1 \times 3 =$
- $5 \times 4 =$
- $4 \times 3 =$







25 minutes Macmillan New Primary Mathematics 3

10 minutes

Introduction

256 + 132 =

Main activity

Plenary

Whole class teaching

Ask the pupils to solve the following: 180 + 212 =

Individual task

Ask them to complete
Macmillan New Primary
Mathematics 3, page 25,
Exercise A, questions 1—5
using the method they
learned the previous week.

Whole class teaching

Ask pupils to share the answers to their questions.

Ask pupils to explain how they completed each sum.





Lesson

Numeracy lesson plans

Primary 3

Term 1

Organising the classroom for effective learning

Week 9 Addition of threedigit numbers Day 2

title

Learning outcomes Multiplication

By the end of the lesson, most

Multiply single digit numbers together.

pupils will be able to:

Add two-digit numbers that bridge the Hundred.

Teaching aids

Before the lesson:

Have ready a set of number cards from 0—5.

Have ready 25 counters for each pair of pupils.

Daily practice

Pair task

minutes

Give each pair 25 counters each.

Mix up the cards and place them face down on the table.

Ask two pupils to come out and pick one number card each and hold them up so the rest of the class can see.

Ask the pairs to multiply the numbers together, using the counters if they wish, and put up their hands when they know the answer.

Repeat until you have done 10 different sums.



25 minutes

10 minutes

Introduction

Main activity

Whole class teaching

Write the following numbers on the chalkboard and give pupils 5 minutes to work out how many more they need to add on to each number to reach 100: 10, 30, 50, 20, 90, 80, 60, 40, 70.

Ask everyone to count in Tens from 50 to 150.

Whole class teaching

Show pupils how to do the following sum, which bridges the Hundred, using a number line:

54 + 73 =

Write the sum and answer at the end: 54 + 73 = 127

Pair task

Give pupils the following sums to complete in pairs: 45 + 62 73 + 44 25 + 75

Plenary

Whole class teaching

Ask one or two pairs to tell you their answers and explain how they did the sum.





Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 9 Addition of threedigit numbers Day 3

Addition of threedigit numbers

Learning outcomes

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

Recognise multiples of three.

Add three-digit numbers.

Teaching aids

Before the lesson:

Have ready a set of numbers from 0—9 for each group.

minutes

Game

Daily practice

Whole class teaching

Play the game 'Fizz'. Stand the pupils in a circle and explain that they are going to count around the circle, up to 50.

Explain that every third number they have to say 'fizz' instead of the number, ie: '1, 2, fizz', '4, 5, fizz', '7, 8, fizz'.

Tell the pupils that they have to concentrate really hard so they don't miss the number.

When you have finished the game ask them: 'How many are you counting on each time?'





25 minutes 10 minutes

Introduction

Group task

Give each group a pack of numbers 0—9.

Ask each group to pick six numbers and use them to write down as many three-digit numbers as they can.

Main activity

Group task

Ask each group to pick two numbers from their list and add them together.

Ask them to continue with adding together different numbers from the list until they have completed at least 10 sums.

Plenary

Whole class teaching

Ask the groups to share one sum that they have completed with the rest of the class.





Three-digit

numbers

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 9 Addition of three-Day 4

Learning outcomes

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

Complete a multiplication table.

Multiply single digit numbers.

Add together three-digit numbers.

Teaching aids

Before the lesson:

Draw table 1 opposite below on the chalkboard.

Read Macmillan New Primary Mathematics 3, pages 25—26.

Daily practice

minutes

Whole class teaching

Show the pupils the table on the chalkboard and explain that this is a way of doing multiplication.

Tell them to put a finger on the number 2 in the top row and a finger on the number 1 in the first column.

Ask them to move the finger on the number 2 down the column and the finger on the number 1 along the row and stop when they meet, as shown opposite below in table 2.

Write the answer (2) in the box where the two numbers meet.

Repeat until all four boxes are complete.







25 minutes Macmillan New Primary Mathematics 3 10 minutes

Introduction

Main activity

Plenary

Whole class teaching

Remind pupils that when they see a sum written in the vertical form, eg:

246

+ 532

They should first of all write it as a horizontal sum, eg: 246 + 532 =

Ask the class to help you add these two numbers together using a number line.

Individual task

Ask pupils to complete Macmillan New Primary Mathematics 3, page 25, Exercise A, questions 6—10.

Pair task

Ask pupils to work in pairs to compare answers and check that they have done them in the correct way.

Daily practice table 1

х	1	2
1		2
2		

Daily practice table 2

X	1	2
1		→2 +
2		

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Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 9 Addition of threedigit numbers Day 5

Word problems

Learning outcomes

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

Complete a multiplication table.

Solve word problems.

Teaching aids

Before the lesson:

Draw the table below on the chalkboard.

