MARKER CODE			

STUDENT ENROLMENT NUMBER (SEN)									

FORM TWO COMMON EXAMINATION 2019

SCIENCE

QUESTION AND ANSWER BOOKLET

Time Allowed: **2 Hours + 10 minutes reading**

INSTRUCTIONS

1. This paper has **FIVE SECTIONS.** ALL Sections are COMPULSORY.

SECTION	TOPIC	MARKS
ONE	SCIENCE SKILLS	**13**
TWO	LIVING WORLD	**26**
THREE	PHYSICAL WORLD	**22**
FOUR	MATERIAL WORLD	**23**
FIVE	PLANET EARTH AND BEYOND	**16**
	TOTAL MARKS	**100**

2. Write your **Student Enrolment Number** (**SEN**) on the top right hand corner of this page and on page **31**.
3. Answer **ALL** questions in the spaces provided.
4. Use a black or blue ball point pen for your written answer. Use a pencil ONLY for drawings.
5. Write legibly and work neatly.
6. Check that this booklet contain pages **2-31** in the correct order and that none of the pages is blank.
7. If you need more spaces for answers, ask the supervisor for extra paper.

YOU MUST HAND IN THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL MARKS

100

SECTION ONE: SCIENCE SKILLS (13 MARKS)

PART A: MULTIPLE CHOICE QUESTIONS (3 Marks)

Circle the letter of the BEST answer.

If the best answer is A then circle A. If you want to change your answer from A to C, then put a cross through A and then circle C.

For example: ~~(A)~~ B (C) D

1. An equipment used in a laboratory to get a small quantity of solid is a _____.

   A. petri dish
   B. test tube holder
   C. spatula
   D. flash

2. What is important to remember when you are using heat?

   A. Do not heat close containers.
   B. Point the mouth of the container away from yourself and classmates.
   C. Always use clamps to hold the container.
   D. All of the above.

3. This equipment is called a _____.

   A. spirit burner
   B. bunsen burner
   C. candle
   D. tripod

PART B: EXTENDED ANSWER QUESTIONS (10 Marks)

Answer ALL the questions in the spaces given below.

1. **Figure 1.1** shows a Form 2 class in a laboratory. Use it to answer the questions that follow.

Figure 1.1

a. Identify a laboratory safety rule that Evan and Savannah broke. Why is this rule important?

i. Laboratory safety rule :_____

_____

ii. Why is this rule important: _____

_____

(3 marks)

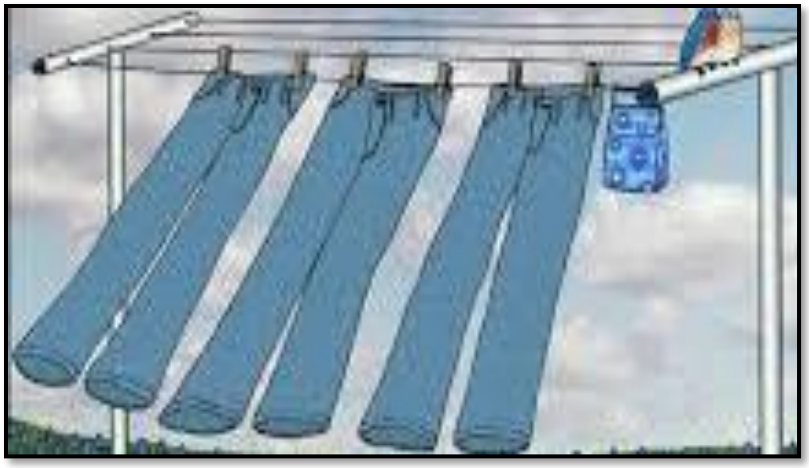
b. Draw **ONE** (1) **safety symbol** shown in **Figure 1.1** and state what it means.

Drawing: Meaning:

(2 marks)

2. **Figure 1.2** is an experiment Mary did on wet jeans. Mary wanted to know if wet jeans dried faster when hung from the waist or from the legs. She carried out an experiment by hanging three pairs of identical wet jeans on a clothes line all by the waist.

Figure 1.2



a. Write a suitable aim for Mary's investigation.

_____

_____

(1 mark)

b. Identify which variable should be changed to fit Mary's aim.

_____

(1 mark)

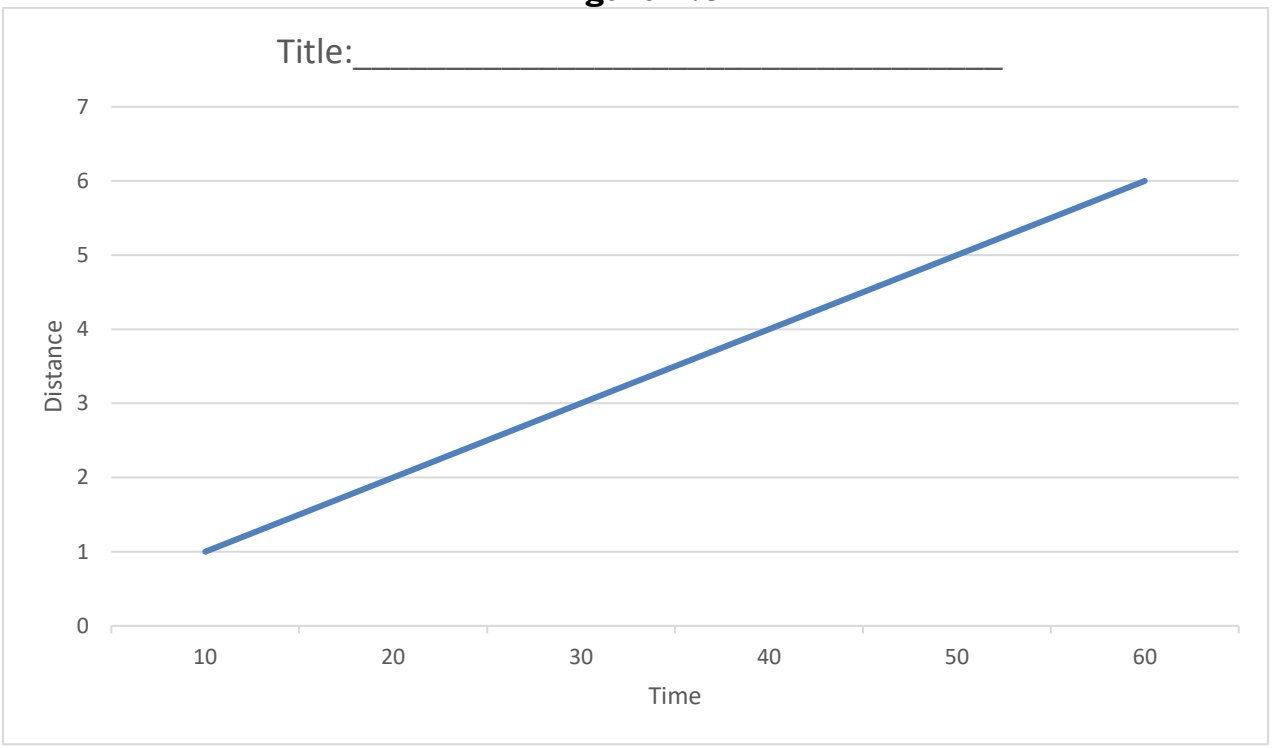
c. State **ONE** (1) control variable in Mary's experiment.

