

TESSA

Teacher Education in Sub-Saharan Africa

Teaching Pack No.9

Middle Primary

Section 1	Literacy:	Using story and poetry
Section 2	Numeracy:	Seeing patterns in multiplication
Section 3	Science:	Looking at liquids
Section 4	Social Studies:	Looking at different kinds of evidence in history
Section 5	Life Skills:	Looking at the world of work

- Additional Resources:**
- Group work in your classroom
 - Working with large/multigrade classes

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Literacy: Using stories and poetry

1. Name poems
2. Reading and writing from students' interests
3. Crafting students' writing

Key question for the teacher:

How can you use poetry and stories to stimulate students to write?

Keywords: name; praise; poems; stories; biographies; writing

Learning Outcomes for Teachers:

By the end of this section, you will have:

- used name or praise poems or stories to stimulate students' ideas for writing
- used resources such as magazine or newspaper articles to stimulate ideas for writing life stories (biographies)
- explored 'drafting' and 'crafting' when writing

Overview

Throughout Africa, we have a rich oral and written literature about people who are, or who were in the past, important to their families, their communities and their countries. They are celebrated in praise songs and poems and in life stories (biographies). Using this rich cultural history in your teaching can provide reading materials for the language classroom and stimulate students' interest in writing.

1 Name poems

If students listen to and read poems or stories that they enjoy, they are more likely to be interested in developing their own reading and writing skills in their home language or in the language of the classroom.

In order to become successful writers, students need several 'tools'. Firstly, they need something to write about. In **Activity 1**, you will use examples of name or praise poems or stories to give students ideas. Then you will guide them in writing the first draft of a name or praise poem or story. It is important for students to understand that writers 'craft' their poems and stories. This means writing several draft versions, to which they make improvements, until they are satisfied that their poem or story is the best they can make it.

Teaching Example 1

At a four-day workshop in Johannesburg in South Africa, some teachers of English read poems and stories about names. In these, the writers described how they came to have their names, what they liked or did not like about them and what words or images they associated with them. The teachers really enjoyed what they read and asked if they could write their own name poems or stories during the workshop.

On the second day, each teacher read his or her first draft to a partner. They gave each other feedback on what they liked and what they thought could be improved, for example by adding details and choosing different vocabulary or punctuation.

On the fourth day, having worked on their drafts the day before, they each read their completed poem or story to the whole group. There was laughter, there were some tears and there was much applause.

When they were asked to reflect on their experience, they said:

- no one had been 'stuck' for something to write about;
- while most wrote in English, they enjoyed using occasional words or phrases in an African language to express a particular idea;
- they benefited from the feedback on their first draft;
- they felt proud of the final version;
- they enjoyed listening to the other stories/poems;
- many of the poems were similar to traditional praise poems and songs.

The teachers decided they would read their own and other name poems or stories to their students and help them to write about their names.

Activity 1

Using the name poem or story choose either name poems/stories or praise poems/stories.

- Ask students to suggest what a name poem/story or a praise poem/story would be about.
- Ask them to listen while you read aloud the poem(s)/story(ies) you prepared.
- Ask them questions about what you have read to them.
- Ask students to discuss with a partner either what they know about their name or that of a family member and how they feel about this name, or what they know about the person, animal or object they wish to praise.
- Next, ask some students to report to the class on their discussion.
- Ask students to write the first draft of a poem or story about their own or family member's name or in praise of their chosen person, animal or object.
- Collect the drafts in preparation for **Activity 3**.

Did writing name or praise poems/stories give your students ideas for writing?

Were you pleased with the way you organised the lesson? What changes would you make next time?

With younger children, you might write a name poem together, sharing ideas and using familiar words in the classroom language. You might find the additional resources useful on **Working with large/multigrade classes**.

Some of the first stories children hear are likely to be stories about the life experiences of family or community members. The life stories (biographies) of famous people are frequently published in magazines and newspapers and even in comic form, so, whether from listening or from reading, many students are likely to be familiar with life stories. This is a good starting point to stimulate interest in reading and writing.

Preparing lessons on name or praise poems

Decide whether you wish to choose name or praise poems/stories to work on with your students.

1. Choose one or more examples from the examples that follow OR from other resources that you have OR write your own poem or story.
2. Write the poem(s)/story(ies) on large sheets of paper or cardboard so that when you use them in class students will be able to read the large print with you and then refer to the poems and stories when they are writing their own. If you don't have large sheets of paper, write on your chalkboard.
3. Prepare some questions to ask students about the poem(s)/story(ies). Obviously, the kind of question will depend on what you have chosen.

For example, if you chose Tade's or Thabo's poem, you could begin with:

'What do you notice about the way this poem is written?'

(Answer: Each line begins with one letter in Tade's or Thabo's name).

If you chose Hugh Lewin's praise story about Jafta's mother, you could ask:

'Would you like to have a mother like Jafta's? Give me a reason for your answer.'

When you have completed this preparation, you are ready to teach lessons about name and praise poems and stories. When students begin writing, move around the class to help anyone who finds it difficult to get started. Some may need help with ideas, others with vocabulary.

A name poem written by a teacher in South Africa

Marumo – My Praise Name by Marumo Magdalene Mafokoane

The pride of the family –

Who brought this name?

How did it come to me?

No one in the family deserved it – except me!

My late aunt Mankwana's name.

My parents did not choose it – the spirits did,

Long before I was conceived.

Marumo – the name that gives hope.

Marumo – my special name.

The spirits told my mother in a vision

You will conceive and give birth to twins.

Name the girl child after her late aunt Makwana Marumo.

She will survive the storms of life.

Give the boy child a name of your choice.

We will take him to ourselves at an early age.

(I still grieve for you, Maile.)

Marumo – meaning weapons.

Our forefathers used them to defend themselves.

So do I.

I am a fighter. I stand up for my rights.

I have fought many battles.

I have won many battles.

I am Marumo.

If I am about to drown, I think of my name.

Marumo. I gain courage and strength to move on.

Marumo.

My parents chose my other name – Magdalene.

A biblical name for a Sunday baby.

Both names are special, but Marumo is my strength.

Marumo is my pride.

A name story written by a teacher in South Africa

A naming story that was told to me by Mbhevula Ntuli

A long time ago, in the middle of summer, my grandfather, then named Mavuvu, went to the river to fulfil some ritual ceremonies. There he came across a full-grown buffalo that had come to drink. The animal charged him and they fought. He killed the massive beast and immediately ran home to tell his father about his amazing feat. His father, Muraai, sent a message round the village and people rushed to the river. It was true – there lay the dead buffalo!

From that day Mavuvu received great respect from whoever knew what he had done. Men and women, young and old, honoured him. Some people started to give him the nickname 'Mbhevula'. The whispered name reached the ears of his father Muraai who decided to call the tribe together for a name-changing ceremony. Officially, Mavuvu became Mbhevula, meaning 'buffalo' in the Ndebele language.

When I was born, in the middle of the 20th century, I was named after my grandfather. It is a name that I associate with the courage and strength of my ancestor and I am proud of it.

A traditional Zulu praise poem – in isiZulu and in English translation, with some explanatory notes

Jama	Jama
Ujama kaNdaba!	Jama son of Ndaba!
UJama kaluthwana kangakanani,	Jama is not deceived to the slightest extent,
Nasenhlamvini yomkhont'angenela,	Even on the point of a spear he can be at ease,
Nasemagatshen' angaphathetela.	Even on branches he can hold tight.
Obengumqingo wang'itshe laseZihlalo,	He who was solid like a rock of Zihlalo,
Ebilingalayezwa ngabaphath' izinhlenda,	Which could be commanded by those who carry barbed spears,

Thina bamaklwa singathath'ichoba sophule,	While we of the broad-bladed spears could save ourselves by using a sandstone,
UMabopha wakithi kwaZwangendaba,	Inspirer of our place at Zwangendaba,
Ongibophe zaluk' inhlazane nemfuduluko,	Who inspired me as the cattle went out to graze at midday,
Obabis' ihlaba elikuMahogo,	Who made bitter the aloe of Mahogo,
Othabis' idukumbane elikuNgcingci	Who made glad the trifle of Ngcingci.