Write the following question on the chalkboard without the highlighting:

'A girl has a basket of 123 apples and another girl has a basket of 95 apples. How many apples do they have altogether?'

Daily practice

minutes

Group task

Ask pupils to work in groups to complete the table on the chalkboard in the same way as on Day 4.

Ask each group to show their completed table and check they are correct.

Multiplication table

Х	2	3
1		
2		







25 minutes

Macmillan
New Primary
Mathematics 3

10 minutes

Introduction

Whole class teaching

Read the word problem you have written on the chalkboard and explain to pupils that you are going to solve it together.

Ask pupils to help you underline the information that will help them answer the question (highlighted in the question for your information).

Ask them if they can tell you, by reading the information, what type of sum they will be expected to complete. If they cannot tell you, explain that you know it is an addition because of the word 'and'.

Ask the pupils which two numbers they should add together to find the answer and write it as a sum on the chalkboard: 123 + 95 =

Ask them to help you solve the problem by working out the answer to the sum and then you write the answer in words on the chalkboard: 'They have 218 apples altogether.'

Main activity

Pair task

Ask each pair to complete Macmillan New Primary Mathematics 3, page 29, Exercise F, questions 4 and 5 in the same way you have just done together.

Help any pairs that you think will find it hard to read the questions.

Plenary

Whole class teaching

Come together and share the answers and methods used to solve the word problems.









Lesson

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 10 **Money** Day 1

title

Ordering Nigerian currency

Learning outcomes

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

Recognise and order Nigerian coins and bank notes.

Add and subtract two numbers without using pencil and paper.

Teaching aids

Before the lesson:

Read Macmillan New Mathematics Primary 3, page 91.

Have ready a set of Nigerian coins and notes.

Have ready six blank card circles, eight blank card rectangles, a long piece of string and some pegs or tape for each group.

minutes

Daily practice

Whole class teaching

Ask the pupils the following questions, one at a time, and ask them to work out the answers without using pencil or paper:

3 + 5

4 + 10

15 + 20

35 + 16

20 - 4

70 - 20

55 - 7

45 + 23

Tell pupils to raise their hands when they think they have the answer.

When most of the class have their hands raised, ask each of them their answer and ask a few to tell you how they worked it out.

Tell them the correct answer.





25 minutes Macmillan New Primary Mathematics 3 10 minutes

Introduction

Main activity

Group task Grou

Give the notes and coins out to groups of pupils.

Ask them to look at the note or coin they have very carefully and be ready to describe it to the rest of the class, using the following questions as a guide: 'How much is it worth?' 'What colour is it?' 'What pictures are on it?' 'What could you buy with it?'

Ask each group to tell the rest of the class everything they can about their note or coin.

Group task

Ask each group to look at Macmillan New Primary Mathematics 3, page 91.

Give each group the circles and rectangles you made earlier.

Ask them to make one of each type of note or coin per group, trying to make them look as close as possible to the originals.

Ask the groups to use string and tape or pegs to make a number line of coins and notes, from the largest to the smallest.

Plenary

Whole class teaching

Check that each group is correct and help them hang their money number lines across the classroom.





Lesson

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 10 **Money** Day 2

title

Changing money

into smaller units

Learning outcomes

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

Identify Hundreds, Tens and Units in a three-digit number.

Change money into smaller units.

Teaching aids

Before the lesson:

Have ready a full set of Nigerian coins and notes.

Daily practice

minutes

Whole class teaching

Read the following numbers one at a time and ask pupils to write them down:

432

761

382

903

321

793

844

805

760

520

Choose one digit from each number and ask pupils to say whether it is the Hundreds, Tens or Units digit.

Write down some threedigit numbers on the chalkboard and ask pupils to read the number to you.





Introduction

Group task

Divide the pupils into two groups.

Ask them to line up so that Group A faces Group B.

Tell the pupils that they are going play a 'coins' and 'notes' quiz.

Describe each 'coin' and 'note' in turn, being careful not to say the amount it's worth.

Ask pupils to put up their hand when they know which coin or note you are describing. Choose the first pupils to put up their hand. If they are correct give their group one point.

Continue until you have described all the coins and notes.

The team that has the most points at the end is the winner.

Main activity

Whole class teaching

Ask pupils to look at the number line they made on Day 1.

Write '100 Naira' on the chalkboard and ask them to tell you any ways they could use the notes and coins to make 100 Naira, eg:

100 Naira = 50 Naira + 50 Naira

100 Naira = 50 Naira + 10 Naira

+ 20 Naira + 20 Naira

Continue until the pupils have thought of as many ways as possible to make 100 Naira using Naira notes and Kobo.

Group task

Give each group a coin or note between 5 Kobo and 1,000 Naira and ask them to write down as many ways as they can to make that amount using notes and coins.

Plenary

Whole class teaching

Ask each group to read out some of their answers.





