learning channel

STUDY Mate

Department of Education

GRADES 8–11 ISSUE 5 AUGUST 2007

Learning activities for Grades 8–11

Parents and teachers. Please pass this supplement on to your children and learners.

Content

Page 2: Message from the Department of Education
Page 2-5: Test of English Vocabulary (Unisa)
Page 6: Life Sciences Learning Channel Grade 11
Page 7: Physical Sciences Learning Channel Grade 11
Page 8-9: Mathematical Literacy Learning Channel Grade 11
Page 10-16: History Grade 10 exam paper

Education Minister Naledi Pandor

LIBERTY LIFE

Standard Bank

learning channel

STUDY Mate

Department of Education

GRADES 8–11 ISSUE 5 AUGUST 2007

Learning activities for Grades 8–11

Parents and teachers. Please pass this supplement on to your children and learners.

Content

Page 2: Message from the Department of Education
Page 2-5: Test of English Vocabulary (Unisa)
Page 6: Life Sciences Learning Channel Grade 11
Page 7: Physical Sciences Learning Channel Grade 11
Page 8-9: Mathematical Literacy Learning Channel Grade 11
Page 10-16: History Grade 10 exam paper

Education Minister Naledi Pandor

Committed to helping you grow.

This publication is proudly sponsored by Mondi Shanduka Newsprint.

MONDI SHANDUKA NEWSPRINT

LIBERTY LIFE

Standard Bank

Dear learner

Many of you take English as one of your subjects. English may also be the language of instruction at your school. This means that fluent reading and accurate writing of English is important for your success at school.

Over the next 10 weeks the Department of Education will publish learning materials developed by the English Department at UNISA and aimed at improving your English knowledge and skills. This material will appear in each of the next 10 editions of Study Mate.

In this week's Study Mate there is a self-assessment test (pages 2-4). You should complete the test and then check your answers against the correct answers (pages 4-5). The test will focus on the following: vocabulary; pronouns; tenses; concord; punctuation; and comprehension of short passages.

In the publications that follow, there will be lessons and exercises on each the aspects of the test. In addition, there will be tips on how to improve your reading and writing.

TEST OF ENGLISH VOCABULARY

Test instructions

This is a self-assessed diagnostic test. This means that you mark your own answers from the key on page x and find out from the results what your strengths and weaknesses are.

Answer on the test itself by circling the number of the alternative you think is correct.

Vocabulary

1. You're not supposed to ..... your car on the motorway.
   1 affiliate **2** allocate **3** abandon **4** attribute
2. If you don't understand then ask the speaker to ..... the point.
   1 compound **2** clarify **3** comprehend **4** correlate
3. It's difficult to know how well Bafana Bafana will perform because they play such ..... football.
   1 incessant **2** intense **3** inconsistent **4** intuitive
4. His eyesight ..... to the point where he had to use glasses.
   1 defected **2** degraded **3** degenerated **4** deteriorated
5. They should ..... the present system and start afresh.
   1 discard **2** defer **3** dispose **4** disperse
6. Such an ..... hairstyle must take ages to do.
   1 explicit **2** accomplished **3** elevated **4** elaborate
7. Despite the ..... similarity the two are actually very different.
   1 superficial **2** synthetic **3** sophisticated **4** spontaneous
8. His criticisms gradually ..... her self-confidence.
   1 suppressed **2** pervaded **3** defected **4** undermined
9. His statement was so ..... that both parties claimed victory.
   1 valid **2** tangible **3** vague **4** diverse
10. It's not always possible to ..... when it will happen.
    1 advocate **2** anticipate **3** appreciate **4** approximate
11. Industries have been ..... near the harbour.
    1 concentrated **2** congregated **3** converged **4** compounded
12. It's impossible to ..... the power of television.
    1 emphasize **2** enhance **3** enumerate **4** exaggerate
13. This glass is too ..... to trust in a drunkard's hand.
    1 fallible **2** fragile **3** diffuse **4** rigid
14. In this sentence: *Try to pass on news of the event,* the underlined words could best be replaced by
    1 announce **2** advertise **3** inform **4** publicise
15. In this sentence: *The book made him feel interested and excited,* the underlined words could best be replaced by
    1 involved **2** fascinated **3** provoked **4** inspired
16. In this sentence: *My grandmother likes to think back over the past and tell stories from days gone by,* the underlined words could best be replaced by
    1 reminisce **2** recollect **3** narrate **4** recall
17. In this sentence: *The organization wants to get rid of all undesirable members,* the underlined words could best be replaced by
    1 prune **2** ransack **3** purge **4** annul

Prepositions

Choose the correct option for the prepositions omitted in the gaps below.

1. We both arrived ..... the same conclusion.
   1 to **2** with **3** at **4** in
2. He got more than he bargained ..... .
   1 with **2** for **3** at **4** about
3. He was stranded when his car broke ..... .
   1 up **2** in **3** away **4** down
4. When her health failed, her business had to close ..... .
   1 up **2** in **3** over **4** down
5. Her health failed because she was deprived ..... sleep.
   1 of **2** from **3** without **4** to
6. We all tried to discourage her ..... giving up altogether.
   1 for **2** to **3** from **4** with

Verb tense

According to recent estimates, 32.4 million adults and 1.2 million children ...1... with HIV world-wide at the end of 1999. By then, in addition, the epidemic ...2... a cumulative total of 11.2 million aids orphans. In 1999, an estimated 570 000 children aged 14 or younger ...3... infected with HIV. Over 90% of these ...4... babies born to HIV-positive women. Almost nine-tenths of these new infections acquired before or at birth or through breast feeding ...5... in sub-Saharan Africa.

1. **1** had lived **2** lived **3** were living **4** are living
2. **1** had created **2** created **3** was creating **4** has been created

3. **1** become **2** became **3** were becoming **4** had become

4. **1** have been **2** are **3** were being **4** were

5. **1** will occur **2** occurred **3** are occurring **4** have been occurring

As we ...6.. around the TV last Tuesday, watching in disbelief the towers of the World Trade Centre ...7... into rubble, somebody ...8... out of the window of our office in downtown Washington to the large plume of smoke that ...9... from across the Potomac River. Moments later the TV reported that the Pentagon ...10... as well.

My immediate concern on learning about the aeroplane that ...11... into it, was for the close friends I ..12...there. The next few hours ...13...to get in touch with them and, failing that, figuring out where their offices were in relation to where the newscasts were saying the aircraft exploded.

6. **1** sat **2** sit **3** are sitting **4** have sat

7. **1** is crumbling **2** have crumbled **3** crumble **4** crumbled

8. **1** is pointing **2** pointed **3** points **4** was pointing

9. **1** rises **2** is rising **3** was rising **4** has risen

10. **1** is being struck **2** was struck **3** was striking **4** had been struck

11. **1** was crashing **2** had crashed **3** has crashed **4** was crashed

12. **1** had who worked **2** have who are working
3 had who are working **4** have who work

13. **1** were spent trying **2** were spent tried
3 were spending tried **4** were spending trying

14. She ..... yesterday and ..... her leg.
1 fell ... break **2** fell ... broke **3** fall ... break **4** fall ... broke

Subject-verb agreement/concord

1. This river usually ..... in winter so it might very well ..... tonight.
1 freeze ... freeze **2** freezes ... freezes **3** freeze ... freezes **4** freezes ... freeze

2. Almost everyone ... to have ... of money.
1 wants ... lots **2** want ... lots **3** wants ... lot **4** want ... lot

3. A spokesperson for the taxi associations ..... warned that driving with worn tyres ..... dangerous.
1 have ... is **2** has ... is **3** have ... are **4** has ... are

4. There ..... a lot of rice left over and there ..... a few potatoes too.
1 are ... are **2** is ... is **3** is ... are **4** are ... is

5. One of my friends ..... me with my Maths and in return my mother and father ..... his school fees.
1 help ... pays **2** help ... pay **3** helps ... pay **4** helps ... pays

6. I don't want to ..... in ..... house.
1 leave ... this **2** leave ... these **3** live ... this **4** live ... these

Logical Order

What is the most logical order for the sets of sentences or phrases in the following four questions?

1. a He was president of a small society known as the Epicures.
b Richard Pratt was a famous gourmet.
c Each month he circulated to its members a pamphlet on food and wines.
1 b – a – c **2** b – c – a **3** a – c – b **4** c – b – a

2. a the pursuit of a better beer
b which is also set in the not too distant past:
c The next story
d happens to feature a very contemporary interest
1 c – b – d– a **2** c – a – d – b **3** c – a – b – d **4** c – d – b – a

3. a nearly an hour ahead
b and the next stop was at Temple combe,
c and the railway carriage was correspondingly sultry,
d It was a hot afternoon
1 d – b – a – c **2** d – b – c – a **3** d – c – b – a **4** d – c – a – b

4. a Lying on a mat in the corner of the hut was the trembling figure of a boy.
b They were discussing him in awe-inspired whispers.
c The witch-doctor and Mlalazi were discussing the tragic case of Mlalazi's son.
d They were sitting in Mlalazi's hut after a fierce thunderstorm.
1 a – c – d – b **2** a – b – c – d **3** c – d – a – b **4** c – d – b – a

5. a Now, Pavel Palazchenko, the former Soviet leader's most frequent interpreter in his latter years in power, is a voice in his own right.
b He is with him still – translator, aide and friend, at the Gorbachev Foundation in Moscow.
c For years, he was the bald guy with the big moustache beside Mikhail Gorbachev.
d He became so close to Gorbachev that he acted as much as adviser as translator.
1 a – c – d – b **2** c – a – d – b **3** a – d – b – c **4** c – d – a – b

General comprehension

Agents of aging

Why do we age? What causes the visible outward and less obvious but more significant inward changes that lead to a reduced capacity for work and eventually to death? Those involved in the science of gerontology have attempted to answer these questions for decades. They have produced a number of aging theories.

1. In the second question of the paragraph, the word *changes* is 'understood' (i.e. it is missing but we know that it could be used there) after the word
1 'causes' **2** 'outward' **3** 'obvious' **4** 'significant'

2. In the same question (see question 69 above), which of the following words is 'understood' as the verb of 'to death'?
1 'causes' **2** 'changes' **3** 'lead' **4** 'work'

3. The pronoun *they* (line 3: 'They have produced') refers back to
1 *we* in 'Why do we age?'
2 'Those involved in the science of gerontology'.
3 'these questions'
4 'decades'

What happens when the honeymoon's over?

With two out of three marriages in South Africa ending in divorce, wedded bliss often proves fleeting for many couples. This means that 45% of women find themselves the sole breadwinner in the household. As a woman, where would divorce leave you? The short and long-term costs can be tremendous. In the short term, consider the burden of legal fees and the costs of setting up a new home. In the long term, you may well experience a drop in your standard of living due to the loss of joint income. At Nedbank we are committed to offering a range of products and services that meet the unique financial needs of women, whether they be wealth creation, day-to-day banking, financing or retirement planning. We're ready to help you achieve and maintain financial security and independence. Visit your nearest Nedbank branch, www.nedbank.co.za or call 0860 102 105.

4. The main problem this text is directed at is
1 the high divorce rate in South Africa.

2 the emotional price of divorce.

3 the high costs of legal fees and setting up a new home.

4 the financial problems facing divorced women.

5. The main purpose of this text is to

1 provide statistics on divorce in South Africa.

2 describe the financial problems facing divorced women.

3 persuade women to bank with Nedbank.

4 reduce the divorce rate in South Africa.

Punctuation

1. Which of the following is correctly punctuated?

1 "The earth is not the centre of the universe." said Copernicus. "The sun is central."

2 "The earth is not the centre of the universe," said Copernicus, "the sun is central."

3 "The earth is not the centre of the universe," said Copernicus. "The sun is central."