This is a poem in praise of Jama who was an early Zulu chief. Hlaba (aloe) and Dukumbane (trifle) were the names of regiments of young soldiers who were made 'sharp' (bitter) or pleased (glad) by Jama.

A praise poem written by a South African student

Praise poem for Sekhukunene by Nathaniel Seleka

He was born to rule,

A pure leader.

He had leadership blood in him,

The blood of great ancestors;

No one could take it from him.

He ruled equally,

Land was for everyone,

Land was not sold,

No one was a slave;

He loved everyone who came in peace

Without checking their colour.

He was a great man;

He showed Mama Africa how to live;

Many people don't know him,

But he ruled his own land.

Original source(s):

A praise poem written by a South African student. Praise poem for Sekhukunene by Nathaniel Selka, taken from: English Matters, Grad 7 Anthology, compiled by Lloyd, G. & Montgomery, K. (1999), p.67. Cape Town: Cambridge University Press) ISBN: 0 521 66747X

2 Reading and writing from students' interests

In the classroom, students need support from their teacher and from one another when they are learning to speak, read and write – particularly if this is in an additional language. **Teaching Example 2** and **Activity 2** show how you can give students opportunities to read, talk, work together in small groups and write the first drafts of the life stories of people they are interested in. Students need examples to guide their development as writers. The articles they read can help them organise their writing and help with sentence structure and vocabulary. Younger students will need you to work with them, guiding their writing and gradually extending their vocabulary.

Teaching Example 2

Mr Simon Ramphela noticed that, in the playground, some Grade 6 boys – who showed no interest in reading and writing during English lessons – often sat together to read the soccer newspaper, *Laduma*. They told him they enjoyed finding out about the lives of their favourite players.

This gave Simon an idea. He asked the whole class whether they ever read newspapers or magazines and, if they did, what they enjoyed reading. Many said they tried to read stories about people who interested them, even though they couldn't understand all the words. Simon organised a collection of newspapers and magazines for the classroom. Then he asked students who they were most interested in reading about. The favourites were sports stars (mainly soccer, but some basketball, athletics and boxing), musicians, film and TV stars, followed by fashion models, politicians, community leaders and successful business people.

Simon grouped students according to their interests. There were several groups for sports stars and musicians! He gave magazines and newspapers to each group and asked them to find articles/pictures about one person who interested them. Then, as a group, they helped each other to write one or two short sentences about the person's life. They used their own words as well as vocabulary from the articles. They wrote their own title.

Simon was pleased to find that most students were involved in reading and, while some did more of the writing than others, everyone participated. Each group enjoyed reading their biography to another group.

Activity 2

Use **Preparing lessons on life stories** to prepare for this activity.

- Ask students to read together the story you have copied on to the chalkboard or paper. Or read it to them and explain what it is.
- Discuss the features of life stories (biographies). Ask students to tell you what categories of people (e.g. national footballers, local musicians) they are interested in, and why.

- Give each same-interest group several newspapers and magazines that contain articles about the category that interests them.
- Ask them to find articles about a person from their chosen category and use the information to write two important facts about the person.
- Collect the drafts for use in the **Activity 3**.

If your class is very large, you could do this activity with half the class or smaller groups in turn. You could also group students according to their ability – mixing more able and less able to help each other. With younger students, you might do this as a whole-class exercise where you help by writing their ideas down and sharing their words.

Preparing lessons on life stories

1. Collect the resources that you will need. This may take some time, but the newspapers, magazines and comics that you collect could be used for many different kinds of language lessons in addition to those on reading and writing life stories. Some students may be able to bring newspapers and magazines from home, so ask them to ask their families for permission to do so. Ask your colleagues and friends to contribute newspapers and magazines that they have finished with. In some countries, newspaper and magazine publishers may be prepared to donate copies to your school. Some NGOs also have excellent publications. For example, in South Africa, comics about Nelson Mandela's life are available from the Nelson Mandela Foundation and the NGOs 'Soul City' and 'Love Life' also have useful magazine materials.
2. Before you begin these lessons you must have enough reading material about a range of well-known people for each group of students to work with.
3. Copy on to large sheets of paper or cardboard or on to your chalkboard the life story of Hugh Masekela (biography overleaf) OR another life story of your choice that is written in fairly simple language.
4. Make a list of common features of life stories to discuss with your students. These include:
 - (i) usually telling the story in a time sequence from early years to later years in the person's life;
 - (ii) highlighting the special achievements of the person's life;
 - (iii) details of something particularly interesting or amusing about the person's life.

You are now ready to begin the lesson!

Guiding students while they write life stories

While students are working in their groups, move round the room to check that they understand the task and are able to find articles to use. You could write a 'checklist' on the chalkboard to guide students in their writing. For example:

- name(s) of the person
- place of birth
- family details
- 'history' – school days, first achievements, later achievements

- interesting/sad/amusing things that have happened in the person's life

Encourage students to think about the order in which to write the information about the person and to use some of their own words. They should not just copy from the articles.

Hugh Masekela's life story (biography)

'The magic blower – Hugh Masekela'

Hugh Masekela's love for music started when he was a naughty boy at school. At school Hugh had problems. He was not very interested in his studies. He spent his time playing soccer and dreaming about music.

One day there was an important soccer match at his school. Thanks to the goals scored by Hugh, his school won. His team was so pleased that they rewarded him with some 'sqa' (sorghum beer). He was very sick from drinking too much 'sqa'. His teacher, who liked Hugh very much, became worried about his behaviour and spoke to the local priest, Father Trevor Huddleston.

They asked Hugh what he wanted most in the world. 'A trumpet,' Hugh answered. Father Huddleston organised a trumpet for Hugh. Shortly afterwards, Hugh and some other musicians formed the Huddleston Jazz Band. From that time he never looked back.

Hugh left South Africa in 1960 with the musical show King Kong. He did not return because the racist laws made it very difficult for black musicians to earn a living. Although he was overseas Hugh did not forget his mother country. He continued to write songs about South Africa and the problems of its people. He was very well known as a jazz musician overseas.

Now, Hugh is back home in South Africa, welcomed by all. As well as performing music, he is involved in educating children and adults about the dangers of drug and alcohol abuse and in raising money to help people who have drug or alcohol problems.

Original source:

Hugh Masekela's life story (biography) The magic blower – Hugh Masekela.

Adapted from New Successful English, Learner's Book, Grade 5 (2001), p.19 (Cape Town: Oxford University Press). ISBN: 0 19 57433 4

3 Crafting students' writing

When we write something, it is important to make it clear what we are trying to say. We need to plan. Next, we start writing and then stop and read what we've written. We may decide to change the order of some words, to add or take away some information or change it around. Finally, we check for incorrect spelling, punctuation or grammar. The final piece of writing may look quite different from our first draft. We have 'crafted' our writing.

In the classroom, one piece of writing would be completed (i.e. crafted) before another one is begun. **Teaching Example 3** and the **Activity 3** below show you how to prepare for lessons in which students are to craft their writing.

Teaching Example 3

Mrs Dorcas Mazibuko and Mrs Beauty Mntambo teach English to Grade 6 classes in Daveyton. They give students detailed feedback on their writing, so sometimes stay after school and work together on their marking.