_____

(1 mark)

3. James did an experiment to show the distance in meters, it took an object he invented to move in 60 seconds as shown in **Figure 1.3**.

Figure 1.3



a. Write a suitable title for the graph.

_____

(1 mark)

b. What is missing from the label of the axes of the graph?

_____

(1 mark)

SECTION TWO: LIVING WORLD (26 MARKS)

PART A: MULTIPLE CHOICE QUESTIONS (3 Marks)

Circle the letter of the BEST answer.

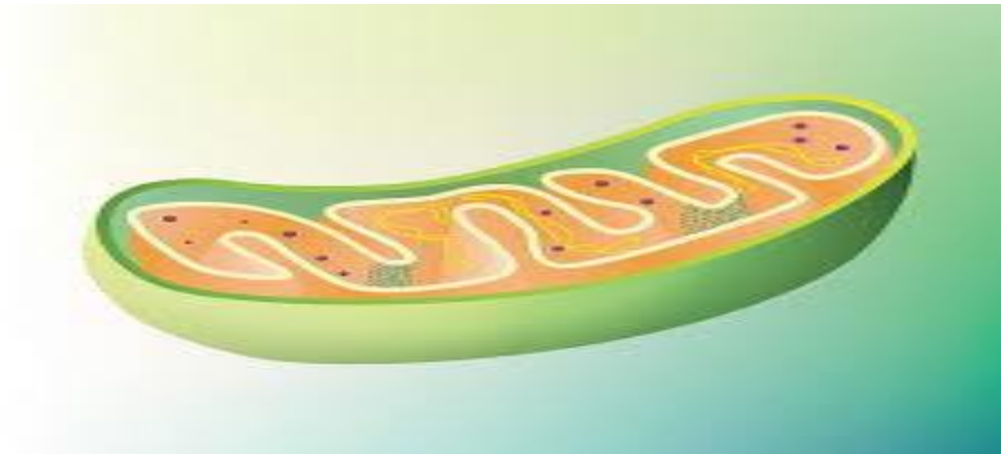
1. An example of a unicellular organism would be _____.

   A. dog
   B. hibiscus
   C. mushroom
   D. protist

2. This organelle is only found in plant cells.

   A. Mitochondria
   B. vacuole
   C. chloroplasts
   D. cytoplasm

3. The name of this organelle is _____.



   A. chloroplast
   B. nucleus
   C. mitochondria
   D. ribosome

PART B: EXTENDED ANSWER QUESTIONS (23 Marks)

Answer ALL the questions in the spaces given below.

1. Athlete's foot is one of the communicable diseases.

   a. Define communicable disease.

   _____

   _____

   (2 marks)

   b. Which microorganism causes athlete's foot.

   _____

   (1 mark)

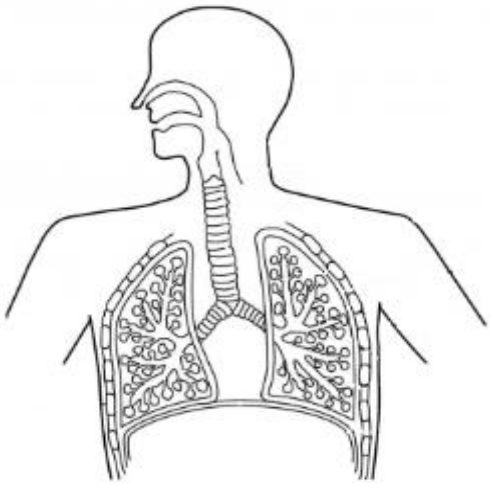
2. Typhoid is a communicable disease that cannot be cured but can be prevented. Give **ONE** (1) way in which this disease can be prevented.

   _____

   (1 mark)

3. **Figure 1.4** shows the respiratory system.

