8 SCIENCE 2014

GEOLOGY TEST ONE

ANSWER KEY

Name: _____ **Teacher:** _____ **Mark:** /50

Percentage: %

SECTION A: **MULTIPLE CHOICE** **(15 marks)**

Select the most correct answer for each question below.

Please answer on the multiple choice answer grid below.

1.	A	**B**	C	D
2.	**A**	B	C	D
3.	A	B	C	**D**
4.	A	B	**C**	D
5.	**A**	B	C	D
6.	A	**B**	C	D
7.	A	B	**C**	D
8.	**A**	B	C	D
9.	A	B	C	**D**
10.	A	B	**C**	D
11.	A	B	C	**D**
12.	A	B	**C**	D
13.	A	B	**C**	D
14.	A	B	**C**	D
15.	A	B	C	**D**

TEACHER COPY

1. The study of rocks, their history and the processes that form and change them is known as:

(a) geography.
(b) geology.
(c) geophysics
(d) geomorphics.

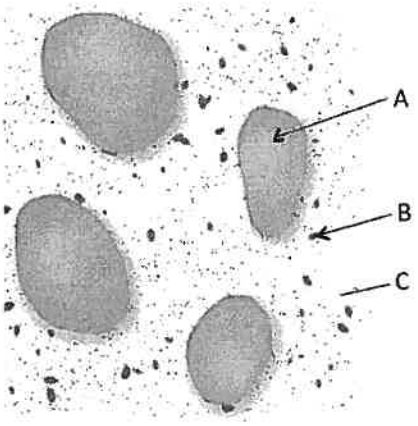
3. The first type of rocks to form and were the start of the Earth's crust are:

(a) igneous rocks.
(b) metamorphic rocks.
(c) sedimentary rocks.
(d) core rocks.

3. Rocks are made up of chemical substances called:

(a) gainlets.
(b) crystals.
(c) fragments.
(d) minerals.

The diagram on the right shows the composition of soil. Question 4-6 refers to this diagram.



4. Label 'A' refers to:

(a) silt.
(b) nucleus.
(c) a sand grain.
(d) clay.

5. Label 'B' refers to:

(a) silt.
(b) a sand grain.
(c) nucleus.
(d) clay.

6. Label 'C' refers to:

(a) nucleus.
(b) clay.
(c) silt.
(d) a sand grain.

7. Choose the correct definition for 'permeability'.

(a) The amount of empty space in the rock.
(b) The amount of occupied space in the rock.
(c) A measure of how fast water enters the soil.
(d) A measure of how fast soil flows.

8. Choose the correct definition for 'consistency'.

(a) The tendency of soil particles to clump together.
(b) The breakdown of soil by constant layering.
(c) The cycle that soil undergoes in changing form.
(d) The amount of living matter in the soil.

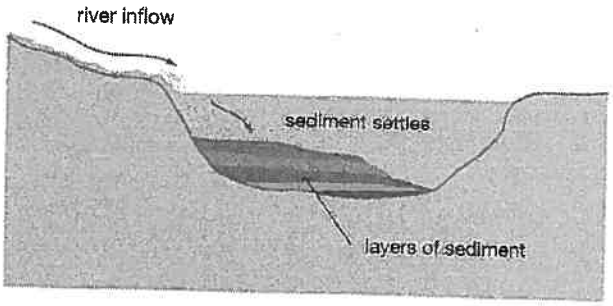
9. The rock on the right is light coloured, floats in water and has many holes, it is:

(a) dead.
(b) scoria.
(c) moon rock.
(d) pumice.

10. Select the **incorrect** statement below.

(a) Some gases make rock change to form different chemicals.
(b) The colour of rock can change due to chemical weathering.
(c) Rock is made stronger when gases react with it.
(d) Oxygen and carbon dioxide in the air can react with certain types of rocks.

11. The diagram on the right shows the process known as:

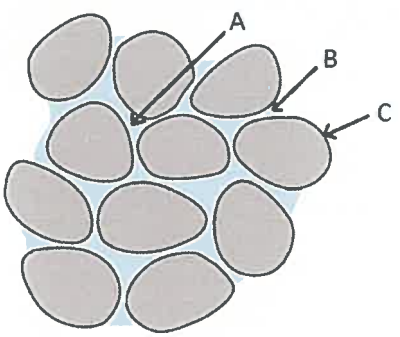


(a) weathering.
(b) sedimentation.
(c) deposition.
(d) both b and c.