One afternoon, while drinking tea before they began marking, they agreed that they were feeling frustrated. Most students seemed to ignore the comments and corrections in their books. The friends thought this was strange, because they found the comments they gave each other on first drafts helped them to improve the final versions of the assignments for their professional development courses. Then Dorcas realised something important! Her students didn't get a chance to do more work on the same piece of writing. Instead, there was a new topic in each writing lesson. When she said this to Beauty, her friend agreed that the same happened in her class. That's how they'd been taught when they were at school!

They decided to try a new approach. They would use several lessons to work on drafting and crafting the same piece of writing. They would give students ideas to guide their writing and rewriting. At first, students didn't like rewriting, but when they saw how their work improved, they started to take much more pride in it.

Activity 3

- Before the lesson, read students' first drafts and decide on some general questions to ask them all to improve their work. Write these on the chalkboard.
- Return the drafts, with some general comments on what you like about students' writing. Explain that they are now going to craft their writing.
- Ask them to reread their first draft and to use the questions on the board to write an improved second draft.
- Ask them to exchange their second draft with a partner and give each other suggestions for improvements.
- Ask them to use these suggestions to write the final version. Go round the class and help where necessary. Encourage them to include drawings with their writing.
- If there isn't time to complete this activity within the class period, ask students to complete the activity at home and report back the next day.
- Ask them how the process of drafting helped.
- Were there any improvements in students' writing as a result of the drafting and crafting process? How can you build on these?
- With younger students or those less competent in the classroom language, you could work with them to draft and redraft a simple piece over two lessons – giving them space between lessons to think about what they really wanted to say.

Questions for students – to think about how to improve (craft) what they have written in their first draft

1. Does your poem/story have a title? If no, what would be a good title? If yes, is the title likely to interest readers? Is the title a 'good match' with what you've written about?

1. Will a reader be able to follow your ideas or the sequence of events in your poem or story?

3. If you have written a description, have you included plenty of details?

4. Now that you've read your poem or story again, what would you like to add or to take out?

Numeracy: Seeing patterns in multiplication

- 1 Square numbers
- 2 Rectangular numbers
- 3 Patterns in sequences

Key question for the teacher:

How can you help students to see patterns in numbers?

Keywords: visualisation; multiplication; shape; imagination; sequence; planning; group work

Learning Outcomes for the Teacher

By the end of this section, you will have:

- explored multiplication with your students through visual means
- used rectangular shapes to help students understand factors
- used investigations to explore patterns in number series

Overview

The ability to 'see' or visualise mathematical patterns is a basic skill for developing further understanding. It can also be an exciting process of discovery as students learn to see numbers and shapes in new ways.

This section shows you ways to help your students to 'see' actual shapes and patterns in numbers.



1 Square numbers

The concept of 'square numbers' can be very abstract. Drawing squares, or making squares with counters can help students begin to gain a visual understanding. What numbers of counters do we need to make square shapes (i.e. those with equal numbers of counters in each row, and as many rows as columns)?

You need to plan your lessons to ensure that all students are participating. In **Activity 1** on the next page you will ask your students to work in pairs.

Teaching Example 1

Mrs Baale in South Africa wanted her students to do some investigations in pairs with only some guidance from her. She was keen to see if the students could investigate square numbers for themselves.

She began the lesson by asking students to work in pairs. She drew a square on the board; then she drew a larger square, made up of four smaller squares. She asked the students to draw as many other squares like these as they could in five minutes. She told the class that these numbers were called 'square numbers'.

Mrs Baale asked the class if they could make more square numbers, and to note the number of little squares needed to make each big square.

By allowing the students to work mainly unaided, Mrs Baale felt they would gain confidence and find enjoyment in the lesson. She found that most pairs worked well together.

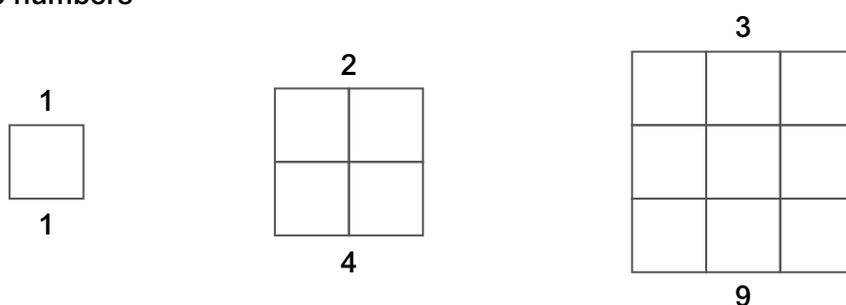
Activity 1

Look at the square numbers task below. Read it through carefully and try the task yourself before doing it with your class.

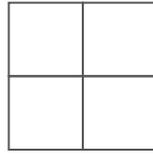
Encourage each student to participate by asking the pairs to choose first one member to be the scribe (the one to draw) and the other the recorder, and then to swap these tasks. In this way, you can make sure each student is participating.

You could also give your students objects (seeds or small stones) as counters. Ask pairs of students to find 'square numbers' (those with equal numbers of counters in each row, and as many rows as columns).

Square numbers

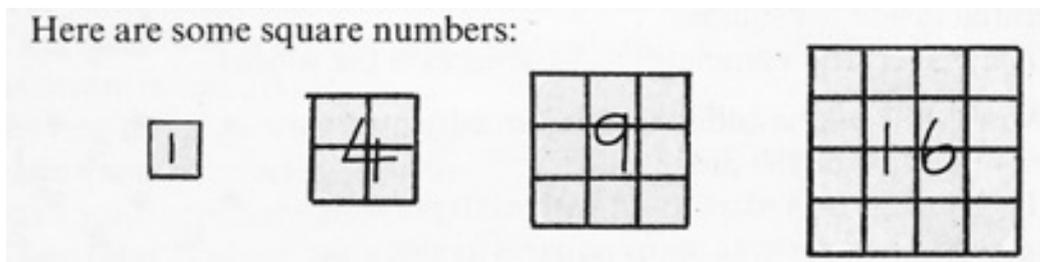


- First draw a square on the chalkboard labelling the sides 2 cm and divide it as shown into 1 cm squares.



- The first recorder has to count the 1 cm squares and write down the number.
- The first scribe has to draw a 3 cm square and divide it similarly into 1 cm squares and the recorder will count and record these small squares.
- This activity continues with a 4 cm square, a 5 cm square, a 6 cm square.

Examples



Ask the pairs to draw other square numbers to a hundred. The pairs take turns to draw and count/record the numbers.

2 Rectangular numbers

From square numbers we move to rectangular numbers. The only requirement now is that there must be at least 2 rows and 2 columns. Each row must have the same number of crosses, e.g.

Number	Rectangular Patterns
1	x
2	x
3	x
4	2 x 2
5	x
6	2 x 3, 3 x 2
7	x

This allows for 'rectangular' numbers. Would you expect there to be more or fewer 'rectangular' numbers than 'square numbers', and can you explain why?



Looking at the numbers that form rectangular shapes is one way for students to explore multiplication (or division) through seeing and doing, as well as carrying out mental and written sums.

Trying out the investigations yourself to see where students may find difficulties and planning how you can help those who do will help you be more effective in supporting their learning.

Teaching Example 2

Mrs Ali planned to ask her students to find different rectangular numbers by using multiplication facts.