Figure 1.4



On the diagram, **label** the parts that carries out these functions.

   a. It is lined with mucous to help trap foreign substances. (1 mark)
   b. Tiny air sacs which is the centre of the respiratory system's gas exchange. (1 mark)

4. Write the word equation for the process of respiration.

_____

_____

(2 marks)

5. Clearly explain what happens to the diaphragm when you breathe in and out.

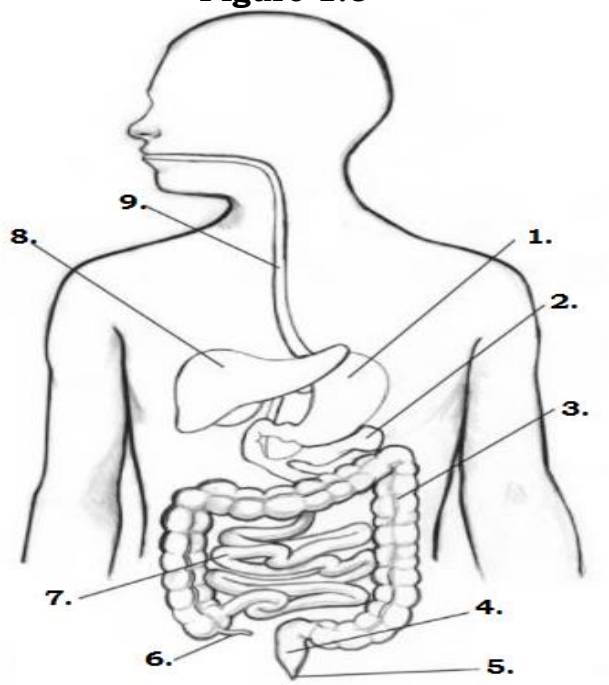
_____

_____

(2 marks)

6. **Figure 1.5** shows the human digestive system.

Figure 1.5



a. Which number represents the oesophagus?

_____

(1 mark)

b. Which number represents the part that contains the enzymes amylase?

_____

(1 mark)

c. One of the diseases that affects the digestive system is appendicitis. Which number represents that part that is affected by this disease?

_____

(1 mark)

7. **Figure 1.6** and **1.7** shows a mosquito and a bat.

Figure 1.6: Mosquito

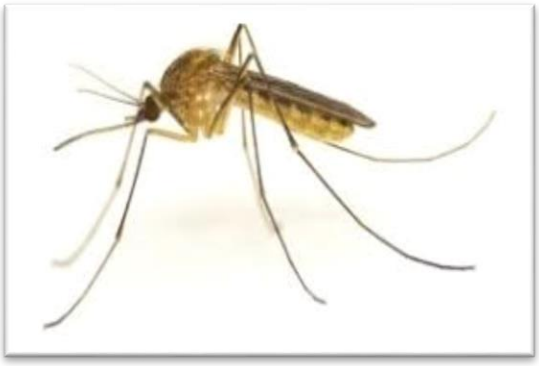


Figure 1.7: Bat

a. One of the characteristics of these animals is that they are cold blooded or warm blooded. Identify which animal is cold blooded and which animal is warm blooded.

Cold blooded: _____

(1 mark)

Warm blooded: _____

(1 mark)

b. Which animal group does these animals belong to?

Mosquito : _____

(1 mark)

Bat : _____

(1 mark)

8. **Figure 1.8** shows Sione's small plantation.

Figure 1.8

a. Sione's plantation is an example of a small scale cultivation.
What is this type of cultivation called?

_____

(1 mark)

b. There is evidence of intercropping in Sione's plantation.
Describe what intercropping is and give an example from **Figure 1.8**.

i. Intercropping:_____

_____

_____

ii. Example:_____

_____

_____

(2 marks)

9. **Figure 1.9** shows a plant in Sione's small plantation.

Figure 1.9

a. What important plant group does this plant belong to and give **ONE** (1) reason why it is important?

i. Plant group:_____

_____

_____

ii. Reason:_____

_____

_____

(2 marks)

10. Mangroves are very important plants that grows on the shoreline.
Give **ONE** (1) important role of mangroves.

_____

(1 mark)

SECTION THREE: PHYSICAL WORLD (22 MARKS)

PART A: MULTIPLE CHOICE QUESTIONS (3 Marks)

Circle the letter of the BEST answer.

1. The type of energy found in food is _____.

   A. stored chemical
   B. stored elastic
   C. kinetic
   D. atomic

2. Which of these statements is **TRUE** about weight?

   A. Does not change.
   B. Measured in kilograms.
   C. Depends on gravity.
   D. It is more on the moon than on earth.

3. Energy is defined as _____.

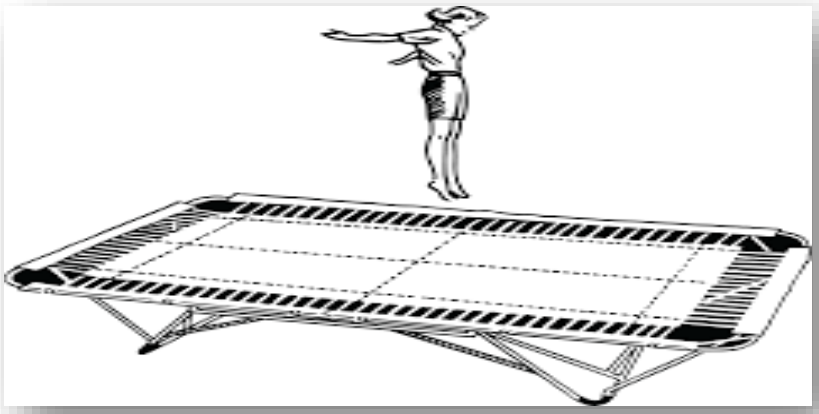
   A. the ability to do work
   B. moving something
   C. push, pull or twist
   D. pull of gravity

PART B: EXTENDED ANSWER QUESTIONS (19 Marks)

Answer all the questions in the spaces given below.

1. Energy can change from one form to another. What is the energy change in **Figure 2.1**, **Figure 2.2** and **Figure 2.3**?