4 "The earth is not the centre of the universe," said Copernicus, "The sun is central."

2. Which of the following is *incorrectly* punctuated?

1 Aristotle said there was no such thing as emptiness, everything was filled with the divine presence.

2 Aristotle said there was no such thing as emptiness: everything was filled with the divine presence.

3 Aristotle said there was no such thing as emptiness. Everything was filled with the divine presence.

4 Aristotle said there was no such thing as emptiness; everything was filled with the divine presence.

3. Which of the following questions is correctly worded and punctuated?

1 How and why the universe began and what is our place in it?

2 How and why the universe began and our place in it?

3 How and why did the universe begin and what is our place in it?

4 How? and why? did the universe begin and what is our place in it?

4. Which of the following is a complete sentence?

1 Mr Jones locking the hen-houses for the night

2 With the ring of light from his lantern dancing from side to side.

3 Drew himself a last glass of beer from the barrel in the scullery.

4 Mrs Jones was already snoring.

5. Which of the following is a complete sentence?

1 At one end of the barn, on a sort of raised platform.

2 Ensconced on his bed of straw, under a lantern which hung from a beam.

3 Before long, the other animals began to arrive.

4 Then the pigs, who settled down in the straw immediately in front of the platform.

6. Which of the following is correctly punctuated?

1 The hens perched themselves on the window-sills, the pigeons flew up to the rafters.

2 The two cart-horses came in together, they walked very slowly.

3 Boxer was an enormous beast, nearly eighteen hands high.

4 Benjamin was devoted to Boxer, he would never have admitted it, however.

TEST ANSWERS

Vocabulary

1. **3** You're not supposed to **abandon** your car on the motorway.
2. **2** If you don't understand then ask the speaker to **clarify** the point.
3. **3** It's difficult to know how well Bafana Bafana will perform because they play such **inconsistent** football.
4. **4** His eyesight **deteriorated** to the point where he had to use glasses.
5. **1** They should **discard** the present system and start afresh.
6. **4** Such an **elaborate** hairstyle must take ages to do.
7. **1** Despite the **superficial** similarity the two are actually very different.
8. **4** His criticisms gradually **undermined** her self-confidence.
9. **3** His statement was so **vague** that both parties claimed victory.
10. **2** It's not always possible to **anticipate** when it will happen.
11. **1** Industries have been **concentrated** near the harbour.
11. **4** It's impossible to **exaggerate** the power of television.
13. **2** This glass is too **fragile** to trust in a drunkard's hand.
14. **4** In this sentence: *Try to pass on news of the event* the underlined words could best be replaced by **publicise**.
15. **2** In this sentence: *the book made him feel interested and excited,* the underlined words could best be replaced by **fascinated**.
16. **1** In this sentence: *My grandmother likes to think back over the past and tell stories from days gone by,* the underlined words could best be replaced by **reminisce**.
17. **3** In this sentence: *The organization wants to get rid of all undesirable members,* the underlined words could best be replaced by **purge**.

If you got 10 or more wrong in questions 1 to 17 it means you have to work very hard to improve your vocabulary. If you had 5 to 9 wrong answers you have quite a good vocabulary. If you got only 4 or fewer wrong you have a very good vocabulary.

Prepositions

1. **3** We both arrived **at** the same conclusion.
2. **2** He got more than he bargained **for**.
3. **4** He was stranded when his car broke **down**.
4. **4** When her health failed, her business had to close **down**.
5. **1** Her health failed because she was deprived **of** sleep.
6. **3** We all tried to discourage her **from** giving up altogether.

Verb tenses

1. **3** were living
2. **1** had created
3. **2** became
4. **4** were
5. **2** occurred

According to recent estimates, 32.4 million adults and 1.2 million children **were living** with HIV world-wide at the end of 1999. By then, in addition, the epidemic **had created** cumulative total of 11.2 million aids orphans. In 1999, an estimated 570 000 children aged 14 or younger **became** infected with HIV. Over 90% of these **were** babies born to HIV-positive women. Almost nine-tenths of these new infections acquired before or at birth or through breast feeding **occurred** in sub-Saharan Africa.

6. **1** sat
7. **3** crumble

Department of Education

8. **2** pointed

9. **3** was rising

10. **4** had been struck

As we **sat** around the TV last Tuesday, watching in disbelief the towers of the World Trade Centre **crumble** into rubble, somebody **pointed** out of the window of our office in downtown Washington to the large plume of smoke that **was rising** from across the Potomac River. Moments later the TV reported that the Pentagon **had been struck** as well.

11. **2** had crashed

12. **4** have who work

13. **1** were spent trying

My immediate concern on learning about the aeroplane that **had crashed** into it, was for the close friends I **have who work** there. The next few hours **were spent trying** to get in touch with them and, failing that, figuring out where their offices were in relation to where the newscasts were saying the aircraft exploded.

14. 2 She **fell** yesterday and **broke** her leg.

Comprehension: logical order

1. **2** b – a – c

Richard Pratt was a famous gourmet. He was president of a small society known as the Epicures. Each month he circulated to its members a pamphlet on food and wines.

2. **2** c – b – d – a

The next story, which is also set in the not too distant past, happens to feature a very contemporary interest: the pursuit of a better beer.

3. **3** d – c – b – a

It was a hot afternoon and the railway carriage was correspondingly sultry, and the next stop was at Temple combe, nearly an hour ahead.

4. **3** c – d – a – b

The witch-doctor and Mlalazi were discussing the tragic case of Mlalazi's son. They were sitting in Mlalazi's hut after a fierce thunderstorm. Lying on a mat in the corner of the hut was the trembling figure of a boy. They were discussing him in awe-inspired whispers.

5. **2** c – a – d – b

For years, he was the bald guy with the big moustache beside Mikhail Gorbachev. Now, Pavel Palazchenko, the former Soviet leader's most frequent interpreter in his latter years in power, is a voice in his own right. He became so close to Gorbachev that he acted as much as adviser as translator. He is with him still – translator, aide and friend, at the Gorbachev Foundation in Moscow.

Comprehension: cohesion

1. **2** outward

2. **3** lead

3. **2** 'Those involved in the science of gerontology'.

Comprehension: main ideas

4. **4**

5. **3**

Punctuation

1. **3** "The earth is not the centre of the universe," said Copernicus. "The sun is central."

2. **1** Aristotle said there was no such thing as emptiness, everything was filled with the divine presence. *(Incorrectly punctuated)*

3. **3** How and why did the universe begin and what is our place in it?

4. **4** Mrs Jones was already snoring.

5. **3** Before long, the other animals began to arrive.

6. **3** Boxer was an enormous beast, nearly eighteen hands high.

SETTING GOALS

ACHIEVING YOUR DREAMS

Achievement in life is all about setting goals. If you don't know where you want to end up, you won't know how to get there. Having a vision and setting goals to help achieve your vision is the starting point. Once you have set your goals, it's up to you to make them happen. Goal setting need not be an impossible task if you think SMART.

GOAL SETTING THE 'SMART' WAY

To be effective, goals should be SMART: Specific, Measurable, Attainable, Realistic and Timebound. Let's explore each of these characteristics in brief:

SPECIFIC: Are they clearly stated?

- Goals are personal – other people cannot set goals for you.
- Identify the goals – identifying what you want to achieve/ improve in some way is essential before you can start setting goals.
- Wanting to make a change and doing it are two different things; identify the target(s).
- Clarify exactly what it is that you want to accomplish or be able to do. Each goal should contain the following 4 essential elements:
  - What you are going to accomplish – state the goal(s) and describe the indicators that will tell you when you have achieved the goal(s).
  - How you are going to accomplish it – break each goal up into separate action steps that will help you achieve the goal.
  - When you are going to accomplish it – indicate time frames for the completion of each action and the achievement of the goal itself.
  - Where you are going to accomplish it.

MEASURABLE: How will you know when you have achieved the goals?

- Goals need to be progressive – a series of progressive or small steps – so you know whether there has been a change.
- Analyse where you are now to help you determine what you need to do to achieve your goals – e.g. increase exercise time from 10 minutes to 30 minutes a session – so you can measure to see your progress.

ATTAINABLE: Is it possible for you to achieve the goals?

- Must be a goal that can be accomplished and is within your abilities and control.
- Must be personally owned and not imposed by others.

REALISTIC: Is it probable or likely that you will achieve the goals?

- A realistic goal is one that can be reached.
- If you believe you can do something, you have a better chance of accomplishing it.
- Goals must not be too easy or you lose interest in them.
- Goals must not be too hard or you become discouraged and give up.

TIMEBOUND: By when will the goals be achieved?

- Set a date by which each goal will be achieved.
- Establish a time frame to complete each of the actions that you will perform to achieve each of your goals.
- The use of timelines gives a sense of organization and control, promotes commitment to the goal and helps you pace your efforts.

Look at your own life and where you are right now. What goals do you want to achieve by the end of this year and what are you doing to make them happen? Uppermost in your mind is passing the school year with flying colours. Have you set study goals for yourself? If you are wanting to improve your general health and well-being, what goals have you set for an exercise and nutrition programme? If you have experienced a rocky road in your personal relationships, what goals have you set to improve the situation?

Department of Education

LIFE SCIENCES LESSON NOTES

Tissues, cells and molecular study
Protozoa

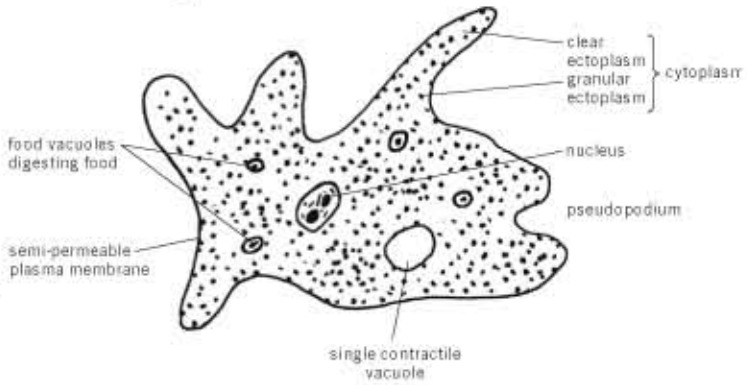
Introduction

The word protozoa means "first animal". They belong to the Kingdom Protista. They are mostly single-celled organisms that are found in fresh water, sea water or blood. Organisms like amoeba, euglena, paramecium, plasmodium and chlamydomonas are all Protozoans.

Structure

Protozoa are eukaryotic because they have a nucleus and membrane bound organelles. They move by means of **pseudopodia**, **cilia** or **flagella** depending on the species. Gaseous exchange occurs directly through the cell membrane which encloses the cell. Gases like oxygen and carbon dioxide simply diffuse from a higher concentration to a lower concentration.

Amoeba has pseudopodia which it uses to move through the water.



EXAMPLE OF A PROTOZOA: AMOEBA sp.

Reproduction

Amoeba reproduces by a process called binary fission under favourable conditions. This process is asexual and like mitosis. The nucleus divides to form two identical daughter nuclei, which move to opposite ends of the cell. The **cytoplasm** splits and two new amoeba are formed.