She decided to have a class competition. She divided the class into two teams and asked each team to choose a scorekeeper. The game was that she would write a number on the board and the first student who gave her two correct factors for that number scored a point for their team. Mrs Ali explained that there would be more than one correct answer – sometimes many. She then showed the class an example by writing 6 and saying that she would have given a point to anyone who said ‘2 times 3’ or ‘3 times 2’ or ‘1 times 6’ or ‘6 times 1’. The class enjoyed the game and became quite excited. Mrs Ali was very happy, as she had planned ahead that this game would help her students with their next activity.

In later tasks, she often played this game with her students when she had five minutes left at the end of the day.

Activity 2

You will need 20 counters, bottle tops, beans or stones, for each group of four/ five students.

- Begin by dividing the class into their groups and handing out the counters.
- Copy or draw the table of multiplications (below) on the board for each student to copy to record their findings.
- Ask the groups to take 6 counters and arrange them in rows of equal numbers, exploring all the possible arrangements they can make.
- After five minutes, let the groups share the possible arrangements they found for the number 6. Check that at least one group included an arrangement with only one row. Ask them to fill in their table for 6.
- Next, let them try number 12 but, before they make the arrangements, they must predict the number of possible arrangements, and then check if their predictions are true.

Repeat with all the numbers on the table.



Table of multiplications

The number	The possible arrangements	Number of arrangements
3		
4		
6	(1 × 6) (2 × 3) (3 × 2) (6 × 1)	4
8		
9		
10		
12		
14		
15		
16		
18		
20		

3 Patterns in sequences

In this part, we look at another way of seeing patterns in multiplication, which is not based upon shapes and counters, but still looks for patterns in rows and columns. Helping students explore patterns through practical activities will develop their deeper thinking.

Imagine two columns, one for 'tens' another for 'units'. If we think, for example, of the 8 times table, the first four numbers are 8, 16, 24, 32.

What happens to the tens and the units as you look down the two columns? You should notice that the tens increase by 1 each time, while the units decrease by 2. Using this observation, what would be the next three numbers?

Such observations and questions can be used to help students learn about both multiplication and pattern recognition.

Tens and units

Ask your students to fill in the next three sets of numbers in this table:

Tens	Units
0	8
1	6
2	4
3	2
?	?
?	?



Teaching Example 3

Mr Lutengano wanted to do an activity exploring number. He wrote the following number sequences on the board, then asked the students to help him find the missing number. Students had to put their hand up and say what they thought the missing number was, and why.

- 4, 6, 8, [], 12, 14
- 3, 6, [], 12, 15
- 16, 25, [], 49, 64
- 1, 11, 111, [], 11111
- 1, 1, 2, 3, [], 8, 13

When the students had finished, he asked them to make up their own patterns and leave a number out. They then swapped their pattern with their partners and tried to fill in the missing numbers.

They were very excited and enjoyed the activity. Mr Inekwe asked if they could see a pattern? Could they predict the last number and each answer? He was pleased some could.

Mr Lutengano used pair work often, as it allowed all students to talk and helped their thinking.

Activity 3

- Stand by the chalkboard and ask students to be totally silent. Ask them to watch carefully.
- Write the first five multiples of 9 on the blackboard.
- Pause. Ask them to look at what is happening to the numbers.
- Ask a student to complete the pattern to 10×9 , under the heading 'tens' and 'units'.
- Ask the class to share anything they notice, recording and accepting everything without commenting.
- Carry on, but stop after 13×9 , skip some and then write $17 \times 9 = ?$ Now, watch carefully while they try to make sense of what is going on. You may have to prompt them to see the pattern in tens and units.
- Finally ask pairs of students to investigate other multiples (it is best to start with single digit numbers, 1–9). Can they work out together the pattern for tens and units?

Multiplication games

The games below come from <http://www.multiplication.com/>

They are great fun for your students. If you have any other ideas for multiplication games and can access the Internet, why not send your ideas in to the TESSA website?



1. Times tables card game

This game is played by two players with a deck of cards with the jokers and face cards removed. Players shuffle the deck and deal them all out face down. Each player flips over a card from his or her pile. The first player to call out the correct answer gets to collect two flipped over cards. If a player calls out the wrong answer the other player gets the cards. Players continue until all the cards have been flipped over. The winner is the player with the most cards at the end.

2. Buzz

This game is used to practise multiples of a particular number. It can be played in a small group or with the entire class. The leader chooses a number between 2 and 9. The leader says 1, the next player says the 2, and so on. When a multiple of the number chosen is reached, the player says 'buzz' instead of the number. If a player forgets to say 'buzz', or says it at the wrong time, he or she is out. Play continues until the group reaches the last multiple of the number times 9.

3. Around the world

Large group flash cards are great for 'Around the world'. Players sit in a circle. One student starts by standing behind the next student in the circle. The teacher holds up a flash card. The first student to say the answer stands behind the next person in the circle. If a sitting student says the answer first, the standing student sits down in the winner's chair. This process continues until at least one student makes it completely around the circle. The cards have multiplication sums on them. You can make these and use them over and over. You can use different tables e.g. 3, 6 and 8.



Science: Looking at liquids

- 1 Liquids and their properties
- 2 The value of water
- 3 Experimenting with water

Key Question for the teacher:

How can you use different activities to investigate liquids?

Keywords: assessment; mind maps; demonstrations; investigation; surface tension; liquids

Learning Outcomes for the Teacher

By the end of this section, you will have:

- used 'big picture' mind maps to see what students already know when starting a new topic
- undertaken practical classroom demonstrations to challenge students' thinking
- planned different sorts of activities including investigations and drama to develop students' understanding of the role of water

Overview

Whatever age you work with, it is always valuable to start a new topic with a thoughtful session where you build up a good picture of what the students already know. This can be recorded in the form of a mind map. Encourage students to share any questions and concerns they have. Knowing your students' learning needs will really help you plan in a meaningful way. What sort of things must be planned?



1 Liquids and their properties

In this section we guide you through using a mind map and planning a series of activities around liquids and their properties.

Because water is so important on earth, we make it the emphasis when students learn about liquids. **Teaching Example 1** tells how one teacher recorded students' ideas about water on a mind map that would be added to throughout the topic. Could you use mind maps as a starting point for this topic? After making a mind map, or using another way to find out students' understanding, practical demonstrations are important. These reinforce ideas and show how things work or happen.

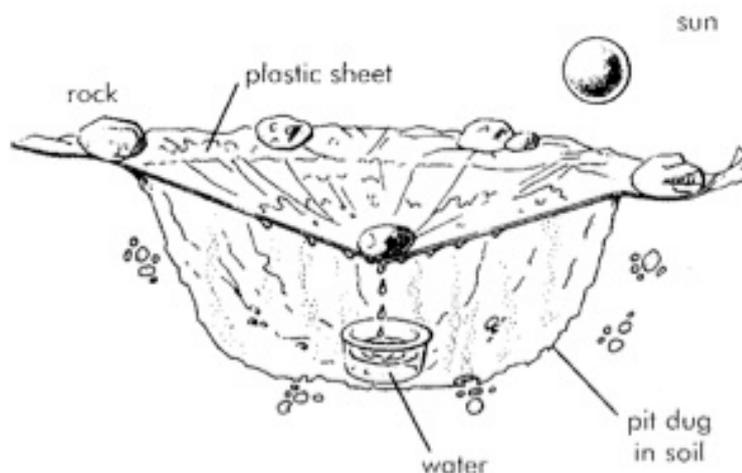
In **Activity 1** you undertake just one of the many possible teacher demonstrations that can be useful to show the properties of water – a waterwheel.

From ancient times people realised the power of flowing water. If water could be channelled to flow over or under the blades of a wheel, it makes the wheel spin. This can be used to drive other machines that do work like grinding meal or even generating electricity.