Lesson

title

Numeracy lesson plans **Primary 3**

Term 1

Organising the classroom for effective learning

Week 10 **Money** Day 3

Learning outcomes Shopping

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

Change money into smaller units.

Add three-digit numbers together.

Teaching aids

Before the lesson:

Set up a 'shopping' corner, labelling various items with different amounts of Naira up to 1.000 Naira.

Have ready a selection of coins and notes for the pupils to use.

Write on the chalkboard:

- 1 Naira = kobo
- 5 Naira = kobo
- 10 Naira = kobo

minutes

Daily practice

Individual task

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

- 'Add 357 and 152.'
- 'Add 128 and 212.'
- 'Add 495 and 126.'
- 'Add 574 and 368.'







25 minutes 10 minutes

Introduction

Whole class teaching

Ask pupils to come and look at the shopping corner.

Ask them questions, eg: 'How much is the price of a ruler?'

Ask pupils to look for the ruler and check the amount on the price label.

Ask individual pupils to say which coins or notes they would use if they wanted to buy that item.

Repeat the activity with a few different items.

Main activity

Group task

Give each group a selection of 50 Kobo coins.

Look together at the chalkboard. Ask pupils to work together to change Naira into smaller amounts of money.

While they are working on this, ask each group to come out in turn and use the money to shop for different items.

Plenary

Whole class teaching

Ask pupils to discuss in their group what they have learned in these activities.

Tell them to share their ideas with the rest of the class.





Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Week 10 Money Day 4

Kobo and Naira

Learning outcomes

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

Order three-digit numbers on a number line.

Add together two amounts of money.

Teaching aids

Before the lesson:

Re-label the items in the shopping corner so that some cost Naira and some Kobo.

Read Macmillan New Primary Mathematics 3, pages 95—98.

Daily practice

Pair task

minutes

Read out the following numbers and ask pupils to draw a number line and put them in the correct order on it:

793 444

25 445

832

999

123 699

699 76







25 minutes 10 minutes

Introduction

Whole class teaching

Explain to the pupils how to add money together.

Ask one pupil to go and pick two different items from the shopping corner and mention the price tag on each one.

Write down on the chalkboard, eg:

The price of a ruler = 1 Naira.

The price of a pencil = 50 Kobo.

Ask the pupils to tell you how much money they would need altogether (1 Naira 50 Kobo).

Repeat for about 10 items.

Main activity

Pair task

Ask one person from each pair to quickly visit the shopping corner and write down the cost of two items.

Ask pairs to work together and write down the cost of both items together in the same way as you have shown on the chalkboard.

Plenary

Whole class teaching

Ask pupils to discuss their answers with each other.





Numeracy lesson plans Primary 3

Term 1

Organising the classroom for effective learning

Week 10 Money Day 5

Adding Kobo and Naira

Learning outcomes

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

Add together items of mixed Naira and Kobo.

Add three-digit numbers.

Teaching aids

Before the lesson:

Read through the lesson plan and make sure you understand the ideas and methods.

Have a ball ready.

Daily practice

minutes

Whole class teaching

Sit the class in a circle.

Throw the ball across the circle to a pupil and give them a sum to answer, eg: '32 plus 45.'

Ask the person holding the ball to throw it to another person and give them a sum to answer.

Continue until every pupil has had a turn.



10 minutes

Introduction

Main activity

Whole class teaching

Ask the pupils to tell you how to find and write down the cost of two items from the shopping corner in the way they did yesterday.

Hold up two items from the shopping corner, with their price labels showing, and ask pupils to tell you how much they cost altogether without writing the sum down.

Repeat for two or three pairs of items.

Whole class teaching

Explain that when you write down amounts of money you don't always need to write the words Naira and Kobo, eg: 2 Naira 30 Kobo can be written as N2.30.

Write the following on the chalkboard and ask the class to write the shortened version in their books:
5 Naira 10 Kobo
100 Naira 50 Kobo
10 Naira 25 Kobo
150 Naira 50 Kobo

Ask the pupils if anyone can tell you the cost of these two items together: Pencil = N 2.10
Book = N 3.10

ıg

Write the amounts as Naira and Kobo: 2 Naira 10 Kobo 3 Naira 10 Kobo

Add the Kobo together and then the Naira, ie:

10 Kobo + 10 Kobo = 20 Kobo

2 Naira + 3 Naira =

5 Naira

Write the answer in Naira and Kobo:

5 Naira 20 Kobo

Then write the shorter version as the final answer: N5.20

Repeat with the following: Bag = N4.20 Cleaner = N 3.30

Pair task

Ask pairs to try the following in their exercise books:

Bag = N5.10 Pencil = N3.50 How much altogether?

Pen = N10.20 Book = N 30.40

How much altogether?

Plenary

Whole class teaching

Bring the whole class together and help them to check their work.



Credits

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

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

Special thanks go to:

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

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