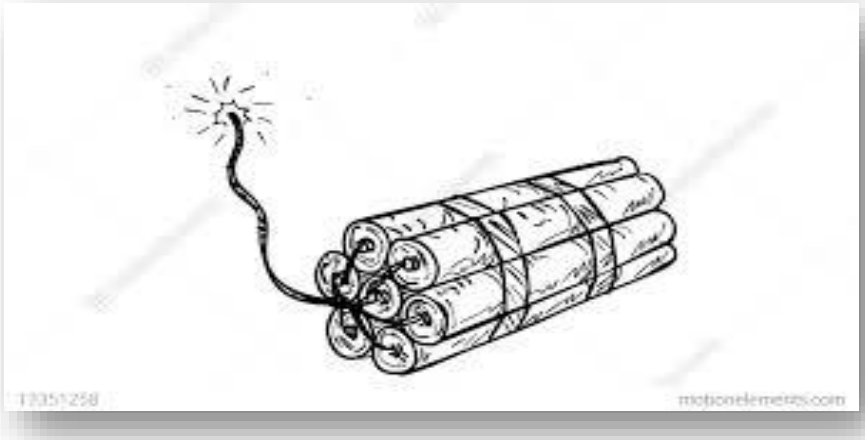
Figure 2.1



_____

(1 mark)

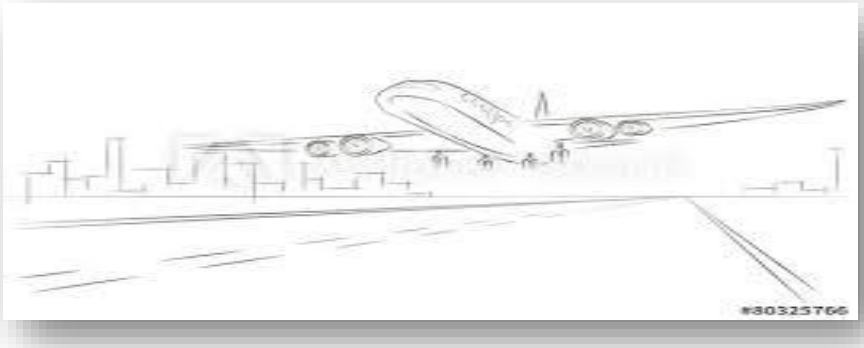
Figure 2.2



_____

(1 mark)

Figure 2.3



_____

(1 mark)

2. Energy should be conserved. Explain why would energy be conserved?

_____

_____

_____

_____

(2 marks)

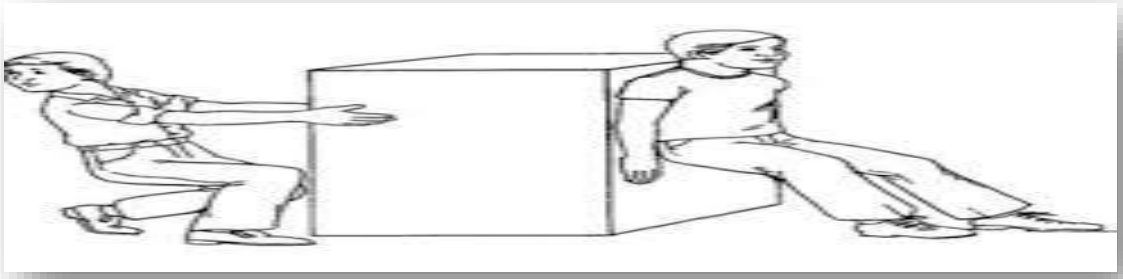
3. Friction is a force that opposes movement. How would you reduce friction in **Figure 2.4** to **Figure 2.6** situations so movement would be faster?

Figure 2.4

_____

(1 mark)

Figure 2.5



(1 mark)

Figure 2.6

(1 mark)

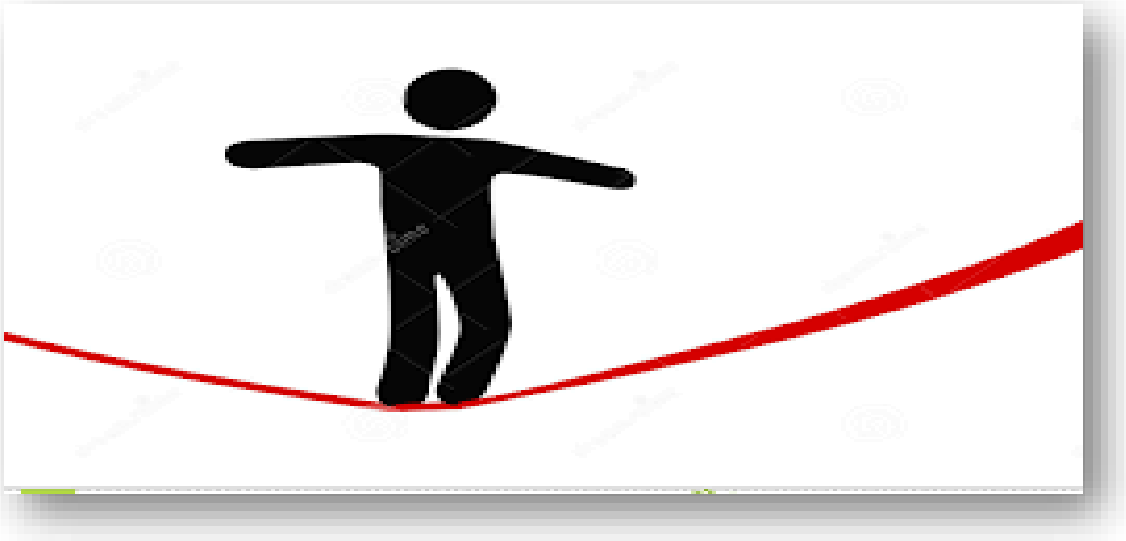
4. There are **THREE** (3) types of friction, rolling, sliding and fluid. What type of friction is shown in **Figure 2.7**?

Figure 2.7

(1 mark)

5. **Figure 2.8** shows a man balancing on a rope.

Figure 2.8



a. Name **ONE** (1) force acting on the man.