If you do not have access to sufficient water for this demonstration, we suggest you try another demonstration such as 'How would you show there is water vapour in the air in the desert?' See surviving in the desert below.

Surviving in the desert

Even if you are stranded in the desert with no water, you can collect water from the soil to drink if you have a clear piece of plastic sheeting and an empty jar or container. The diagram shows how you can do this:



Can you explain how this works?

- The heat from the sun causes water in the soil to evaporate.
- The water vapour rises in the air.
- When it meets the cooler sheet it condenses and turns back to water.
- The water runs down the inside of the sheeting and collects in the jar.

Could you try this with your students?

Teaching Example 1

Afua in Winneba, Ghana, always starts a new topic in a relaxed way, by gathering her Grade 4 students around her. She sits on a low stool, with a large blank paper on an improvised trestle behind her. She discusses the topic informally – in this case ‘water’.

Afua asks students what they know about water. She encourages them to listen carefully to each other and add to each other’s comments. She does not treat any idea as ‘wrong’ but asks the class to think about it before adding the idea to the mind map, and discussing where it will go.

She ensures there is a sense of logic to the mind map. When Dora mentions ‘floods’, all agree water can be dangerous, and the word gets written with other examples of dangers. When pollution and dissolved poisons get discussed, these too are linked to ‘dangers’.

Later, they copy into their science notebooks the improved neater version Afua has made. While they do this they think about any gaps in their knowledge. Any questions are added to the mind map in a different colour.

Sample mind map

Students work in small groups, talking and thinking about different aspects of water, and creating a mind map of one particular aspect. The aspects set out include:

- properties of water
- where water is found
- pollutants
- uses of water
- sources
- dangers
- cultural beliefs

This is a very valuable activity. Instead of testing what the students don’t know, they have an opportunity to share what they do know. They are encouraged to help one another, not to compete against one another. This is a good way to assess what the students know and how well they work as a group.

The following page shows a mind map of all the information teachers thought of at a workshop:

Activity 1

This demonstration shows the power of flowing water to students in a dramatic, but simple way. Instructions for making a waterwheel are below, they show you how modelling clay/prestik wrapped around a tube can hold blades of cardboard to represent a simple waterwheel. If the tube is free to revolve around a rod (axle) and a weighted string is fastened to the tube, then water poured over the blades will wind the string around the spinning tube and lift the weight.



We suggest you try this out before showing it to your students. Plan the questions you will ask them. These might include:

- Where have you seen this?
- What is the waterwheel doing?
- Where might this be useful?

You could extend the demonstration by finding out if altering the axle or the angle of the blades makes the wheel turn faster.

This demonstration integrates science and technology. When you stop pouring the water, there is a problem. The string will unwind. For technology, students might enjoy designing something to prevent the unwinding or using this device to do a job of work.

Instructions for making a waterwheel

- You will need a knitting needle, glass or plastic tube e.g. pen case (which the knitting needle can pass through), string (about 1.5 m), modelling clay/prestik and stiff cardboard.
 - Cut out the eight blades for the waterwheel from cardboard – they should be rectangles about 6 cm by 4 cm.
 - Thread the knitting needle through the glass tube.
 - Tie the end of the string round the glass tube and cover the end with lump of prestik.
 - Then put a larger piece of prestik over this and stick the blades of your wheel into the prestik at regular intervals.
 - Tie a weight to the other end of your string.
 - Then try out your wheel. Hold the knitting needle and pour water over the blades on one side.
-

2 The Value of water

Some people are predicting that future wars will be fought over water – an alarming thought. Water is our most precious resource. How do we ensure that students appreciate water and value using it wisely?

The amount of water found on Earth is about 1,400 million million litres. Most of it is found in three places:

- oceans and seas (97%)
- frozen, as ice (2%)
- underground (1%)

There is also some water in lakes and rivers, in the atmosphere and in living things.

Teaching Example 2 shows an interesting way of combining science and language in a drama activity about water supply. It is important to use a range of different types of activity in science as each student will have a preferred



learning style – some will learn best through doing, some through seeing and some students will be happiest listening.

In **Activity 2**, you plan and carry out a demonstration that shows how to extract clean drinking water from salt water or dirty water. As with all demonstrations, we suggest you try this out before the lesson and think carefully about the questions you will ask the students during the demonstration.

Teaching Example 2

Kholiswa Somyo integrates her students' learning whenever possible. With 'water' she linked science to language by making a 'big book' with her class. She prepared everything carefully beforehand so that the combined lesson ran smoothly.

She started by involving one of the shyer students and developed a little classroom drama. She got Sipho to come to the front and said to him: 'Nantsi ikomityi yamanzi.' (Here is a cup of water for you.) Of course, the polite boy said: 'eNkosi M'am, for the drink of water.' To which, she surprisingly replied: 'Don't thank me! I only gave you the water. Thank the ...' (and she pointed to the ikomityi).

So Sipho thanked the cup. 'Don't thank me,' said the cup, 'I only held the water. Thank the ...' ('Tap!' a few children in the class said). 'That's right,' said Kholiswa and got Thembinkosi to come and be the tap.

So Sipho went to thank the tap. 'Don't thank me,' said the tap (Thembinkosi), 'I only poured the water. Thank the ...' ('Pipes!' called out many students).

And so the lesson went on, building up the story of the local water supply, but in reverse; pipes, reservoir, pump-house, and so on.

Making a big book

Reasons for making a big book

- If the books are interesting, then students learn that reading is interesting.
- If the books are boring and carry little relevant meaning, students see reading as a chore that has little to do with them and their interests.
- If students get the chance to actually make a book, they can see themselves as authors, and this is a very powerful thing.
- If students never find themselves and their lives in the books that they read, then they learn that books have little to do with them and they are less likely to want to have much to do with books.
- In other parts of the world, many students are encouraged to make their own books at school (together or on their own). These students love reading and read well.
- There is also a trend to use very large books for the early stages of reading so that learning what reading is about can be a shared activity. With a large book, a teacher can help the whole class to become readers.



Thank you for a drink of water

This book tells the story in reverse of how a child gets a drink of water. It traces the story back to the original provider – the sun. You could adapt this story to your own setting such as a village camp or town and make your own book with your students. Make sure all your students are involved. Plan out each page and then organise different groups to complete each page. Your students could show their book to other students in the school.

Activity 2

It is possible to make clean drinking water from dirty or salt water. Ask your students: How can we do this? Listen to everyone's ideas and note them down on the wall or chalkboard.

Show your students how you can make salty dirty water drinkable. Heat a small quantity of water in a suitable container. Above the container place a piece of glass at an angle leading to another container. When the water boils it will turn to steam. The steam will condense on the piece of glass and drip into the second container. Explain these steps to your students. You will need to do this several times and put the important words on the board.

Ask the class to look at the new water and describe it. What is left in the first container? This process is called distillation.

Now ask your students to work in groups to do a design for a large-scale version of this experiment. How could they get enough clean water for their home? Ask them to present their ideas and discuss the different proposals as a class.

3 Experimenting with water

For the final part of this section, we build on the ideas in the first two sections to ask students to solve the problem in the **Activity 3** (read this now). This activity uses investigative skills – predicting, planning, recording and presenting findings. Does this kind of activity keep your students interested? Can you think of other topics in the science curriculum where you could use this? Share your ideas with your colleagues. Perhaps you could start a journal of investigations in your school.

Often, in science, the unexpected happens. In **Teaching Example 2** above, one teacher uses a demonstration to challenge his students' thinking – he shows that a metal needle floats. How is that explained? This type of activity gives you an opportunity to assess students' understanding and to add to your original class mind map.