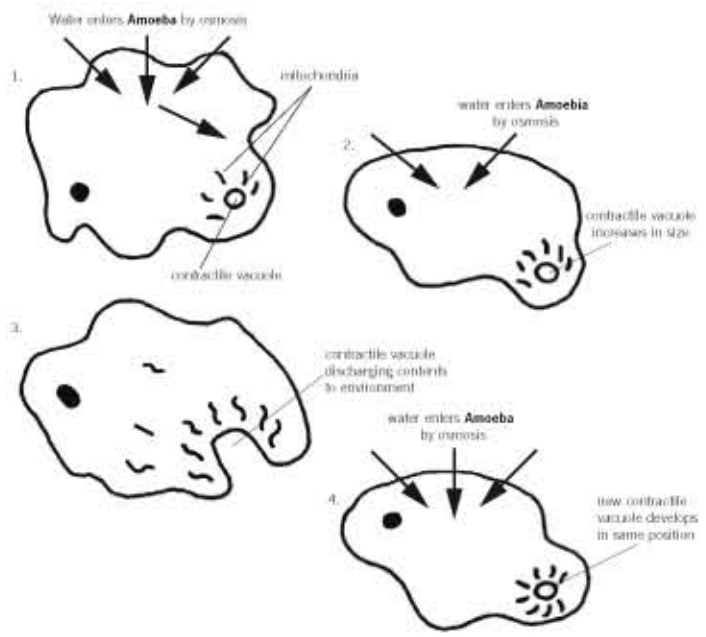
Under unfavourable conditions, amoeba forms an encystment to protect itself from adverse conditions. The amoeba becomes a round structure and secretes a waterproof capsule. This structure protects it against dehydration, high and low temperatures. As soon as conditions become favourable again, the cyst bursts and the amoeba is released to reproduce by binary fission.

Nutrition

Some protozoa contain **chloroplasts** and are able to **photosynthesise**. They are autotrophic because they produce their own food, eg Euglena and Chlamydomonas.

Some protozoans like amoeba are heterotrophic (cannot produce their own food) and ingest food particles. Amoeba use their pseudopodia to engulf the food by a process called phagocytosis. The food particle is surrounded by the pseudopodia and pulled into the body. Inside the cell, a **lysosome** attaches to the food vacuole and releases enzymes. The enzymes digest the food particle and the nutrients are moved around the cytoplasm for assimilation by the organelles.

Paramecium and vorticella have a special method of drawing food towards them. They have cilia and create a current around their body. The food is taken into the cytoplasm as a food vacuole. The lysosome digests the food particle.



OSMOREGULATION AND EXCRETION

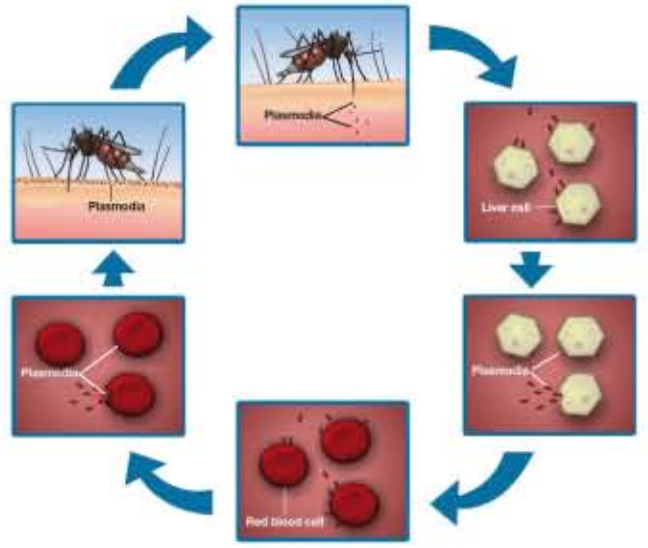
LIFE SCIENCES LESSON NOTES

Diseases

Malaria

Approximately 2 million people die from malaria each year. A protozoan called plasmodium falciparum causes the malaria disease. The plasmodium is transferred to humans by the bite of an infected mosquito. Mosquitoes are called vectors because they are organisms that transmit parasites and diseases.

1. The mosquito has sharp mouthparts that are "injected" through the skin of a human. The tube reaches into a capillary. The mosquito saliva contains an anti-coagulant which stops the blood from clotting so that they can suck freely. An infected mosquito will carry plasmodium falciparum in its saliva, so these organisms enter the human blood.
2. The plasmodium makes its way to the liver where it reproduces and causes the liver cells to burst. The daughter plasmodium cells are released back into the blood stream and now enter the red blood cells. Here, they reproduce quickly inside the red blood cells. They cause the red blood cells to burst open and the infected person experiences the symptoms of malaria. The patient will get cold chills followed by very high temperatures. With the destruction of thousands of red blood cells exploding, the patient becomes anaemic.
3. When a mosquito bites an infected person, the plasmodium parasites are sucked up into the mosquito. The plasmodium reproduce inside the mosquito and move to the salivary glands. So, when the mosquito bites another person, the cycle is repeated.



PLASMODIUM LIFE CYCLE

Control of malaria outbreaks

- Destruction of mosquito larvae with insecticides.
- Oil is sprayed onto breeding areas to prevent the larvae from breathing.
- Breeding areas are drained.
- People travelling to areas known for malaria take a preventative drug called chloroquinine to destroy plasmodium as soon as it enters the blood stream.
- Once infected, a drug like primaquinine is used to kill plasmodium in the blood.
- Citronella candles are burned to repel mosquitoes.

Amoebic dysentry

Amoebic dysentery is a disease associated with poor hygiene and sanitation. The entamoeba causes dysentry. Entamoeba live commensally in the intestines of humans. They feed on bacteria found in the gut. Entamoeba invade the lining of the intestines and become parasites. The symptoms are ulcers, bleeding, severe abdominal pain, high temperatures, vomiting and diarrhoea. The patients become dehydrated from all the vomiting and diarrhoea. When the patients do not treat dehydration, the kidneys fail. This could result in death.

Control of dysentry

- Sangomas advise that to treat dehydration, a mixture of 250ml water, ½ teaspoon salt and ½ teaspoon sugar is mixed. The mixture is absorbed easily by the stomach.
- Washing hands after using the toilet.
- Good sanitation practices are important.
- Control of vectors like flies and mosquitoes.
- Drugs like metronidazole and diloxanide furoate are used to kill the entamoeba.

Biological importances

- Protozoans are an important link in the food chain as they are a food source for larger organisms.
- Limestone, chalk and flint are a result of the encystment shells formed by Protozoans. The shells dry and harden forming the deposits.
- Protozoans assist with digestion in animals like cattle.

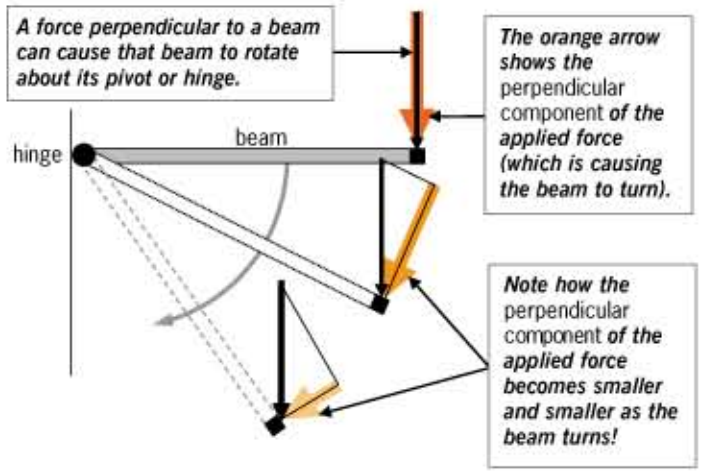
Mechanics
The turning effect of forces

Turning Effect

You must know that when an object is fixed or supported at one point and a force acts on it a distance away from the support, it tends to make the object turn.

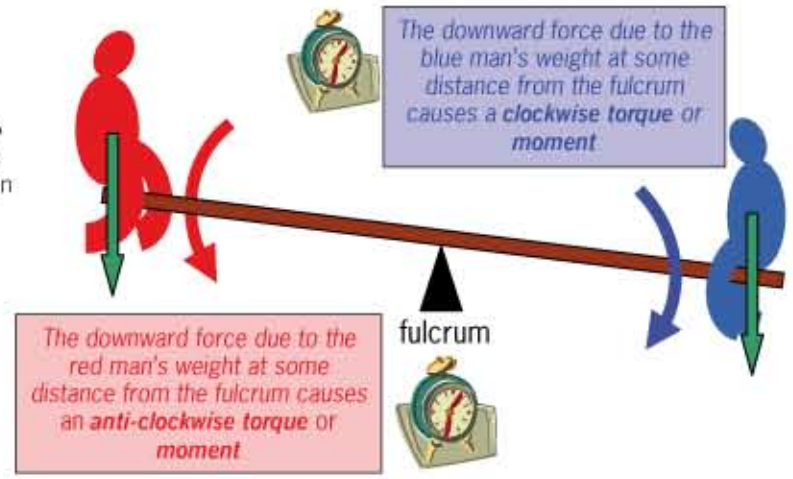
HOWEVER, only components of the force perpendicular to an object will cause turning. Any component of a force exerted parallel to an object will not cause the object to turn.

Now it makes sense when we say that a force which is exerted parallel to an object cannot make it turn.



Turning effects in clockwise and anti-clockwise directions

The direction of A TORQUE or the MOMENT OF A FORCE, the names given to the turning effect of a force, is either clockwise or anticlockwise. This can be seen quite easily in a playground see-saw.



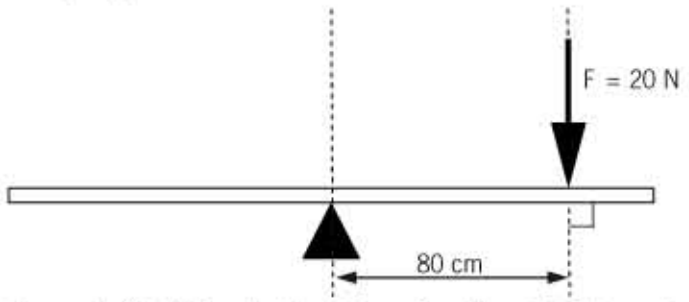
Calculating torque or the moment of a force

The size of a torque is the product of the distance of a force from the support (also called a pivot or a fulcrum in the case of our see saw) and the component of the force perpendicular to the turning object.

The symbol sometimes used for torque is the Greek letter "T" – known as "tau".

$$\tau = F \perp r$$

A simple application of this formula is as follows:



The unit of force is the newton (N) and the unit of length is the metre (m). Notice that the distance from the pivot / fulcrum is given here in centimetres. Before we can use that figure in our calculation we must convert to metres i.e. 80 cm = 0,80 m.

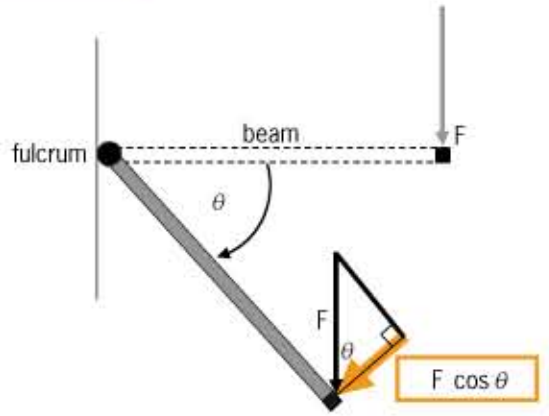
$$\tau = F \perp r$$
$$= 20\ \text{N} \times 0{,}80\ \text{m}$$
$$= 16\ \text{Nm}$$

PHYSICAL SCIENCES LESSON NOTES

The units of torque are newton-metres (Nm). To put torque into perspective, here are some of the specifications for the SLK range of Mercedes Benz roadsters, the fast sports models.

As we saw before, as an object turns due to the action of a force, if the force continues to act along the same line then the component of force at right angles (perpendicular) to the object (in this case it is a beam) will decrease as the angle of turn (θ) increases.

I f the same force acted as before (F = 20 N) at the same distance (r = 0,80 m) from the fulcrum (the point about which the turning motion happens), then we can see how the torque changes as angle θ changes.