_____ (1 mark)

b. Describe what will happen to the man on the rope if the forces acting on him are balanced and what will happen if the forces are unbalanced?

i. balanced forces:_____

_____

_____

ii. unbalanced forces:_____

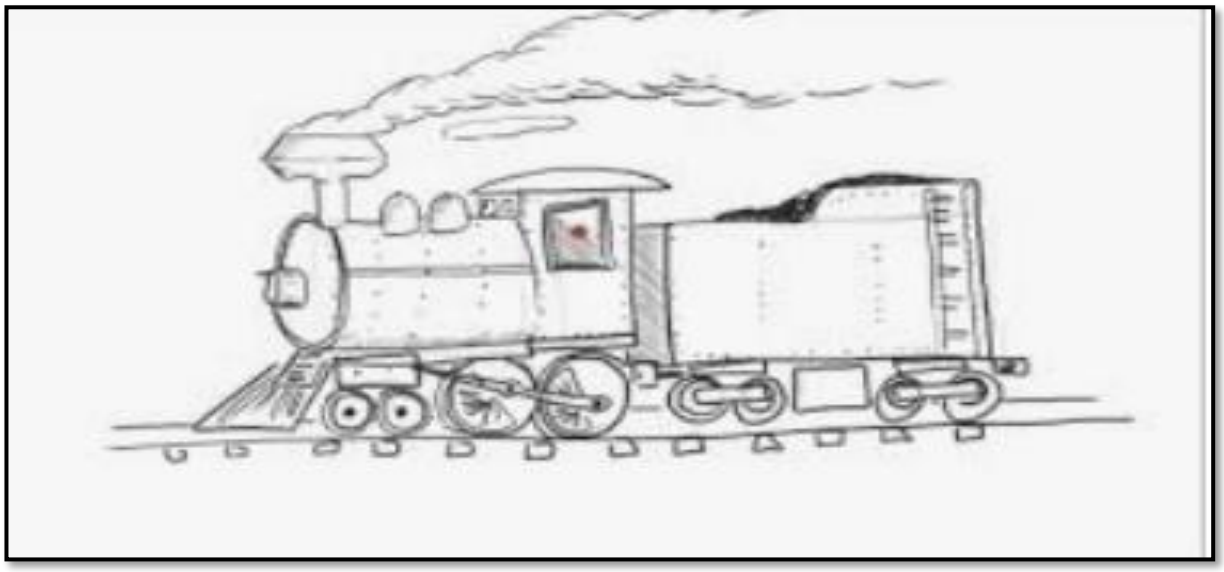
_____

_____

(2 marks)

6. **Figure 2.9** shows a train that runs on coal.

Figure 2.9



a. Coal is a non-renewable energy source. Define what non-renewable means.

_____

(1 mark)

b. If you are given the opportunity to design a train that can run on a renewable resource, identify what type of renewable resource would you use and give **TWO** (2) reasons for your choice.

i. renewable resource:_____

_____

_____

ii. Reason 1:_____

_____

Reason 2:_____

_____

(3 marks)

7. An object has a weight of 240N on earth.

a. Calculate the mass of the object.

(2 marks)

c. If the object is taken to the moon, what will be its mass on the moon?

_____

(1 mark)

SECTION FOUR: MATERIAL WORLD (23 MARKS)

PART A: MULTIPLE CHOICE QUESTIONS (3 Marks)

Circle the letter of the BEST answer.

1. An equipment used for measuring mass is a _____.

   A. balance
   B. barometer
   C. ruler
   D. thermometer

2. Which of the following statements is **TRUE** about pressure?

   A. Greatest at the top of the sea.
   B. Same everywhere in the sea.
   C. Decrease with depth.
   D. Increase with depth.

3. Volume is defined as the _____.

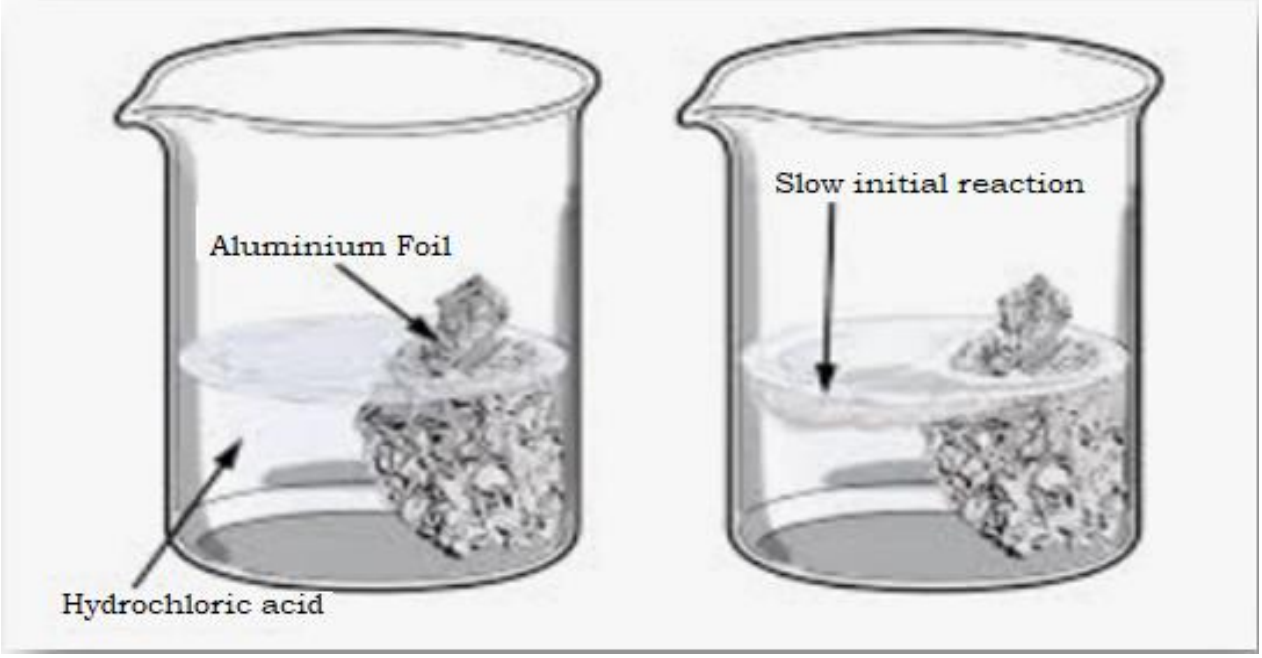
   A. amount of space taken up by an object.
   B. heaviness of an object.
   C. pushing force on an object.
   D. pull of gravity.

PART B: EXTENDED ANSWER QUESTIONS (20 Marks)

Answer all the questions in the spaces given below.