Teaching Example 3

Barnabas Ngcume had always been delighted by surprises as a child. In his science teaching he enjoyed finding unexpected ways to demonstrate the facts found in textbooks. This short demonstration certainly surprised his students and made them think carefully about the nature of water.

He gathered together an open glass bowl, two-thirds full of water, a few ordinary steel sewing needles, scissors and a double-ply sheet of toilet paper/tissue.

First, he asked the students to predict what would happen if you placed a needle on the surface of the water. They were all confident that it would sink. Barnabas let one of them try it – their prediction was right.

Next, he took another needle and cut a small rectangle of tissue slightly longer than the needle and about 2 cm wide. He peeled apart the two layers and rested the needle on one of the rectangles. Carefully he lay both on the water. 'See! It floats,' he told his class. They all said he was cheating. But then, as they watched, the tissue became waterlogged and sank, leaving the needle floating on the thin skin of the surface.

Barnabas didn't give any explanation. He asked his students to discuss their thinking and questions in small groups. Then he asked them to suggest explanations for what they had observed and he shared some ideas about surface tension.

At the end of the lesson, some of his students added the new information to their original mind map about water.

Surface tension

If you had never seen a steel needle floating on the 'thin skin' of the surface of water, you might have been as surprised as your students are likely to be when you demonstrate this. But what is the explanation?

Think it out for yourself. Try to imagine the actual particles of water. In your mind's eye, see them free to flow and move past and between each other. But they are always being held together by weak forces of attraction. This is happening in all directions. At any one moment in time, any one particle will have neighbours on all four sides (left, right, front and back). There will also be neighbours above and below. Do you get the picture?

Now think of a particle at the surface. It has no particles above it. That leaves the particles at the surface with extra attractive force to spare, so the particles at the surface will hold together more strongly. This creates a tough, fairly strong, temporary skin across the surface. Scientists call this extra pull between surface particles of certain liquids surface tension.

Water has a much higher surface tension than most other liquids. You might like to try the experiment with other liquids to show this.

Can your students think of other examples of surface tension?

Other examples include the shape of water droplets and insects walking on water.

Activity 3

Organise your students into groups of four.

- Give each group a piece of cloth or paper towel to wet and then cut up. Now ask them to think of the best way to dry the pieces of cloth. Should the cloth be crumpled up? Folded up? Spread out? In the sun? In the shade? In a draught?
- Each group should make a prediction and plan their experiment. What equipment will they need? What will they measure? How will they present their results?
- Discuss with your students the need to keep everything the same except the one thing they are investigating – here, this is their method of drying. So they will need to make sure that each piece of cloth is the same size and have the same amount of water on it at the start.
- When groups have their plan and their equipment, let them try their investigation.

Each group should present their findings to the class; they should include the best way to dry the cloth and things that went wrong in their investigation.



Social Studies: Looking at different kinds of evidence in history

1 Using maps to investigate settlements

2 History of farming

3 Exploring local history

Key Question for the teacher:

How can you use mind mapping and fieldwork to develop historical skills?

Keywords: historical skills; mind mapping; fieldwork; investigations; history; maps

Learning Outcomes for the Teacher

By the end of this section, you will have:

- used pictorial maps to help students see the importance of the natural environment in human settlement patterns (see also Module 1, Section 2)
- used small-group investigations, including fieldwork, to develop students' understanding of early African societies

Overview

In addition to looking at oral and written evidence, your students can also learn about the past from other sources, for example maps.

In this section, you will structure lessons and activities that will help students understand the factors that led to the emergence of strong African kingdoms in the past. It provides you with insight into the kinds of evidence and resources you can use.

It covers:

- using maps and other documents to examine factors in the natural environment that influenced the nature of the settlement and the kingdom
- exploring the role of pastoral and agricultural practices in shaping African lifestyles and culture
- exposing students to the material evidence that remains in and around settlements, which will help them examine how the past is reconstructed.



1 Using maps to investigate settlements

By looking at the local environment and the physical layout of the land, it is possible to think about why a community settled in a certain place.

Great Zimbabwe provides a good example. It is important that as a social studies teacher you understand a case like this, as it gives you the skills to relate these ideas to a number of different ancient African kingdoms and to your local setting. Using fieldwork, such as actual trips to a site, allows students to see for themselves why one place was chosen for settlement and why some developments survived longer than others.

Most settlements are where they are because the environment provides some kind of resource, such as water or trees, and/or the site provides protection from the elements and, in earlier times, from enemies. Villages and towns are often found near a stream or wood to provide water and wood for shelter and to burn for heat and cooking. By looking closely at your school's local environment or your students' home environment, whichever is easier, you can help them to begin to understand how settlements developed.

Maps from earlier times will show how a site has changed over time.

Teaching Example 1

Ms Sekai Chiwamdamera teaches a Grade 6 class at a primary school in Musvingo in Zimbabwe. Her school is near the heritage site of Great Zimbabwe. She knows that many of her students pass by this magnificent site of stone-walled enclosures on their way to school. But she wonders whether they know why it is there. Sekai wants to help her students realise that the landscape and its natural resources played an important part in people's decision to settle in Great Zimbabwe.

She begins her lesson by explaining how Great Zimbabwe was a powerful African kingdom that existed between 1300 and 1450. She asks the students to consider why the rulers of this kingdom chose to settle in the Zimbabwe Plateau rather than anywhere else in Africa. A map is her key resource for this discussion. One by one, she points out the presence of gold, ivory, tsetse fly, water supply and access to trade routes on the map; she asks her students to suggest how each of these led people to establish the settlement where they did. As her students suggest answers, Sekai draws a mind map on the board.

Sekai is pleased at the level of discussion and thinking that has taken place.

Great Zimbabwe

Great Zimbabwe, or 'houses of stone', is the name given to hundreds of great stone ruins spread out over a 500 sq km (200 sq mi) area within the modern-day country of Zimbabwe, which itself is named after the ruins.

The ruins can be broken down into three distinct architectural groups. They are known as the Hill Complex, the Valley Complex and the famous Great Enclosure. Over 300 structures have been located so far in the

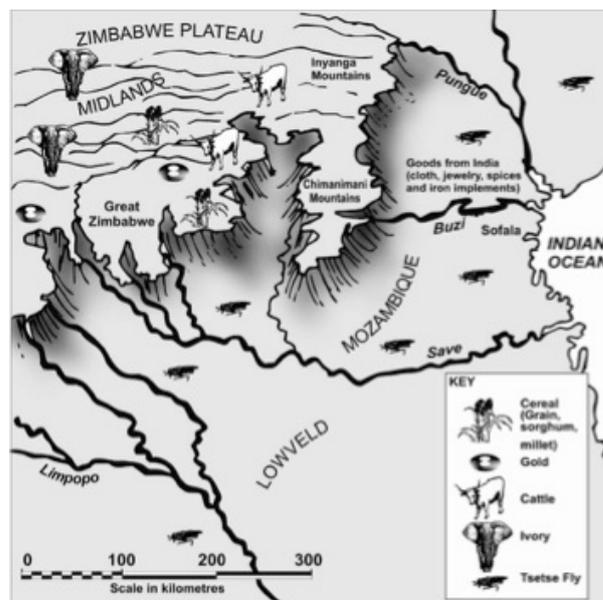


Great Enclosure. The types of stone structures found on the site give an indication of the status of the citizenry. Structures that were more elaborate were built for the kings and situated further away from the centre of the city. It is thought that this was done in order to escape sleeping sickness.

What little evidence exists suggests that Great Zimbabwe also became a centre for trading, with artefacts suggesting that the city formed part of a trade network extending as far as China. Chinese pottery shards, coins from Arabia, glass beads and other non-local items have been excavated at Zimbabwe.