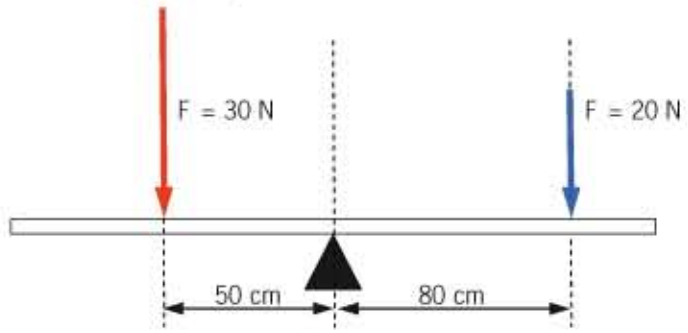
θ	cos θ	F cos θ	$\tau = F$ cos $\perp r$
10°	0.9848	19.7	15.8 Nm
20°	0.9397	18.8	15.0 Nm
30°	0.8660	17.3	13.8 Nm
45°	0.7071	14.1	11.3 Nm
60°	0.5000	10.0	8.0 Nm
75°	0.2588	5.2	4.2 Nm
90°	0.0000	0.0	0 Nm

Do the calculations yourself to confirm the values given in the table. What is the significance of the zero value for torque when the beam has turned through 90°? Explain why it has this value.

Equilibrium

When this term was used in relation to forces on a body, we said that a number of forces were in equilibrium when their resultant (i.e. their sum) was zero. We can also define the equilibrium condition for a body which has forces acting on it but which *h* is not turning.

Here is a simple example:



When these two forces act on the beam they are on opposite sides of the fulcrum. The blue (20 N) force will produce a clockwise torque or moment. The red (30 N) force will produce an anti-clockwise turning effect (or torque or moment). If the two torques are equal in size, we see that the beam would remain stationary i.e. there is no nett turning effect. If we calculate the torques / moments we can determine whether or not the beam would turn, and which way.

Clockwise moment / torque = 20 N × 0,8 m = 16 Nm

Anti-clockwise torque = 30 N × 0,5 m = 15 Nm

You can see from this that the clockwise turning effect (due to the blue, 20 N force) is greater (even though only slightly) than the anti-clockwise turning effect (due to the red, 30 N force). In this case the beam would turn in a clockwise direction!

Activities

Activity 1.1

A metre rule is used as a beam and is suspended at the position we call the fulcrum i.e. the point about which any rotation will take place.

- Draw each of the following beams showing the positions of the loads and the fulcrum.
- Calculate the moments of each of the forces acting on each beam.
- Decide whether each individual load will give a clockwise or anti-clockwise moment.
- Decide whether the beam will turn or not and, if it does turn, decide in which direction it will turn.

PERCENTAGE

Adding a percentage of an amount to an amount

Introduction

Previously we converted a fraction or ratio into a percentage.

In this lesson we will consider two further calculations. We will:

- Calculate a percentage of an amount; and
- Add a percentage of an amount to an amount. In other words, we will be increasing an amount by a particular percentage.

These calculations are used in the following situations: when we add a tip to a restaurant bill; when we get a salary increase; and when shop owners want to add VAT to the goods that they are selling.

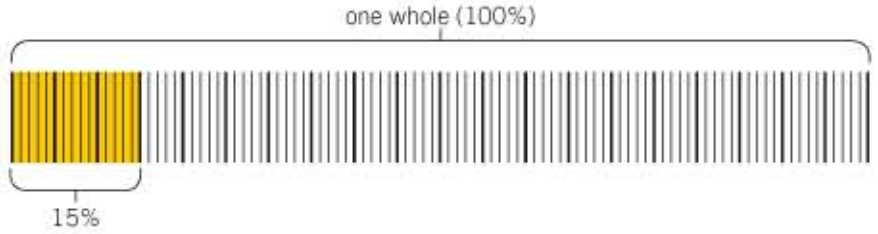
(The range of problem types we will be covering includes percentage, ratio, rate and proportion).

Methods and worked examples

The following example shows you how to first find a percentage of an amount and then to add it to an amount.

Worked example

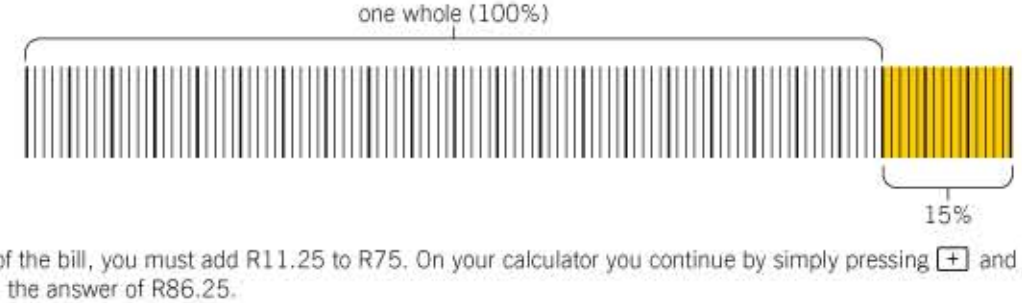
How much must you pay the waitress if you decide to add 15% to a bill of R75.00?



There are two steps to this problem. First you need to find 15% of the whole – in this case R75.00.

To do so on a calculator you enter [7][5] into your calculator and then press [×][1][5][%]. This will give you an answer of R11.25. This is the tip that you will be giving the waitress – 15% of the amount of the bill.

Next you need to add the 15% to the whole.



In the case of the bill, you must add R11.25 to R75. On your calculator you continue by simply pressing [+] and [=] and it will give you the answer of R86.25.

If you do not necessarily want to know how much the waitress's tip is, you can do the calculation in one step as follows:

Enter [7][5] and [+] (because you want to add a percentage) and then type [1][5][%].

This gives you the answer of R86.25 straight away.

Consider the following examples:

1. If Frank earns R2,500.00 per month and gets a 7% increase, how much will he earn in the future?
2. If Veronica earns R7,500.00 per month and gets a 3% increase, how much will she earn in the future?

Solutions:

1. Doing the calculation in two steps we can see that Frank will earn R175.00 more per month (calculator keys: enter [2][5][0][0][×] and then [7][%]). Now you must add this to the original amount. Therefore Frank will earn R2,500.00 + R175.00 = R2,675.00 (calculator keys: press [+] and then [=]). So Frank earns R175,00 more per month and earns a total of R2.675.00.

   To do the calculation in one step only, you need to enter [2][5][0][0][+][7][%] and you get the answer of R2,675.00.
2. Repeat the same sequence for Veronica. Veronica gets R225.00 extra per month, which means she is now earning R7,725.00 per month.

There is an interesting twist to the above examples. Frank got the larger percentage increase. He got a 7% increase whereas Veronica only got a 3% increase, but Veronica actually now gets R225.00 extra per month whereas Frank only gets R175.00 extra per month. What this illustrates is that, although percentage is powerful and useful, unless we also know the actual amounts that we are dealing with, we can sometimes miss important information.

Activities

1. How much did the waitron get as a tip, if you gave him a 15% tip and your bill came to R235.00?
2. The newspaper says that petrol is going to go up by 7.5%. What is the new petrol price, if petrol costs R6.50 per litre at the moment?
3. (a) Siswe earns R6,000.00 and Belulwe earns R3,500.00. They are to receive an annual increase of 5.5% this year. Calculate their new salaries.
   (b) They get the same percentage increase but who gets more money added to his/her salary? Why does this happen?
4. If a new car costs R189,000.00 without VAT, what will it cost with 14% VAT?
   (VAT stands for value added tax and is added to all goods and services in South Africa.)
5. If the price of milk increases by 8%, how much will a litre of milk cost you if it costs R4.25 now?
6. Rebecca earns R5,500.00 at the moment, but is getting a 6.25% increase. Ishmael earns R9,000.00 but is only getting a 5% increase.
   (a) Calculate how much extra each person will earn.
   (b) Compare their percentage increase and their actual increase in terms of money.
7. Zahrah got $\frac{23}{30}$ for her first mathematics test. What would be her mark out of 30 if her marks improved by 15% in her next test?

Answers and assessment

1. R35.25
2. R6.99
3. (a) Siswe gets R6,330.00 and Belulwe gets R3,692.50.
   (b) Siswe gets more added to his salary as his salary is larger than Belulwe's salary.
4. R215,460.00
5. R4.59
6. (a) Rebecca earns R5,843.75 and Ishmael earns R9,450.00.
   (b) Rebecca gets R343.75 more and Ishmael gets R450.00 more. Rebecca received a bigger percentage increase than Ishmael but will get less money added to her salary than him.
7. 26

Useful tips

1. One of the most important skills in solving percentage related problems is knowing what the whole is in the problem we are working with.
2. When adding a percentage of an amount to an amount what you are really doing is:
   i. dividing the whole into 100 equal parts to determine what one percent is;
   ii. determining the amount that corresponds to the percentage of the amount that we want to add by "counting " the desired number of percents; and
   iii. adding the amount that corresponds to the desired percentage of the amount to the amount.

Subtracting a percentage of an amount from an amount

Introduction

In this activity we will be extending our work on percentage to subtracting a percentage of an amount from an amount. In other words, we will be decreasing an amount by a particular percentage.

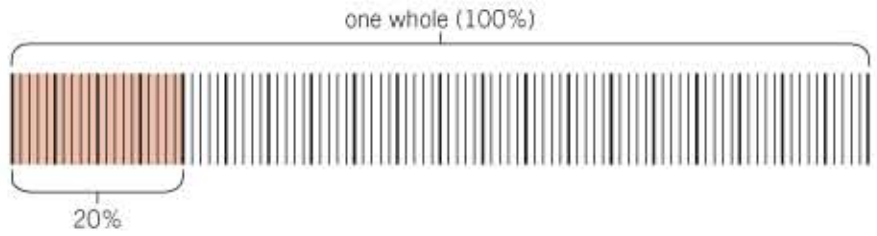
Such calculations are used when we calculate discounts and determine salary deductions such as taxes and so on.

Methods and worked examples

The following example shows you how to find out a percentage of an amount and to subtract it from an amount.

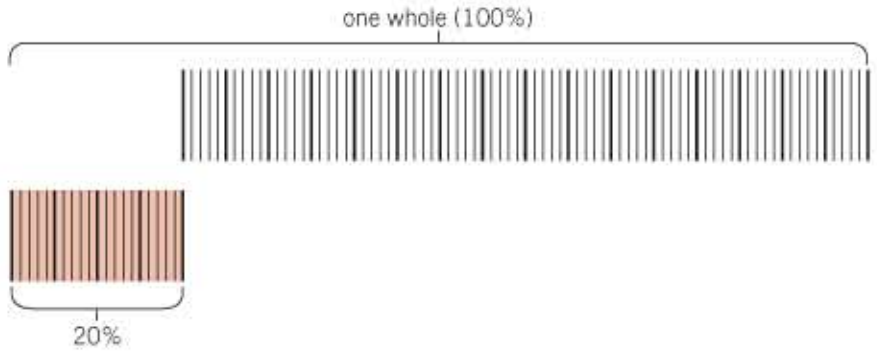
A skirt costs R250,00. If the shop keeper says that you can have a 20% discount, how much would the skirt cost you?

The first step in these calculations is to calculate the percentage of the whole – in this example 20%. To do so we divide the whole into 100 equal pieces (percentages) and then determine the percentage we want. See the diagram below.



To do so on your calculator, you enter 2 5 0 and then press × and 2 0 %. This will give you an answer of R50. This is the discount that the shop will give you.

The next step is to deduct the 20% from the whole. As depicted in the diagram below.



To do this on your calculator, you can continue where you left off earlier and simply press - and = on your calculator and it will give you the answer of R200.