1. Ana did an experiment to find out what happens when aluminum foil is added to acid.

Figure 3.1



Bubbles of gas was observed during the experiment.

a. What type of change is shown in the experiment?

_____

(1 mark)

b. Differentiate between chemical and physical change.

_____

_____

_____

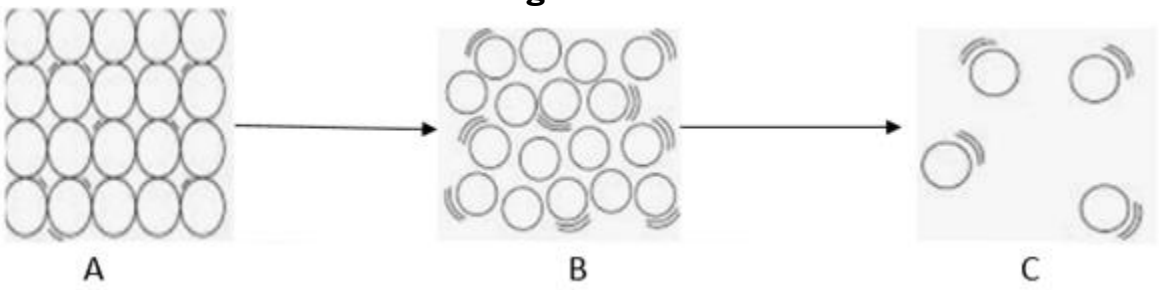
_____

_____

(2 marks)

2. Matter can change from one state to another.

Figure 3.2



a. Name the state of matter in **C.**

_____

(1 mark)

b. What is the change of state in **A** to **B**?

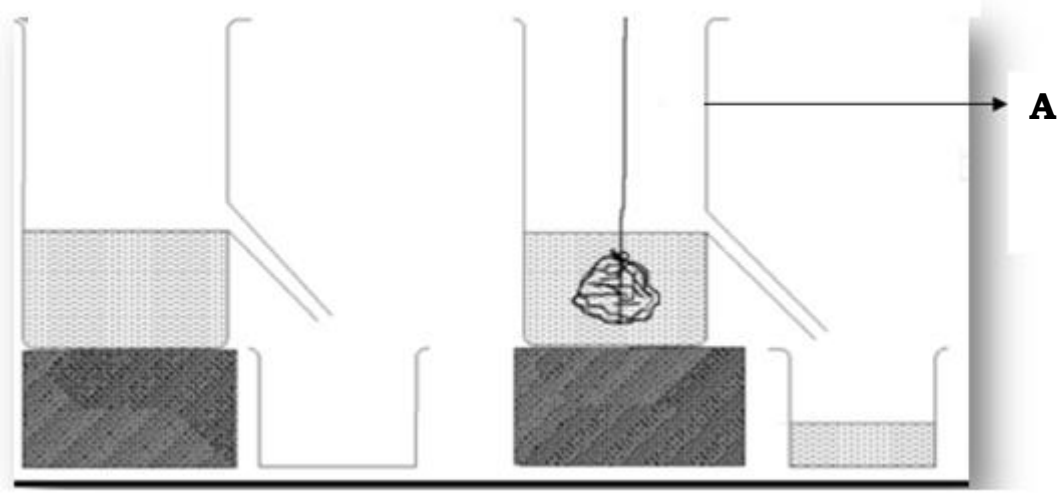
_____

_____

(1 mark)

3. Mary wanted to measure the volume of a stone. She used the set up shown in **Figure 3.3** to find the volume of a stone.

Figure 3.3



a. Name the equipment marked with letter **A**.

A: _____ (1 mark)

b. Explain how Mary would find the volume of the stone using this set up.

_____

_____

_____

_____

_____

(2 marks)

3. It is easier to float in sea water than fresh water. Explain why this is happening.

_____

_____

_____

_____

(2 marks)

4. **Figure 3.4** shows an activity where a blue dye is dropped into a flask of water.

Figure 3.4

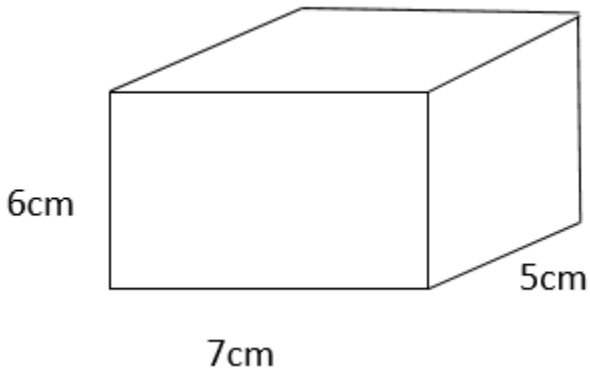
The above activity is an example of what process?

_____

(1 mark)

5. **Figure 3.5** is a small object that a student found. He wanted to see if it would float or sink in water.

Figure 3.5



a. Calculate the volume of the object. The mass of the object is 150 grams.

_____

_____

(2 marks)

b. Decide if the object would float or sink in water and give a reason for your answer.

_____

_____

_____

_____

_____

_____

(3 marks)

5

6. **Figure 3.6** shows the wind blowing on a tree.