Nobody knows for sure why the site was eventually abandoned. Perhaps it was due to drought, perhaps due to disease or it simply could be that the decline in the gold trade forced the people who inhabited Great Zimbabwe to look elsewhere.

The ruins of Great Zimbabwe have been a UNESCO World Heritage Site since 1986.



1. Find Great Zimbabwe.
2. Find the Zimbabwe Plateau. Why do you think the founders of Great Zimbabwe decided to build the settlement on a plateau?
3. What natural resources were found in and around the region of Great Zimbabwe?
4. Why were these resources important?
5. What other environmental factors may have contributed to the people's decision to settle on the Zimbabwe Plateau?

Adapted from original source: http://en.wikipedia.org/wiki/Great_Zimbabwe

Original source: Dyer, C., Nisbet, J., Friedman, M., Johannesson, B., Jacobs, M., Roberts, B. & Seleti, Y. (2005). *Looking into the Past: Source-based History for Grade 10*. Cape Town: Maskew Miller Longman. ISBN 0 636 06045 4.

Activity 1

Before the lesson, copy the map and questions about Great Zimbabwe onto the chalkboard or have copies ready for each group.

- First, explain what a key represents on a map. Then divide the class into groups and ask each group to analyse the key relating to the map of Great Zimbabwe. Agree what each item on the key represents.
- Ask your students why they think the people first settled here. You could use the questions to help them start their discussion.
- As they work, go around the groups and support where necessary by asking helpful questions.
- After 15 minutes, ask each group to list their ideas.
- Next, ask them to rank their ideas in order of importance.
- Write down their ideas on the chalkboard.
- Finally, ask students to vote on which they think are the three most important factors.

With younger children, you could look at local features and ask them to think why people settled here.

2 History of farming

In the past, cattle were always viewed as an important resource, and many farmers and communities still view cattle this way.

The purpose of **Activity 2** is for students to investigate the traditional role of cattle in African societies using the local community as a source of information. They will then determine how much African farming societies have changed.

Teaching Example 2 and **Activity 2** use mind mapping and a template to help students think about the task as they work together in groups to share ideas.

Teaching Example 2

There are many farmers living in the Birnin Kebbi area and many of the students in the school are children of farmers. Bilkisu wants to investigate with her class how important cattle were to the lifestyle and culture of the early African farmers who settled in Nigeria. She also wants her students to think about the extent to which African farming societies have changed. She plans to use the local community as a resource of information.

Bilkisu begins her lesson by explaining the important role of cattle in early African societies. She draws a mind map on the chalkboard that highlights the importance of cattle, and what cattle were used for. The class discuss these ideas.

In the next lesson, in small groups with a responsible adult, the students go out to interview local farmers. Bilkisu has talked with them beforehand to



see who is willing to talk with her students.

The students had two simple questions to ask local farmers:

1. Why are cattle important to you?
2. What are the main uses of cattle?

Back in class, they share their findings and Bilkisu lists their answers on the chalkboard. They discuss what has changed over the years.

Activity 2

Before the lesson, read the story that follows, **Cattle in traditional life – the Fulani**.

- Explain to students why cattle were important to the people who live in northern Nigeria.
- Ask them, in groups, to list reasons why people used to keep cattle.
- For homework, ask them to find out from older members of the community how keeping cattle has changed.
- In the next lesson, ask the groups to copy and then fill out the template in the role of cattle – past and present to record their ideas.

Share each group's answers with the whole class and display the templates on the wall for several days so students can revisit the ideas.

Cattle in traditional life – the Fulani

The Fula or Fulani are an ethnic group of people spread over many countries in West Africa, including Nigeria. The ancient origins of the Fula people have been the subject of speculation over the years, but several centuries ago they appear to have begun moving from the area of present-day Senegal eastward.

The Fulani are traditionally a nomadic, pastoralist people, herding cattle, goats and sheep across the vast dry hinterlands (remote areas) of their domain, keeping somewhat separate from the local agricultural populations.

A Fulani family needs at least 100 heads of cattle in order to live completely off their livestock. When the number of livestock drops, the family must start farming to survive.

The Sokoto Fulani of Nigeria

The Sokoto Fulani are a sub-group of this much larger Fulani group and live in northern Nigeria alongside the Hausa people. The Sokoto region houses some of the ruling class of the Fulani, known as the Toroobe.

The area they occupy is open grassland with narrow forested zones. Camels, hyenas, lions, and giraffes inhabit this region. Though the temperatures are extremely hot during the day, they are much cooler at night.

What are their lives like?

The semi-nomadic Sokoto Fulani engage in some supplementary farming, along with animal breeding. Millet and other grains are their main crops. Milk, drunk

fresh and as buttermilk, is their staple food, and meat is consumed only during ceremonial occasions. The cattle are herded by the men, although the women help with milking the cows. The women also make butter and cheese and do the trading at the markets. Among the Fulani, wealth is measured by the size of a family's herds.

The semi-nomadic Sokoto Fulani live in temporary settlements. During the harvest, the families live together in small huts that make up village compounds. During the dry season, the men leave their wives, children, the sick and the elderly at home while they take their herds to better grazing grounds. Each village has a chief or headman to handle village affairs.

Adapted from original source: <http://en.wikipedia.org>

The role of cattle in the past Cattle were important for:	The role of cattle today Cattle are important for:

3 Exploring local history

One way to reconstruct how societies in the past lived is to analyse buildings, artefacts, sculptures and symbols found on sites from a long time ago.

In this part, students go on a field trip to a place of historical interest. If this is not realistic for your class, it is possible to do a similar kind of task in the classroom by using a range of documents, photographs and artefacts. Students can start to understand how to investigate these and fill in some of the gaps for themselves about what used to happen.

Teaching Example 3

Aisha has already explored with her Primary 5 students that Sokoto Caliphate was a powerful political empire with a strong ruler. Now she wants them to think about how we know this. As her school is near Sokoto, she organises a field trip. She wants the students to explore the buildings and artefacts, and think about how historians used this evidence to construct the empire's history.

At the site, the students take notes about what the buildings look like. They also describe and draw some of the artefacts and symbols that can be found in and around each of these buildings.

Back at school, they discuss all the things they saw and list these on the chalkboard. Aisha asks them to organise their findings under headings for the different types of building they have seen. The students then discuss what they think the different buildings were used for, based on what they



looked like and the artefacts and sculptures that were found there. Aisha helps fill in the gaps by explaining aspects of Fulani culture and the meaning of some of the sculptures and artefacts. The ideas are displayed and other classes are invited to see the work.

Activity 3

Before you start this activity, gather together as much information as you can about the local community as it used to be. You may have newspaper articles, notes of talks with older members of the community, names of people who would be happy to talk to your students.

- Organise your class into groups. Explain that they are going to find out about the history of the village using a range of resources. Each group could focus on one small aspect, for example the local shop, or church, or school.
- Look at the resources you have, if any, before going to talk to people.
- Give the groups time to prepare their questions and then arrange a day for them to go out to ask about their area.
- On return to school, each group decides how to present their findings to the class.
- Share the findings.

You could make their work into a book about the history of your local area.



Life Skills: Looking at the world of work

- 1 Exploring work activities in the classroom
- 2 What kind of work would you like?
- 3 How to gain an income

Key Question for the teacher:

How can different ways of grouping students develop understanding of work and employment?