Other approaches

If you do not necessarily want to know how much discount you will get, you can do the calculation in one step as follows.
Enter [2][5][0] and [−] (because you want to decrease or subtract a percentage) and then type [2][0][%]. This gives you the answer of R200 straight away.
There is still another way to work out this problem. Recall in our problem: R250 is the whole or 100%, if you subtract 20% from the whole then you are left with 80% of the whole. In other words, when you subtract 20% of an amount from an amount you are left with 80% of the amount and you could simply calculate what 80% of the amount is.
Check this by finding 80% of R250. The calculator strokes are as follows: enter [2][5][0] and [×][8][0][%]. This will give you an answer of R200.
Consider the following examples:

1. How much of your salary will you take home if you earn R5 000,00 a month and must pay 15% tax?

Solution

We will do the solution three ways.

Method 1: Use this method if you want to know much actual tax you are paying.
Find 15% of R5 000 on your calculator by entering [5][0][0][0] and [×][1][5][%]. This gives an answer of R750.
This is the actual amount of tax that you would pay.
Now to find out what amount you will take home you need to subtract this amount from R5 000. Enter [−] and then [=]
You will take home R4 250,00.

Method 2: Use this method if you are only interested in the final value – it only takes one step.
Enter [5][0][0][0] and [−] followed by [1][5][%].
You press minus 15% because you want to subtract or deduct 15% from R5 000. This gives an answer of R4 250,00

MATHEMATICAL LITERACY LESSON NOTES

Method 3: you are subtracting 15% from the whole which means that you are finding 100% – 15% = 85% of the whole.
Enter [5][0][0][0] and [×][8][5][%]. This gives an answer of R4 250,00.
You can do the calculation: 100% – 15% = 85% on your calculator first and then the rest of the problem by using the memory key. The key strokes are as follows. [1][0][0][=][−][1][5][=]. This gives an answer of 85. Ask the calculator to remember this amount for you by pressing the [M+] key. A little M appears on the screen to show that the calculator is keeping a value in its memory. Continue as before: Enter [5][0][0][0] and [×][MC][%]. The answer R4 250 will appear.
The [MC] key is the memory recall and memory clear key.

2. Which is the better deal for a jacket: cost price R240 and a 22,5% discount
   OR
   cost price R200 and a 6% discount?

Solution

We will do the first part of the problem: 22,5% discount on the cost price of R240 using all three methods.

Method 1: find 22,5% of R240 on your calculator by entering [2][4][0] and [×][2][5][,][5][%]. This gives an answer of R54. This is the actual discount.
Now to find out what you will pay for the jacket, you need to subtract this amount from R240. Enter [−] and then [=]
You will pay R186.

Method 2: you can do the above problem in one step.
Enter [2][4][0] and [−] followed by [2][2][,][5][%]
You minus 22,5% because you want to subtract or deduct 22,5% from R240. This gives an answer of R186.

Method 3: you are subtracting 22,5% from the whole which means that you are finding 100% – 22,5% = 77,5% of the whole.
Enter [2][4][0] and [×][7][7][,][5][%]. This gives an answer of R186.
Alternate key strokes: [1][0][0][−][2][2][,][5][=][M+] followed by [2][4][0] and [×][MC][%] . The answer is R186.

Now we will do the second part of the problem, 6% discount on the cost price of R200 using all three methods and you will find that the answer is R188

Note: There is an interesting twist to this problem. The discount on the more expensive coat was huge: 22,5% while for the less expensive coat it was far less – only 6% and the actual discount: R54 for the more expensive coat was much more than the actual discount of R12 for the other coat and yet the two final prices were very similar. Once again we make the point that although percentage is powerful and useful, unless we also know the actual amounts that we are dealing with, we can sometimes be misled.

Activities

Practice examples

1. A clothes shop advertises a 33,3% discount on all goods. Calculate what you would pay for the following:
   (a) A pair of jeans costing R350,00 (b) A shirt costing R199,00
   (c) A pair of shoes costing R259,00
2. Fred went on an outdoor survivor course and complained that he had lost 7% of his body mass. He weighed 85kg before he went on the course.
   (a) How much weight did he lose? (b) What does he weigh now?
3. Viwe got $\frac{27}{40}$ for his first mathematics test. What mark did he get if his mark decreased by 12% in his second test?
4. A group of friends decide to start saving 5% of their salary each month.
   Johan earns R5 500; Nomakhazi earns R7 500; Zahrah earns R4 200
   For each person, calculate:
   (a) How much money must he/she deposit into the bank? (b) How much money does he/she have left over?
   (c) Who saves the most money?
5. Two shops advertise the same type running shoes. Footloose advertise that they have a sale and will give a 15% discount on all running shoes. Their shoes usually cost R650,00. Run Wear has running shoes costing R600,00 and advertise that they will give a 10% discount on all purchases.
   (a) Calculate the sale price for each pair of shoes. (b) Which shop has the cheaper shoes?

Answers and assessment

Answers to questions
1. (a) R233,45 (b) R133,33 (c) R172,75
2. (a) ≈ 6kg (b) 79kg
3. $\frac{24}{40}$
4. (a) Johan: R275; Nomakhazi: R375; Zahrah: R210 (b) Johan: R5 225; Nomakhazi: R7 125; Zahrah: R3 990
   (c) Nomakhazi
5. (a) Footloose: R552,50; Run Wear: R540,00 (b) Run Wear.

HISTORY GRADE 10 EXAMINATION PAPER

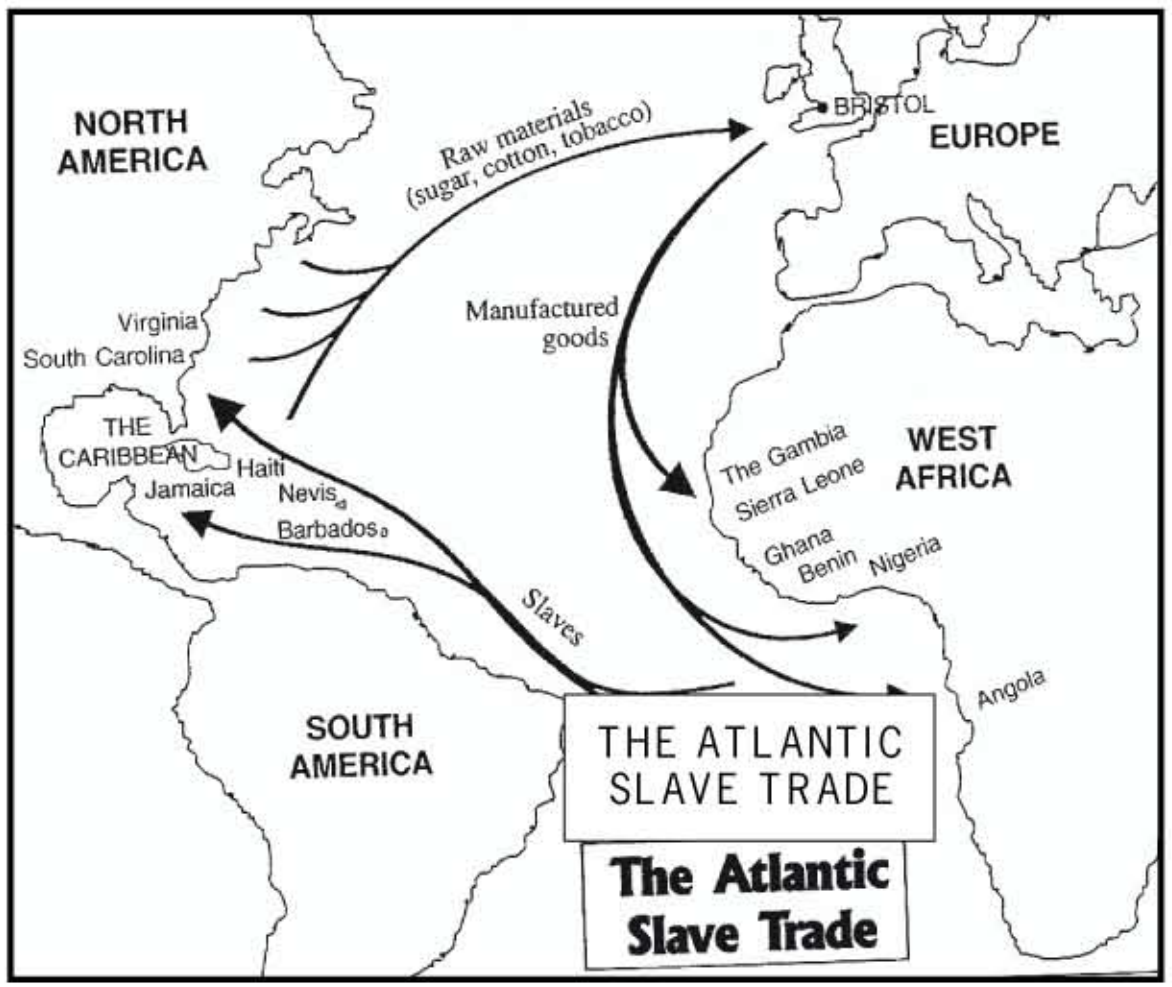
Question 1: Slavery

Why was there a link between the atlantic slave trade, economic wealth and racism?

Use Sources 1A, 1B, 1C, 1D and 1E to answer the following questions:

SOURCE 1A

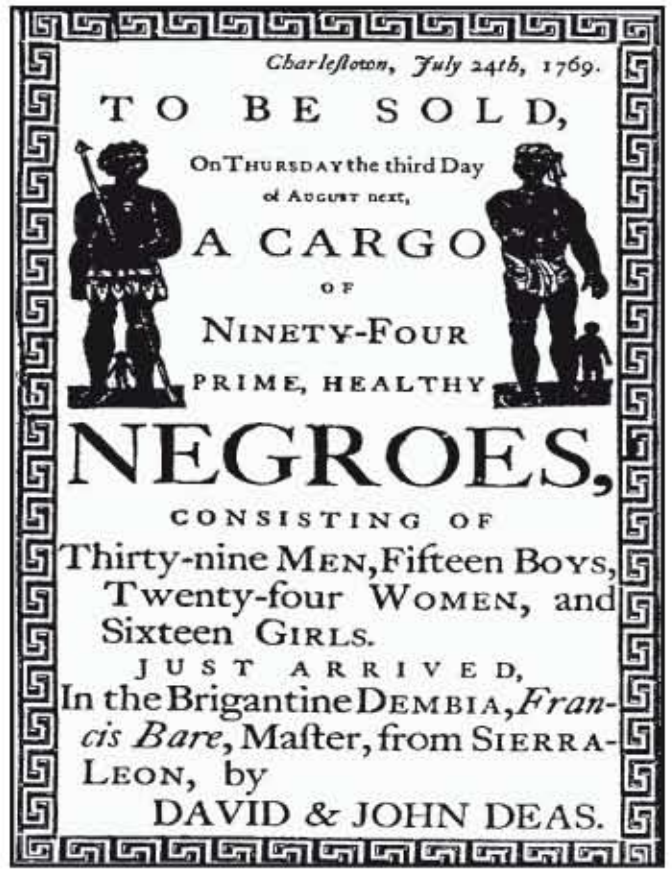
This is a map, taken from *Shuters History Grade 10*, that shows how the Atlantic Slave Trade Triangle operated.



SOURCE 1B

These posters (advertisement 1 and 2) taken from the History of Slavery by S Everett depict details of slaves being auctioned.

ADVERTISEMENT 1



Charlestown, July 24th, 1769.