Figure 3.6

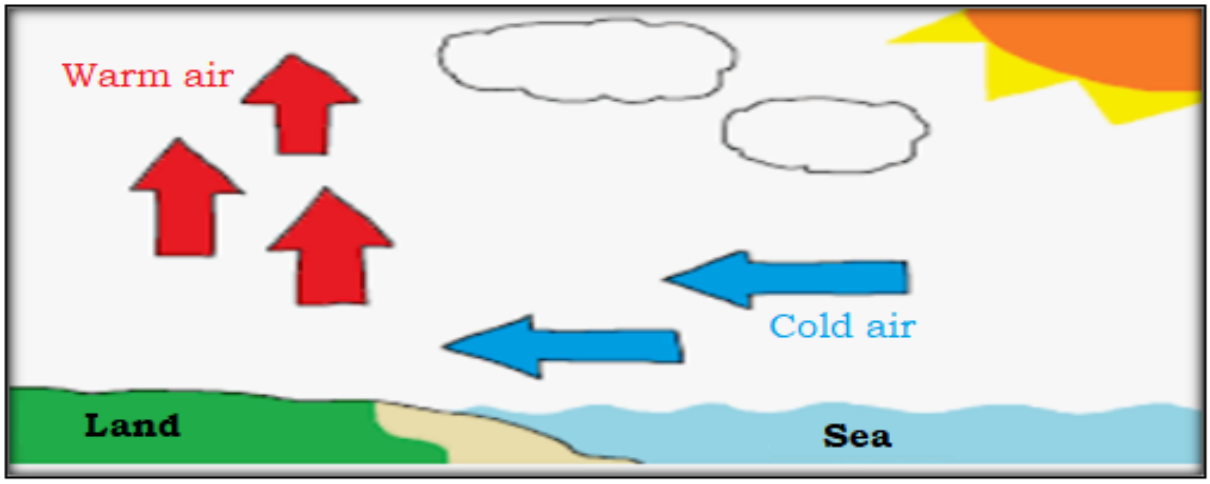
What property of air is shown in **Figure 3.6**?

_____

(1 mark)

7. **Figure 3.7** shows a breeze.

Figure 3.7



Name the type of breeze shown in **Figure 3.7**

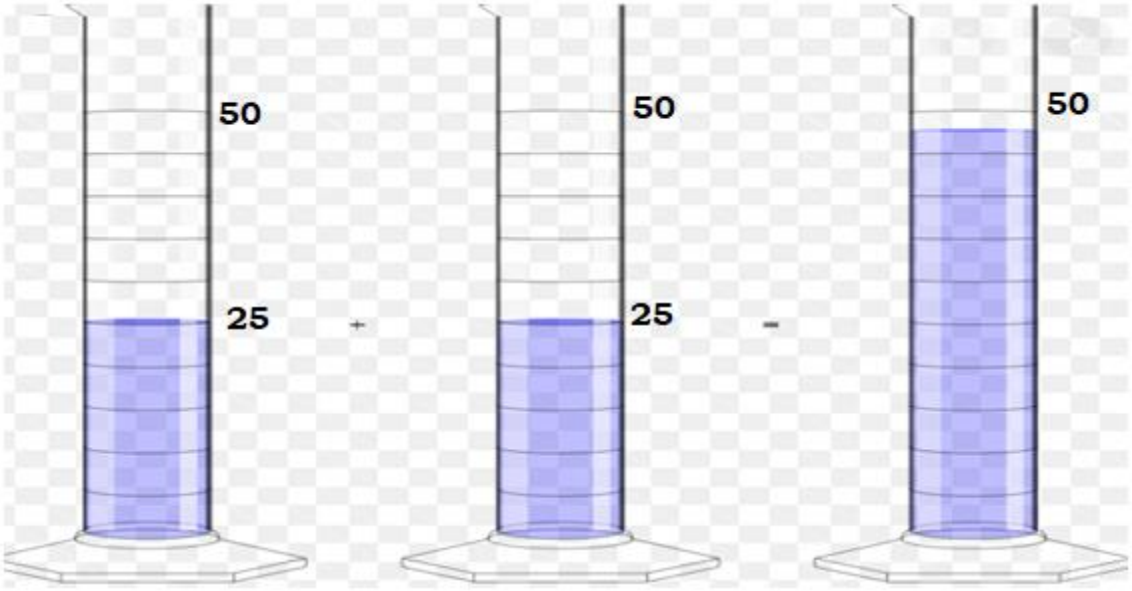
_____

(1 mark)

2

8. Andrew did an experiment where he added 25ml of alcohol with 25ml of water. The final volume was less than 50ml as shown in **Figure 3.8**

Figure 3.8



Explain why the final volume was less than 50ml.

_____

_____

_____

_____

(2 marks)

SECTION FIVE: PLANET EARTH AND BEYOND (16 MARKS)

PART A: MULTIPLE CHOICE QUESTIONS (3 Marks)

Circle the letter of the BEST answer.

1. How long does it take the moon to approximately make one complete revolution around the earth?

   A. 365 days
   B. 29.5 days
   C. 24 hours
   D. 60 hours

2. The washing away of rocks and loose materials from the earth's surface is called _____.

   A. erosion
   B. weathering
   C. sediments
   D. cracking

3. Basalts weathers to form this type of soil

   A. sandy soil
   B. swamp soil
   C. dark clay soil
   D. silt-clay soil

3

PART B: EXTENDED ANSWER QUESTIONS (13 Marks)

Answer all the questions in the spaces given below.

1. **Figure 3.9** shows the position of the moon, earth and the sun during a full moon and a new moon.

Figure 3.9

The gravitational pull of the moon affects the water on earth causing the tides.

a. On the diagram draw the effects the pull of the moon has on the waters of the earth. (1 mark)