12. Three agents of erosion are:

(a) water, ice, fire.
(b) fire, wind, ice.
(c) water, wind, ice.
(d) fire, water, wind.

The diagram on the right shows a clump of soil. Questions 13-25 refer to the diagram.



13. Label 'A' refers to:

(a) the water film.
(b) a soil crumb.
(c) a pore space.
(d) permeability space.

14. Label 'B' refers to:

(a) permeability space.
(b) a soil crumb.
(c) the water film.
(d) a pore space.

15. Label 'C' refers to:

(a) the water film.
(b) permeability space.
(c) a pore space.
(d) a soil crumb.

SECTION B: SHORT ANSWER **(35 marks)**

1a. Name the hot molten rock that pours out of volcanoes. (1 mark)

Lava

b. Name the hot molten rock that has not reached the Earth's surface. (1 mark)

Magma

2. Circle the correct characteristic of igneous rocks from each pair below. (1 mark)

a) Hard / soft

0.5

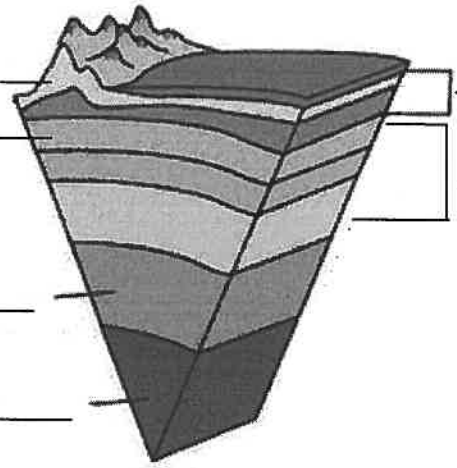
b) Weak / strong

0.5

3. Explain the difference between extrusive igneous rocks and intrusive igneous rocks. (2 marks)

- Extrusive igneous rocks are formed when magma cools (0.5) quickly above ground producing small (0.5) crystals.
- Intrusive igneous rocks are formed when magma cools (0.5) slowly under the surface producing large (0.5) crystals.

4. Label the diagram of the Earth's structure below. (3 marks)



(0.5) Crust
(0.5) asthenosphere
(0.5) outer core
(0.5) Inner core
lithosphere (0.5)
mantle (0.5)

5a. Name two igneous rocks that are intrusive. (1 mark)

Granite, dolerite, Quartz,

(Any 2) 0.5 marks each

b. Name two igneous rocks that are extrusive. (1 mark)