TO BE SOLD,

On THURSDAY the third Day of AUGUST next,

A CARGO OF NINETY-FOUR PRIME, HEALTHY

NEGROES,

CONSISTING OF

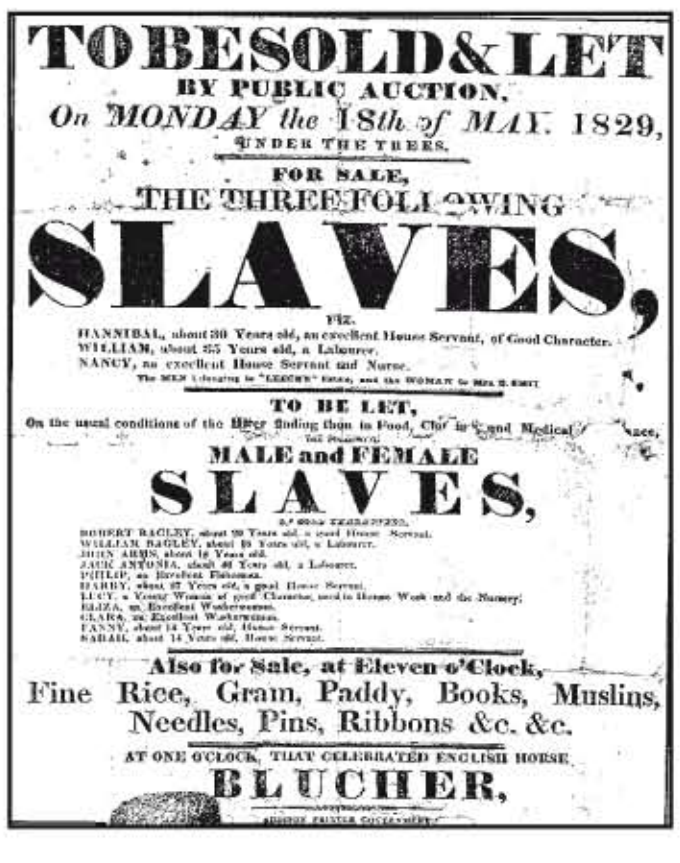
Thirty-nine MEN, Fifteen BOYS, Twenty-four WOMEN, and Sixteen GIRLS.

JUST ARRIVED,

In the Brigantine DEMBIA, *Francis Bare*, Master, from SIERRA-LEON, by

DAVID & JOHN DEAS.

ADVERTISEMENT 2



TO BE SOLD & LET

BY PUBLIC AUCTION,

On MONDAY the 18th of MAY, 1829,

UNDER THE TREES,

FOR SALE,

THE THREE FOLLOWING

SLAVES,

Viz.

HANNIBAL, about 30 Years old, an excellent House Servant, of Good Character.

WILLIAM, about 35 Years old, a Labourer.

NANCY, an excellent House Servant and Nurse.

The MEN belonging to "LEECHES" Estate, and the WOMAN to Mrs. S. ESTY.

TO BE LET,

On the usual conditions of the Hirer finding them in Food, Cloathing and Medical Attendance,

MALE and FEMALE

SLAVES,

belonging to ESTATES.

ROBERT BAGLEY, about 20 Years old, a good House Servant.

WILLIAM BAGLEY, about 19 Years old, a Labourer.

JHON ARMS, about 18 Years old.

JACK ANTONIA, about 40 Years old, a Labourer.

PHILIP, an Excellent Fisherman.

HARRY, about 17 Years old, a good House Servant.

LUCY, a Young Woman of good Character, used to House Work and the Nursery.

ELIZA, an Excellent Washerwoman.

CLARA, an Excellent Washerwoman.

FANNY, about 14 Years old, House Servant.

SARAH, about 14 Years old, House Servant.

Also for Sale, at Eleven o'Clock,

Fine Rice, Gram, Paddy, Books, Muslins, Needles, Pins, Ribbons &c. &c.

AT ONE O'CLOCK, THAT CELEBRATED ENGLISH HORSE,

BLUCHER,

Department of Education

SOURCE 1C

This is an account of a slave auction, taken from History of Slavery, by S Everett.

> Most slaves' first traumatic experience of the New World was a slave auction. Whether they occurred in the West Indies or the seaboard of the United States made little difference. For 150 years, the scene described by Olaudah Equiano in the 1780s remained little changed: 'We were not many days in the merchant's custody before we were sold after their usual manner, which is this: on a signal given, (as the beat of a drum) the buyers rush at once into the yard where the slaves are confined, and make choice of the parcel they like best. The noise and clamor with which this is attended and the eagerness visible in the countenances of the buyers serve not a little to increase the apprehensions of the terrified Africans, who may well be supposed to consider them as the ministers of that destruction to which they think themselves devoted. In this manner, without scruple, are relations and friends separated, most of them never to see each other again.'

SOURCE 1D

This is an advertisement for the sale of slaves in Georgia, taken from In *Search Of History Grade 10*.

SALE OF SLAVES AND STOCK

The Negroes and Stock listed are a Prime Lot, and belong to the estate of the late Luther McGowan, and will be sold on Monday Sept. 22nd, 1852, at the Fair Grounds, in Savannah Georgia, at 1.00 p.m. The Negroes will be taken to the grounds two days previous to the Sale to be inspected by prospective buyers. On account of the low prices listed, they will be sold for cash only, and must be taken into custody within two hours after sale.

There will also be offered at this sale, twenty head of Horses and Mules with harness, along with thirty head of Prime Cattle. Slaves will be sold separate, or in lots, as best suits the purchaser. Sale will be held rain or shine.

No.	Name	Age	Remarks	Price
1	Lunesta	27	Prime Rice Planter	$1 275
2	Violet	16	Housework and Nursemaid	900
3	Lizzie	30	Rice, unsound	300
4	Minda	27	Cotton, Prime Woman	1 200
5	Adam	28	Cotton, Prime Young Man	1 100
6	Abel	41	Rice Hand, Eyesight Poor	675
7	Tanney	22	Prime Cotton Hand	950
8	Flamentina	39	Good Cook, Stiff Knee	400
9	Lanney	30	Prime Cotton Man	1 000
10	Sally	10	Hand in the Kitchen	675
11	Maccabey	35	Prime Man, Fair Carpenter	980
12	Theopolis	39	Rice Hand, Gets Fits	575
13	Coolidge	29	Rice Hand and Blacksmith	1 275
14	Bessie	69	Infirm, Sews	250
15	Infant	1	Strong Lively Boy	400
16	Angelina	16	Prime Girl, Hearing Poor	850
17	Booster	43	Fair Mason, Unsound	600
18	Big Kate	37	Housekeeper and Nurse	950
19	Melie Ann	19	Housework, Smart Yellow Girl	1 250
20	Abe	27	Prime Cotton Hand	1 000
21	Tennes	29	Prime Rice Hand and Coachman	1 250

SOURCE 1E

This source, taken from In Search Of History Grade 10, explains the different responses to slavery from both black and white people.

> To most white people, slavery and colonialism are just a distant memory of nothing in particular. For whites, slavery did not last particularly long, its benefits went only to a tiny proportion of white people. The evils of slavery are overshadowed by the role played by British abolitionists [who fought to abolish slavery]. In any case, the rise of Western nations, Britain and the United States in particular, as the industrial masters of the world, is understood by them to be because of the superior abilities of the English. Poverty in Africa, and racial inequality in the West, is explained in terms of black inability, incompetence or laziness.
>
> To black people, though, slavery and colonialism repeat themselves in our everyday lives, and evoke memories of suffering, cruelty and terror. For black people, Western nations achieved their industrial growth and economic prosperity on the backs of blacks, abolished slavery primarily for economic reasons, have discriminated against black people ever since, and are not sorry about any of it. African under-development, and racial inequality in the West, are understood primarily in terms of racism and the racist hostility of whites.

1.1 Study Source 1A and describe why this geographic connection became necessary. (1 x 2) **(2)**

1.2 Refer to Source 1B.

- 1.2.1 How do these advertisements in the source reflect the attitude of racism? (1 x 2) **(2)**
- 1.2.2 Explain whether the term cargo, in advertisement 1, was appropriate. (1 x 2) **(2)**
- 1.2.3 What do the names of the slaves tell you about how slaves were treated? (1 x 2) **(2)**
- 1.2.4 Using the information from the source and your own knowledge, explain what you understand by the concept racism. (1 x 2) **(2)**

1.3 Study Source 1C.

- 1.3.1 A slave auction was brutal and traumatic for a slave. Explain how this source highlights this. (2 x 2) **(4)**
- 1.3.2 How do you think a buyer would experience such an auction? (1 x 2) **(2)**

1.4 Use Source 1D and your own knowledge.

- 1.4.1 Refer to the FOUR highest prices fetched for slaves. What did these slaves offer that resulted in such high prices? (2 x 1) **(2)**
- 1.4.2 Refer to the FOUR lowest prices fetched for slaves. Why were these slaves sold for such low prices? (2 x 1) **(2)**
- 1.4.3 Why do you think some female slaves were so expensive? (2 x 1) **(2)**

1.5 Refer to Source 1E.

- 1.5.1 What does it tell you about white people from the way they viewed slavery? (1 x 2) **(2)**
- 1.5.2 How did the black people view slavery? (1 x 2) **(2)**
- 1.5.3 Comment on the following: 'Poverty in Africa is explained in terms of black inability, incompetence or laziness.' (2 x 2) **(4)**

1.6 EXTENDED WRITING You may choose EITHER QUESTION 1.6.1 OR QUESTION 1.6.2 and your response should be at least 1½ to 2 pages (500 words).

- 1.6.1 Using ALL the sources and your own knowledge, write an essay explaining why the Atlantic slave trade, economic wealth and racism became linked. (20) OR
- 1.6.2 Using the information from the sources and your own knowledge, write a report for your local newspaper titled: 'Slavery was not just a source of cheap labour, it was the bedrock (basis) of the West's prosperity'. **(20)**

[50]

Department of Education

Question 2: The quest for liberty

What were the factors responsible for the American War of Independence?

Use Sources 2A, 2B, 2C, 2D, 2E and 2F to answer the following questions:

SOURCE 2A

The British government taxed the colonists in order to raise money to pay for the British troops that were stationed in the colonies. Taken from www.mce.k12th.net.

STAMP ACT (1765): Tax stamps had to be put on all legal documents, pamphlets, newspapers, licenses, wills, college diplomas and even playing cards.

TOWNSHEND ACTS (1767): Taxes on tea, glass, paper, paint.

The Colonists began to speak out against the new taxes. They made the decision that the Parliament could not tax the American Colonies since they had no representation in Parliament.

The phrase, 'No taxation without representation', was heard throughout the colonies.

SOURCE 2B

This is a photograph and an account of the Boston Massacre (1770) taken from The American Revolution by R Parkinson.

BOSTON MASSACRE

In March 1770 the first real battle between the colonists and the British took place. British soldiers got angry at a crowd of colonists who were throwing snowballs at them. The soldiers fired. Five colonists were killed and many wounded. Two of the British soldiers were found guilty – they were punished by having their thumbs burned with a hot branding iron and released. Boston's Bloody Massacre by Paul Revere

SOURCE 2C

An eyewitness account of the Boston Massacre:

A hard-bitten, hostile mob taunted frightened troops, picking up and throwing snowballs and oyster shells. Then someone rang the town fire bell, drawing a larger crowd to the scene. One rioter struck a British soldier with a stick and he fell down. The troops answered these insults and clubs with their muskets in self-defence. When the smoke cleared, five people lay dead or dying and eight more were wounded.

SOURCE 2D

This is an account of the Boston Tea Party. Colonists resisted the imposition of the Tea Tax. Taken from *A History of the American People* by S Thernstrom.

BOSTON TEA PARTY

On Thursday, December 16, 1773, 50 Boston residents from the Sons of Liberty, dressed as Mohawk Indians and boarded three ships in the Boston Harbour.

By 9pm they had opened 342 crates of tea in all three ships and thrown them into the harbour. One of these men was Paul Revere. The whole event was remarkably quiet and peaceful. This event became known as the Boston Tea Party.