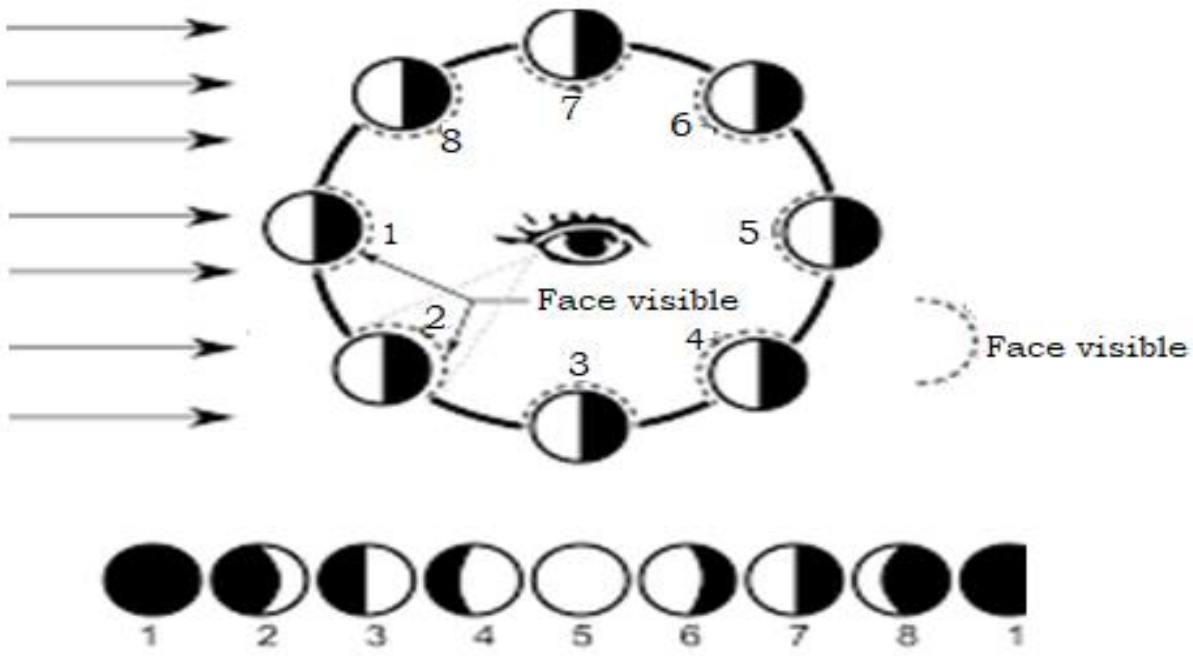
b. What type of tide will occur during a full moon and a new moon?

_____

(1 mark)

2. **Figure 4.1** shows the phases of the moon.

Figure 4.1



a. Name the phase of moon **2**.

_____

(1 mark)

b. Explain why we do not see the moon during moon phase **1** from earth.

_____

_____

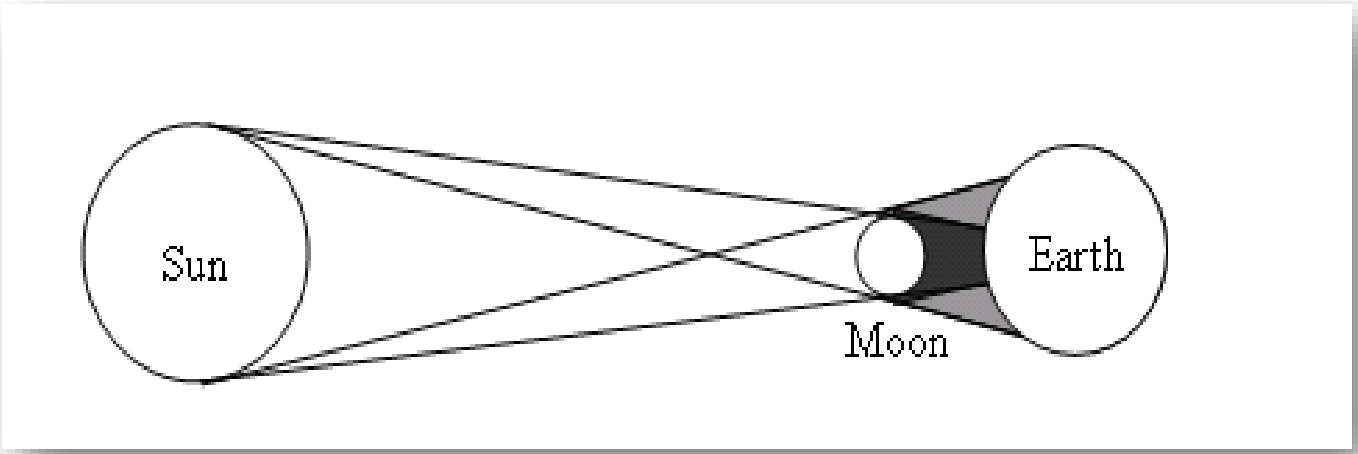
_____

_____

(2 marks)

3. **Figure 4.2** shows an eclipse.

Figure 4.2



a. What kind of eclipse is shown in **Figure 4.2**?

_____

(1 mark)

b. Explain what causes the eclipse shown in **Figure 4.2**

_____

_____

_____

_____

(2 marks)

c. Differentiate between a galaxy and a constellation.

_____

_____

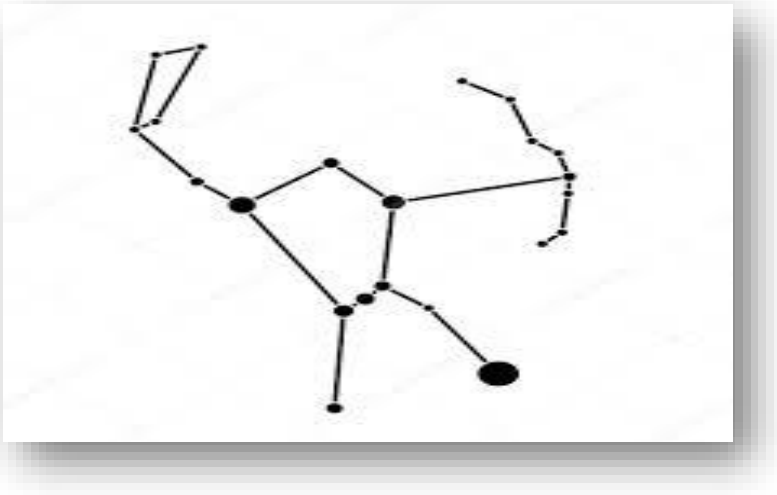
_____

_____

(2 marks)

4. **Figure 4.3** shows a constellation.

Figure 4.3



a. Name the constellation in **Figure 4.3**

_____

(1 mark)

b. Label the star named Rigel in the constellation in **Figure 4.3**.
What colour is this star?

_____

(2 marks)

STUDENT ENROLMENT NUMBER (SEN)									

FORM TWO COMMON EXAMINATION 2019

SCIENCE

(FOR MARKERS USE ONLY)

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