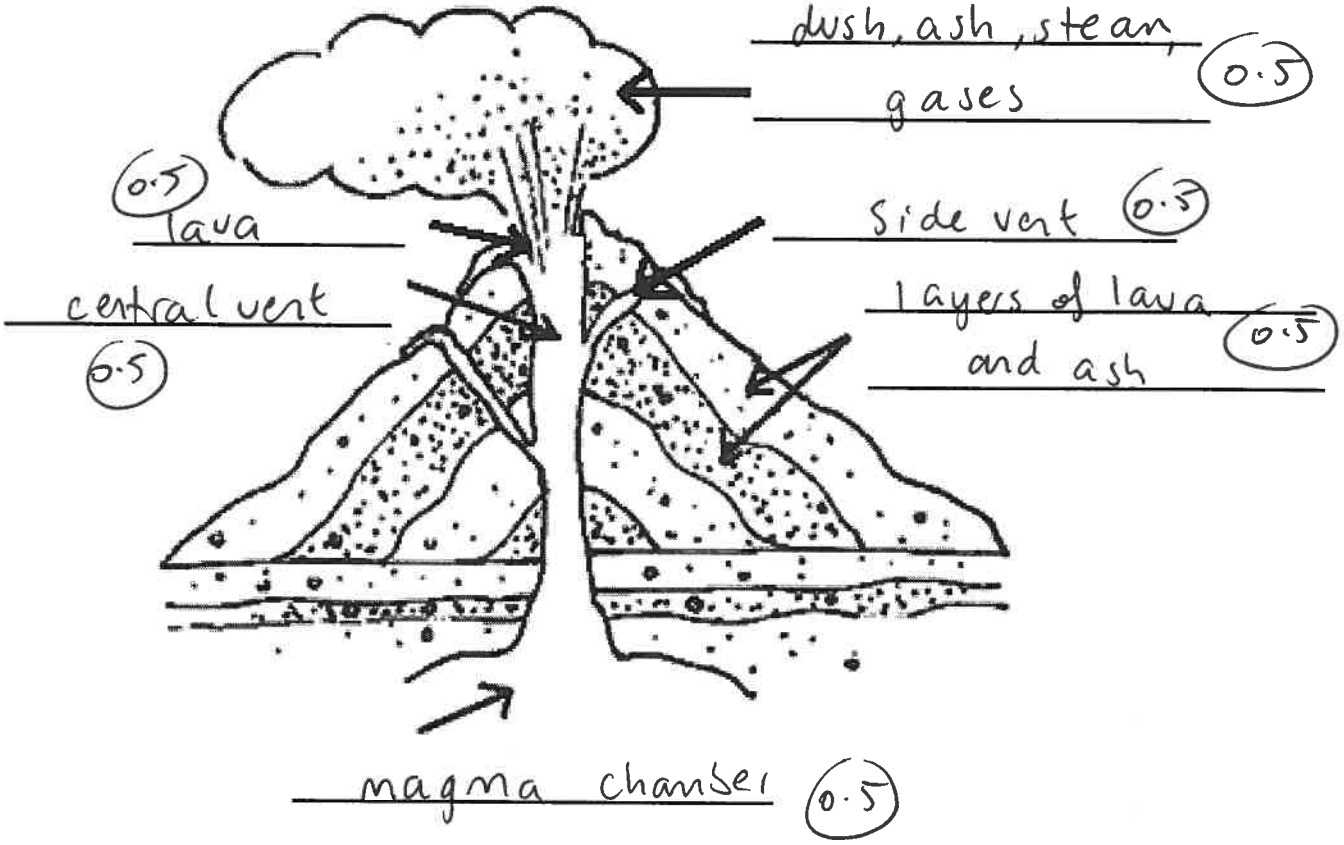
Basalt, pumice, scoria, obsidian,

(Any 2) 0.5 marks each

6. Write a definition for 'interlocking crystals'. (2 marks)

Crystals that (1) lock together and grow into each other in rock. (1)

7. Label the diagram of the volcano below. (3 marks)



8. A geologist removed some rock from the edge of an old lava flow. No crystals could be seen when the rock was studied under a microscope. The rock was a dark colour and it was hard, but very brittle. It was easily broken into pieces by hitting it, and broke into very sharp, thin strips which were very shiny. Apply your knowledge of rock types and formation to:

a. State whether this rock is intrusive or extrusive. (1 mark)

Extrusive

b. Identify the type of igneous rock it is (name of the rock). (1 mark)

Obsidian

c. Explain why no crystals could be found even though the rock was obviously igneous. (2 marks)

It cooled too fast (1) for any crystals (1) to form

9. Fill in the table using the words below (they can be used more than once). (6 marks)

Colour description:
- light coloured
- dark coloured
- transparent

Texture description:
- small crystals
- interlocking crystals
- fine grains
- has obvious holes
- no visible crystals
- large crystals
- large grains

Igneous rock	Colour description	Texture description
Granite	• Light coloured (0.5)	• Large grains • Large crystals Interlocking crystals (Any 2 0.5 each)
Pumice	• Light coloured (0.5)	• No visible crystals (0.5) • Obvious holes (0.5)
Basalt	• Dark coloured (0.5)	• Small crystals (0.5) • Fine grains (0.5)
Scoria	• Dark coloured (0.5)	• No visible crystals (0.5) • obvious holes (0.5)

10. Circle either true or false for the following statements. (2 marks)

Pumice is used to clean dead skin off feet.	True	False
Granite is used as barbeque rocks.	True	False
Dolerite can be used for road surfaces.	True	False
Basalt can be used for buildings and floor tiles.	True	False

11. Explain the difference between weathering and erosion. (2 marks)

Weathering is the process of rocks breaking down (1) and erosion is the removal of the rock particles (1).

12. Explain why the most common place that erosion occurs is on mountains or hills. (2 marks)

Gravity (1) makes sediments or water move more rapidly down a (1) slope than on ground level.

13. List four factors of physical weathering (physical weathering occurs because of these processes). (2 marks)

- Temperature change (0.5)
- The action of water & ice (0.5)
- Crystallisation of salts (0.5)
- Wind (0.5)

or

living plants