The British government responded harshly – passed the Coercive Acts – called the Intolerable Acts by the colonists. Boston harbour was closed to all shipping, a military governor was sent from England and no public meetings were allowed in Boston without the Governor's permission.

The Boston Tea Party and the reaction that followed served to rally support for the revolutionaries in the thirteen colonies, who were eventually successful in their fight for independence.

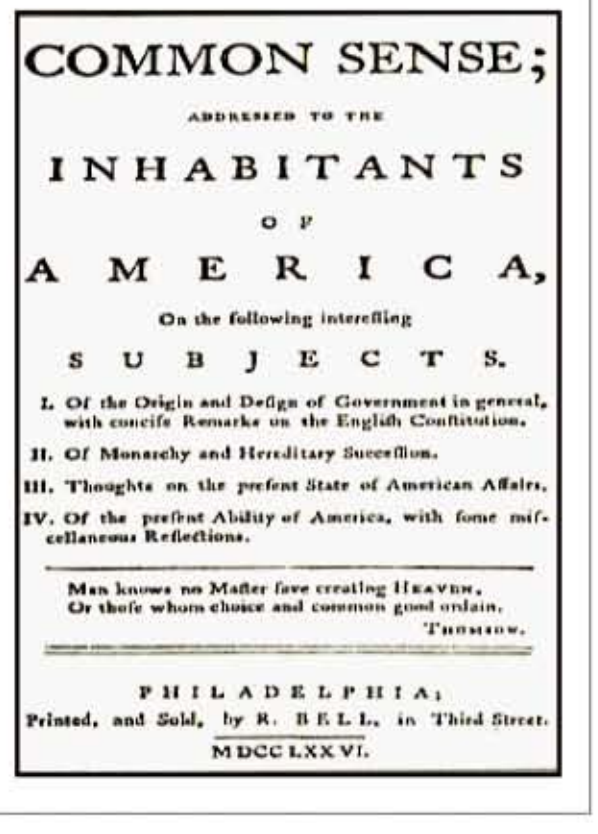
SOURCE 2E

In January 1776 Thomas Paine published a pamphlet called Common Sense. It explained the need for independence. Within three months over 100 100 copies were sold. Taken from The American Revolution by Clorinda Clarke.

Common Sense was an attack on the British Government, the King and the idea of royalty itself. Its fiery message captured the colonial minds. Thomas Paine suggested that King George III was responsible for the unhappiness that existed in the colonies. He pleaded with the American colonies to separate from the British Empire. Everything that is right or reasonable pleads for separation. Paine ended with a dramatic last page. On a blank white sheet, in bold black letters appeared only seven words:

The Free and Independent States of America

George Washington noted it 'worked a powerful change in the minds of many men'.



COMMON SENSE;

ADDRESSED TO THE

INHABITANTS

OF

AMERICA,

On the following interefting

SUBJECTS.

I. Of the Origin and Defign of Government in general, with concife Remarks on the Englifh Conftitution.

II. Of Monarchy and Hereditary Succeffion.

III. Thoughts on the prefent State of American Affairs.

IV. Of the prefent Ability of America, with fome mifcellaneous Reflections.

Man knows no Maſter ſave creating HEAVEN,
Or thoſe whom choice and common good ordain.
THOMSON.

PHILADELPHIA:
Printed, and Sold, by R. BELL, in Third Street.
MDCCLXXVI.

SOURCE 2F

R Parkinson in The American Revolution, suggested reasons for the American War of Independence.

The reasons for this slide into war during those years are to be found on two levels. On the first were the more immediate obvious causes – typified and illustrated by events like the Boston Massacre and Boston Tea Party, stemming from economic and commercial 'interference' on the part of London. But there was a deeper, more fundamental Level … [and] this involved issues of human rights and the dignity of mankind. Some colonial leaders fought not only for their own freedom, but for the concept of freedom for all men…

2.1 Refer to Source 2A. Why did the colonists show resistance to taxes being imposed by Britain? (1 x 2) **(2)**

2.2 Compare Sources 2B and 2C.

2.2.1 In what way do these sources complement each other? (2 x 2) **(4)**

2.2.2 In what way do they differ? (2 x 2) **(4)**

2.3 Refer to Source 2D.

2.3.1 Why, do you think, the colonists dressed as Indians? (1 x 2) **(2)**

2.3.2 How did the British government respond to the Boston Tea Party? (1 x 2) **(2)**

2.3.3 Explain how American colonists benefitted from the Boston Tea Party. (2 x 2) **(4)**

2.4 Refer to Source 2E.

2.4.1 Explain how the pamphlet, 'Common Sense', challenged the old basis of power. (2 x 2) **(4)**

2.4.2 Why do you think the pamphlet was popular? (1 x 2) **(2)**

2.5 Use Source 2F. Do you think there were justifiable reasons for the American War of Independence? Explain your answer. (3 x 2) **(6)**

2.6 Extended Writing

You may choose EITHER QUESTION 2.6.1 OR QUESTION 2.6.2 and your answer should be at least 1½ to 2 pages (500 words). 2.6.1 Use ALL the sources and your own knowledge to write an essay explaining the factors responsible for the American War of Independence. OR 2.6.2 Use ALL the sources and your own knowledge to write a report to your local newspaper explaining whether economic or new revolutionary ideas were responsible for the American War of Independence. (20) **(20)**

[50]

Question 3: The Industrial Revolution

Did the industrial revolution benefit Britain socially and economically?

Use Sources 3A, 3B, 3C and 3D to answer the following questions:

SOURCE 3A

This is a pie graph showing British exports between 1700 and 1850 taken from *New Generation History Grade 10.*

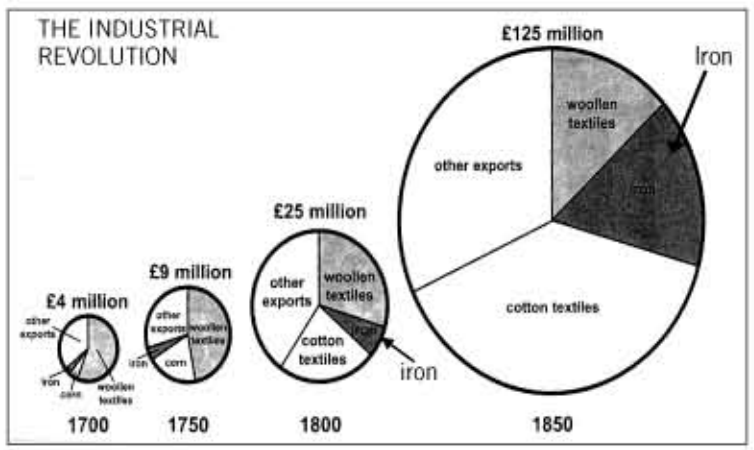
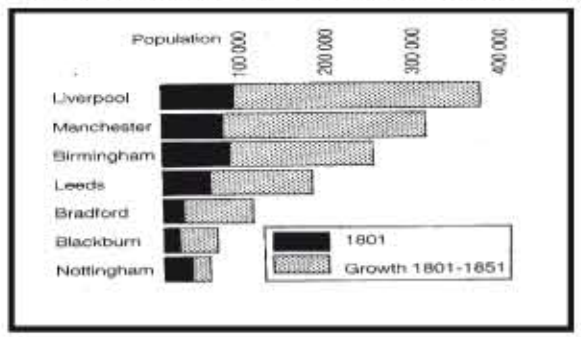


Table showing conversion of pounds to rands (approximately)	
Pounds	Rands
4 million	48 million
9 million	108 million
25 million	300 million
125 million	1 500 million

SOURCE 3B

The graph depicts population growth in some English towns and cities between 1801 – 1851. Liverpool, Manchester and Blackburn were all closely linked to the import, spinning and weaving of cotton. Leeds and Bradford were wool towns. Birmingham's main industries were jewellery and light metal work. Taken from J Mckay et al., A History of World Societies.



SOURCE 3C

This is an extract from a report of one of the inspectors who visited the mines. This is what he said about the gates, or tunnels, along which the children hauled coal:

> 'I know but two gates large enough to allow the use of horses, which is why children have to do the work. In some of them I have had to creep upon my hands and knees the whole distance, the height being barely twenty inches, and then have gone still lower upon my breast and crawled like a turtle. In others I have been able to make my journey by stooping.
>
> They are sometimes of great length. In the Booth Town Pit, I walked and crept 1,800 yards to one of the nearest faces. The floor of this gate was every here and there three or four inches deep in water and muddy throughout.
>
> The roofs and walls are at some places even, at others rough, rocky and loose, needing proppings to support them: despite, however, every care, large masses sometimes fall, burying the children.'

SOURCE 3D

This extract is a description of one working class house in Britain during the Industrial Revolution. Taken from The Industrial Revolution by N Smyth.

> There was a single room. The window was very small and the light came in through the door. The young woman there said, 'Look there at that great hole. The landlord will not mend it. I have every night to sit and watch, or my husband sits up to watch, because that hole is over a common sewer and the rats come up twenty at a time, and if we did not watch for them they would eat the baby.'

3.1 Use Source 3A.

3.1.1 Explain what you understand by the concept Industrial Revolution. (1 x 2) **(2)**

3.1.2 Account for the changes in export from 1750 to 1850. (1 x 2) **(2)**

3.1.3 Why, do you think, Britain became a leading exporting country? (1 x 2) **(2)**

3.1.4 In what way did the Industrial Revolution benefit Britain? (1 x 2) **(2)**

3.2 Read through Sources 3B and 3C.

3.2.1 From studying the graph in Source 3B, what deduction can you make about the population in the English towns? (1 x 2) **(2)**

3.2.2 Give ONE reason for your deduction in QUESTION 3.2.1. (1 x 2) **(2)**

3.2.3 Why, according to Source 3C, were children used in the mines? (1 x 2) **(2)**

3.2.4 Using Source 3C and your own knowledge, explain the dangers the children experienced in the mines. (3 x 1) **(3)**

3.2.5 Comment on the usefulness of Sources 3B and 3C to a historian studying the period of the Industrial Revolution. (2 x 2) **(4)**

3.3 Use Source 3D.

3.3.1 What does Source 3D tell you about a working class house? (3 x 1) **(3)**

3.3.2 Comment on the statement: 'The landlord will not mend it.' (2 x 2) **(4)**

3.3.3 Explain how reliable this source is to a historian studying the social conditions in Britain during the Industrial Revolution. (1 x 2) **(2)**

3.4 Extended writing

You may choose EITHER QUESTION 3.4.1 OR QUESTION 3.4.2 and your answer should be at least 1½ to 2 pages (500 words).

3.4.1 Use ALL the sources and your own knowledge to write an essay explaining whether the Industrial Revolution was significant for Britain. **(20)**

OR

3.4.2 Using the information in these sources and your own knowledge, write a report for your local newspaper, explaining how the changes brought by the Industrial Revolution made Britain a world power. (20)

[50]

Department of Education

HISTORY GRADE 10 EXAMINATION ANSWERS

Question 1: Slavery

Why was there a link between the atlantic slave trade, economic wealth and racism?