Keywords: group work; collaboration; debate; local contexts; work; employment

Learning Outcomes for the Teacher

By the end of this section, you will have:

- used 'think-pair-share' to help your students realise the importance of work in the home and community
- prepared collaborative (joint) activities and assessed individual learning
- used local contexts and resources to motivate students to understand about work and employment

Overview

The way you group students for discussion can make a big difference to their learning experience. Sometimes you will want to group them according to ability; sometimes you will want to mix quicker and slower students. If you have a large and/or multigrade class, you may need to group them according to age or grade. In this section, you will use different forms of grouping for both individual and collaborative working to help students discuss and reflect on their understanding of work and employment.

You can also use local contexts and resources to motivate students so that they use their own initiative to make useful and saleable items from local materials.



1 Exploring work activities in the classroom

Young people and adults do different activities as work and employment. In this section, we suggest you use a ‘think-pair-share’ approach to help your students explore the meaning of work and employment and its importance. This is explained in **Activity 1** to follow.

Exploring where the money comes from to provide things at home is a good starting place for this topic.

In **Activity 1** you ask your students to think about the different kinds of work in your community and discuss the difference between work and employment.

Teaching Example 1 shows some students’ ideas about different types of employment.

Teaching Example 1

Mr Petrus’ Grade 5 class in South Africa had been working on different forms of employment in the country. He now wanted them to focus on the local community.

Mr Petrus split the class into two. He asked one half to identify all the local employers and prepare an argument saying why it is better to be employed. He asked the other half of the class to identify different informal ways to make money and prepare an argument saying why it is better to earn money this way. After 20 minutes of preparation time, each group gave in their list and Mr Petrus wrote it on the board – making sure he didn’t duplicate ideas see ways of earning money for their list below. They discussed the lists and realised that the work is the same in some cases, whether formal or informal, paid or unpaid.

In the next lesson, they held a debate, with each group nominating a speaker to present their argument. At the end, they held a vote on whether formal or informal employment is better. Even after the vote, the students continued to discuss the ideas, which pleased Mr Petrus.

Ways of earning money – Mr Petrus’ class list

Formal ways to earn money

- Work for the government
- Work for a company
- Work for a small-business person
- Run own business
- Make things
- Work for an NGO
- Work at a clinic
- Be a teacher
- Build furniture
- Work in a garage
- Be a plumber

Informal ways to earn money

- Sell things
- Grow things
- Sell hot food to workers
- Sew
- Fix cars
- Street trading
- Be a local guide
- Be a domestic worker
- Be a gardener

Activity 1

Use the *'think-pair-share'* approach for students to identify different ways to make money and explore students' employment opportunities.

- Ask your students to each think of the different ways there are to earn money. Give each student five minutes.
- Next, pair them with their neighbour and ask them to share their ideas. (If your students sit in desk groups of three, you could use threes instead of pairs.) They combine their ideas to make one list for each pair or three. Allow ten minutes.
- Ask each pair or three to give their ideas and list them on the board.
- Discuss the distinction between work and employment. Make sure they understand that people must work in their homes and on the land, and this is different from the work they do as employment for which they get paid.

Ask the students to share how they would like to be employed in the future.

2 What kind of work would you like?

Hearing from others how they do their different activities can help your students understand what variety of jobs there are and what they would like to do themselves. Inviting a guest to talk to them about what they do can help students understand how a particular kind of work is done. Taking students outside school will excite and motivate them and give real weight to how they see many jobs.

Teaching Example 2

To help her students develop the concepts of work and employment, and understand the importance of work, Standard 5 teacher Aisha talked to her students about work and the future. She found that most of her class wanted to go to university so that they could get good jobs and earn lots of money. Most of them wanted to move to the city.



To show her students real-life experiences, Aisha invited a local shopkeeper to come to the school and tell the students how he started his business. They learned that starting a shop and running it involves hard work. It also needs money; he got a loan from the government to start his business. He had paid back nearly all of his loan and would soon own his business.

Aisha also invited a friend of hers, Anyango, who used to live in their village but had gone to university and now worked in a bank in the city. Anyango explained that she had always wanted to work in a bank and she had studied hard to become an accountant.

After the visits, the class held a debate on whether it is better to stay in your village and run your own business or to go to university and get a job. The class had learned much about how work and employment were related to their efforts at school and in the wider community.

Activity 2

Take your class (or in smaller groups, in turns) to a local market and let them see what happens there. Pair the students carefully to make sure they stay focused on the task and do not get distracted while out of school. Prepare for the activity by arranging with some of the market traders to answer some questions from the students about their business. You will need to prepare a worksheet/questionnaire for your students; see the worksheet below. If you do not have the resources to make a worksheet, then in the previous lesson write some questions on the board and ask the students to copy them into their books – leaving spaces for the answers they will get at the market. Also, ask the students what they want to find out and add these questions to the list.

If you think it is more appropriate, you could take the class to a local bank or other place of employment, but you will still need to plan this and have some questions or tasks for them to do or ask when there. After the visit, the students can write up and/or discuss what they learned about work. Summarise these thoughts on the board.

Worksheet for the visit to the market

1.	How many market stalls are there in the market?
2.	What different goods are sold there?

3.	Who owns/is in charge of the market?
4.	What are the opening hours?
5.	Where is the next nearest market?

For one market trader, students could ask:

1.	How did you start your business?
2.	Where do the goods come from that you sell?
3.	How do you calculate your selling prices?
4.	How do you calculate your profits?



5.	What form of transport do you use to come to market?
6.	How far from the market do you live?
7.	What is the biggest problem for the market traders?

3 How to gain an income

In the previous activities, your students have found out more about work and employment through group work and have also heard life experiences of people who are employed or earn a living.

In the **Activity 3** below, you give students the opportunity to be involved in a task that will extend their skills and which they might be able to use to gain an income.

Teaching Example 3 shows how one teacher set up a mini-enterprise to give her students experience of work and employment.

Teaching Example 3

Mrs Maingi is a vocational skills teacher in a primary school in a small town in Kenya. Near the school there are three tailoring shops. The area around the tailoring shops was littered with small pieces of cloth that the tailors had thrown away. Mrs Maingi and her class thought that they could use the pieces of cloth to make useful items during their needlework lessons. She asked the tailors to collect all the pieces of cloth for her instead of throwing them away.

Mrs Maingi used the cloth to teach the students how to sew. They cut, neatly hemmed and stitched them to make handkerchiefs, scarves and small tablecloths. Since most of the students did not have a handkerchief or scarf, each student was given one. The rest of the handkerchiefs and The rest of the handkerchiefs and the small tablecloths were sold at very reasonable prices in school and the village.



One boy and one girl were chosen to record how much money they were paid. They also had to pay for the needles and threads they used. The profit was used to buy sugar to put into their porridge. The students were very happy because there was no more littering from the tailors and they could now take porridge with sugar.

Activity 3

It is now time to put all your students' knowledge about work and employment to the test by doing an activity that will benefit the school or home. The text below about Barrina Primary School, Kenya, school garden gives an example of a school in Kenya making a garden to provide food and sell surplus as part of a project.

- Discuss and identify activities that they can do as projects to help them develop skills, while at the same time being beneficial to the school/home. Decide together which are the two best ideas to carry out. Examples could be: making baskets, mats, ropes or brooms, or collecting plastic bags and bottles for recycling. The kind of activity will depend on the context of the school.
- Students choose to work on one of the two selected projects. You will need to help them in planning their project and collecting the resources. Local experts and other community members could help and advise you on what to do.
- Discuss with the students what they can do with the products they get from their project (whether they can be used in school, at home or possibly sold to make money).
- Discuss with the students the usefulness of their projects and the skills they have developed.
- You might want to plan a day to sell some of your goods and use the profits to buy things that would benefit the whole class.

Point out to the students that the activities they do both at home and in school as work can help them develop skills that they can use to gain employment in the future.

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