1.1.1 [Extraction of evidence from 1A]
- The abduction of slaves from Africa (mother country) to America (host country) and the dispatching of goods (sugar/cotton) to the Britain (colonial authority (1 x 2) **(2)**

1.2.1 [Engage with evidence in Source 1B]
- The adverts shows that slaves were treated as sub-human beings with no respect and dignity
- It undermined their human rights because they advertised the sale of people (1 x 2) **(2)**

1.2.2 [Interpretation of evidence in Source 1B]
- No
- It shows disrespect for fellow human beings
- Slaves were treated as inanimate objects (1 x 2) **(2)**

1.2.3 [Interpretation of evidence from Source 1B]
- Given colonial names to make them sound 'better' or 'appealing'
- By renaming slaves they lost their sense of identity and being (1 x 2) **(2)**

1.2.4 [Definition of concept using Sources 1A and B]
- Racism is the imposition of one's racist value system on another (e.g. whites on blacks or vice versa) (1 x 2) **(2)**

1.3.1 [Interpretation of evidence from Source 1C]
- It highlights the manner in which the slave auction was undertaken
- During the auction the slaves felt insecure and apprehensive (2 x 2) **(4)**

1.3.2 [Identification of evidence from Source 1C]
- Slave buyers were enthusiastic
- Rushed to the auction to obtain the 'best' slaves at reasonable prices (any 1 x 2) (2)

1.4.1 [Interpretation of evidence from Source 1D]
- They were young (prime)
- They offered specific skills and expertise (2 x 1) **(2)**

1.4.2 [Interpretation of evidence from Source 1D]
- Were physically unfit
- Had physical disabilities
- Too young (boy) (2 x 1) **(2)**

1.4.3 [Extraction of evidence from Source 1D]
- To perform household tasks
- Young and versatile (2 x 1) **(2)**

1.5.1 [Judging evidence in Source 1E]
- Do not want to acknowledge it existed
- Slavery was insignificant and did not result in human rights abuses (any 1 x 2) **(2)**

1.5.2 [Interpretation of evidence in Source 1E]
- Slavery responsible for the success of most western economies
- Slavery has contributed to the destruction of African countries, their people and economies
- Remnants of slavery are still unconsciously practised (any 1 x 2) **(2)**

1.5.3 [Analysis of evidence in Source 1E]
- Portrays Africans as lazy and incompetent
- Implies that Africans were enslaved because they were not industrious
- Poverty in Africa is due to Africans being incompetent (any 2 x 2) **(4)**

1.6 Extended writing

1.6.1 [Analysis, synthesis and the ability to construct a coherent argument based on evidence]
Candidates should include the following aspects in their response:

Synopsis

Candidates should demonstrate how the Atlantic slave trade, economic wealth and racism were all linked. Relevant examples should be used to highlight their arguments

Main aspects
- Introduction: Candidates should focus on reasons for slavery by European countries.

Elaboration
- Reasons for the Atlantic slave trade
- Impact of the slave trade on Africa and on the European countries
- Economic impact of the Atlantic slave trade for both Africa, America's and Britain
- Treatment of slaves
- Violation of human rights
- Impact of human rights abuses on slaves
- Racial prejudice between slave owner (power and authority) and slaves (no dignity, respect and self worth)
- Link slavery, accumulation of wealth and racism
- Any other relevant point
- Conclusion: Candidates should tie up their argument by focusing on the impact of the slave trade on Africa and the host and colonial country's. **(20)**

1.6.2 [Interpretation, analysis and synthesis of evidence from all sources]
The candidate should include the following points in their response.
- Reasons for slavery
- Slavery based on the accumulation of wealth
- Methods used during slavery
- Impact of slavery of host and mother country's
- Slavery enriched the west and entrenched poverty in Africa
- Any other relevant point **(20)**

[50]

Question 2: The Quest for Liberty

What were THE FACTORS responsible for THE AMERICAN War of Independence?

2.1. [Extraction of evidence from Source 2A]
- Refused to pay taxes
- Wanted an elected government to impose taxes on them
- Resisted because they could not afford to pay taxes on everyday items (any 1 x 2) **(2)**

2.2.1 [Comparing evidence in Sources 2B and 2C]
- Both sources give information on the causes of the Boston Massacre
- Both sources refer to results of the massacre (2 x 2) **(4)**

2.2.2 [Comparing evidence in Sources 2B and 2C]
- Source 2B supports the colonists and disliked Britain
- Source 2C sympathetic to the British troops and described the colonists using harsh words (2 x 2) **(4)**

2.3.1 [Engage with evidence from Source 2B]
- Show resentment to British rule
- Use of indigenous dress as a form of protest and show non-conformity to British rule (any 1 x 2) **(2)**

2.3.2 [Engage with evidence from Source 2B]
- They imposed restrictive legislation such as Coercive Acts (Intolerable Acts) (1 x 2) **(2)**

2.3.3 [Analysis of evidence from Source 2B]
- They got widespread support from the other 13 colonies
- This helped with their fight for independence (2 x 2) **(4)**

2.4.1 [Evaluation of evidence from Source 2E]

- It attacked the British empire for its colonial mentality
- It wanted the separation of the American colonies from British rule (2 x 2) **(4)**

2.4.2 [Extract & organise evidence from Source 2E]

- It called for the creation of a free and independent States of America (1 x 2) **(2)**

2.5 [Analysis & synthesis of evidence from Source 2F]

- Yes.
- They wanted economic and commercial freedom
- They wanted 'freedom for all men' (3 x 2) **(6)**

2.6 Extended writing

2.6.1 [Analysis, synthesis and the ability to construct a coherent argument based on evidence]
Candidates should include the following aspects in their response:

Synopsis

Candidates should discuss how various economic factors and revolutionary ideas were responsible for the American War of Independence.

Main aspects

- Introduction: Candidates should focus on reasons for the American War of Independence

Elaboration

- Focus on the various economic factors such as:
- Taxes (stamp) paid to cover British costs and maintain the British troops
- Objected to BEIC tea monopoly and tea tax
- Intolerable Acts – closure of harbour – loss of income
- Stamp Act – extra money to paid for documents (financial drain)
- Focus on factors related to new ideas such as:
- Human rights and dignity
- Desire for freedom and independence from Britain
- Rejected the idea of absentee rule and absolute monarchy
- Demanded representation in parliament
- Any other relevant point
- Conclusion: Candidates should tie up their argument by focusing on the impact of the American War of Independence.

(20)

2.6.2 [Interpretation, analysis and synthesis of evidence from all sources]
The candidate may state that economic factors were responsible for the American War of Independence, the following points may be included in their response.

- Britain's economic policy on the American colonies
- Imposition of several unaffordable tariffs and taxes
- People were not able to afford these taxes
- Responded by resisting Britain's sphere of influence
- Any other relevant point

OR

The candidate may state that new revolutionary ideas were responsible for the American War of Independence, the following points may be included in their response:

- Focus on new revolutionary ideas
- Change in strategy in dealing with British colonial rule
- Elaborate of the Boston Tea Party as one method of resistance
- Impact of the Boston Tea Party on the 13 American colonies
- Reaction of Britain to the new revolutionary ideas
- Any other relevant point

(20)
[50]

Question 3: The Industrial Revolution

Did the Industrial Revolution benefit Britian socially and economically?

3.1.1 [Definition of concept]

- Change that took place in Britain whereby machinery replaced manual labour
- Change in industry in Britain (any 1 x 2) **(2)**

3.1.2 [Interpretation of evidence]

- Demand for goods from other countries
- Being the mother country exported her goods to her colonies – colonies provided market for her goods
- Countries had the capital to purchase goods from Britain (any 1 x 2) **(2)**

3.1.3 [Extraction and organisation of evidence]

- Strong power
- Had the ships to transport goods
- Suitable climate
- Sufficient capital
- Colonial power
- Labour
- Political stability
- Any other relevant response (any 1 x 2) **(2)**

3.1.4 [Interpretation of evidence]

- Power driven machinery
- Mass production of goods
- Inventions and innovations
- Urbanisation
- Development of towns
- New methods of communication and trade
- Development of capitalism
- New world economic system
- Social changes (any 1 x 2) **(2)**

3.2.1 [Deduction of evidence]

- Growth in the population (1 x 2) **(2)**

3.2.2 [Extract relevant information from source]

- New industries developed
- Employment
- Urbanisation
- Any other relevant response (any 1 x 2) **(2)**

3.2.3 [Extract relevant information from source]

- Mines were to small – only children could haul the coal (1 x 2) **(2)**

3.2.4 [Use evidence to reach a conclusion]

- Rockfalls
- Collapse of walls and roofs
- Being trapped in the mines
- Poor ventilation
- Death
- Any other relevant response (any 3 x 1) **(3)**

3.2.5 [Judge usefulness of evidence]

- Depicts the growth of population in Britain
- Influence of the Industrial Revolution in Britain
- Depicts the dangers on the mines
- Depicts conditions under which the children work
- Depicts the abuse of child labour (any 2 x 2) **(4)**

Department of Education

3.3.1 [Extraction of evidence]

- Small
- Poorly maintained by the landlords
- Rat infested
- Any other relevant response (any 2 x 1) **(2)**

3.3.2 [Interpretation of evidence]

- The landlord was not concerned about his/her tenants
- Intransigence/stubbornness of the tenants (2 x 2) **(4)**

3.3.3 [Evaluating reliability of evidence]

Reliable

- Depicts the poor conditions under which tenants live
- Depicts the intransigence/stubbornness character of landlords

OR

Unreliable

- Biased account (1 x 3) **(3)**

3.4 Extended writing

3.4.1 [Interpretation, Analysis and Synthesis]

Candidates should include the following aspects in their response:

Synopsis

Candidates could either agree or disagree with the question. In agreeing with the question, candidates must explain whether the Industrial Revolution was significant for Britain. Candidates who disagree with the question must explain why the Industrial Revolution was not significant for Britain.

Main aspects

- Introduction : Candidates should take a line of argument and substantiate their line of argument.

Elaboration

- Development of capitalism
- Impact of new inventions
- Social changes and its impact
- Economic changes and its impact
- New forms of power
- Development of infrastructure, transport and communication
- Conclusion: Candidates should tie up their argument with a relevant conclusion, explaining whether the Industrial Revolution was significant for Britain.

3.4.2 [Interpretation, Analysis and Synthesis] The candidate should include the following points in their response.

- Development of industry and agriculture
- Mass production of goods
- Urbanisation
- New methods of communication
- Development of capitalism
- New world economic system
- Growth in population
- Employment **(20)**

[50]

Use the following holistic rubric to allocate a mark.

Level 3: The information selected from the sources is relevant

- Information is coherent and is presented in a logical and structured manner
- Discussion is well planned and constructed
- Discussion is based on the evidence from all the sources provided
- Conclusion is well structured based on the evidence from the sources Marks: **14–20**

Level 2: Some of the evidence from the sources is used

- Discussion contains some structure
- Discussion has some evidence of coherency and logical flow
- Evidence extracted relates to some extent to the question.
- Can draw a conclusion from the sources given. Marks: **7–13**

Level 1: Has not been able to select and use the information from the sources

- Discussion lacks a clear plan and lacks coherency
- Uses information in a very basic or elementary manner to construct an argument
- Lacks a conclusion Marks: **0–6**

(20)

SETTING GOALS

SELF-ACTIVITY

It's never too late to set goals for yourself, but you need to be realistic. Some goals are easily achieved within a matter of days, while others require an extended period of time. Formulate 2-3 goals you would like to achieve by the end of this year using the SMART approach to goal setting. Merely recording the goals alone will not see them realised. One needs to decide what actions will be taken and implement these actions to help realise one's goals. Record your goals and actions as part of the action plan you will be implementing in the next few months. See the action plan template provided as guidance on what to do.

Once you have made a decision on the 2-3 career options you want to pursue after school, you can use the same goal setting process and action plan template to help you make your choice of career become a reality.

EXAMPLE OF AN ACTION PLAN TEMPLATE

Life Goals	Actions to be taken	Achievement indicators	Date / Time frame	Progress	Reflection
Describe what the 2-3 short-term life goals are	List the actions to be taken in achieving each of the life goals respectively	List the signs/ products that will indicate that you have achieved each of the life goals respectively	Allocate a date of completion/ time frame for each of the actions per life goal	After taking the actions to achieve the goal, reflect on how well each was implemented – highlight both successes and failures where relevant	List the factors that made it possible and/or difficult to achieve the goal AND what you still need to do to achieve the goals if they have not been realised in the stipulated time frame