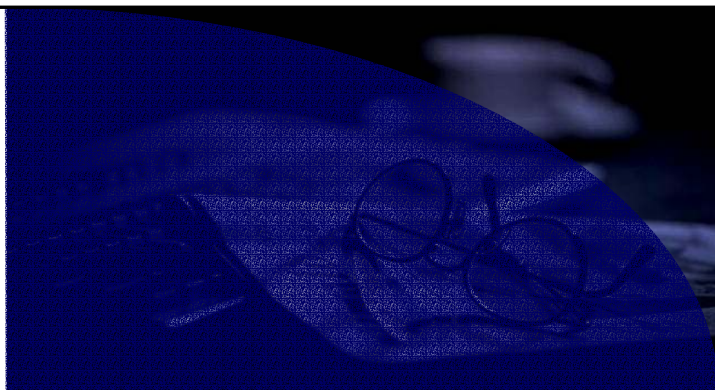


assessment for learning

year 8



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## 8G Rocks and Weathering

### Assessment for learning...year 8 (level 3-6)

Answer all questions:

Total marks	29
Time allowed	25 mins.

#### Question 1:

Sandstone can be 'weathered' by doing the following each day for one week.

1. Soak the sandstone in water.
2. Place it in a freezer overnight.
3. Take it out of the freezer each morning.

(a) Explain how this freezing and thawing 'weathers' the sandstone.

.....

.....

.....

.....

2 marks

(b) Weathering of rock may be caused by **physical** processes or **chemical** processes.

(i) The process in part (a) is a physical process which weathers rock. Describe **another** physical process which occurs naturally and explain how it weathers rock.

.....  
.....  
.....  
.....

2 marks

(ii) Name a chemical process which occurs outdoors and explain how it weathers rocks and buildings.

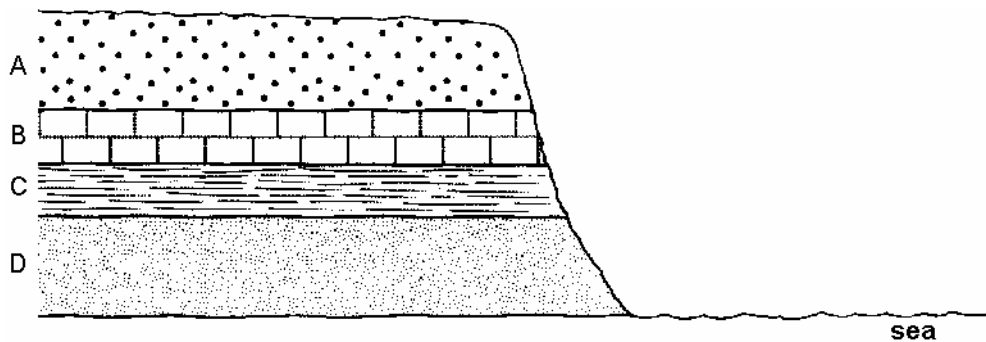
.....  
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.....  
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2 marks

Maximum 6 marks

**Question 2:**

The diagram shows four different layers of sedimentary rock in a cliff.



(a) Which layer of , A, B, C or D, is probably the oldest?

.....

1 mar

(b) Igneous rock is formed when magma cools.

Choose from the following words to complete the sentences below.

**Gas   liquid   metal   solid**

(i)    Igneous rock is a .....

1 mark

(ii) Magma is a .....  
1 mark

(c) Rocks are put into groups according to the way they are formed. The groups are **igneous, metamorphic and sedimentary**.

(i) To which group does sandstone belong?  
.....  
1 mark

(ii) In which group are fossils **never** found?  
.....  
1 mark

Maximum 5 marks

**Question 3:**

The action of the weather and plants on rocks or building materials is called **weathering**. The material is damaged but nothing gets taken away.

When material is broken down and removed from the area the process is called **erosion**.

(a) For the examples described in the table, tick **one** box in each row to show if the example is **weathering, erosion** or **neither**.

example	weathering	erosion	neither
The stones in an old wall have been pushed apart by the roots of weeds.			
An old granite gravestone is still smooth and shiny.			
A clay flower pot in the garden has crumbled and broken into pieces during the winter.			
Some soil has been washed from a flower bed by rain.			

4 marks

(b) How does water cause weathering of a brick?

.....  
.....

1 mark  
Maximum 5 marks

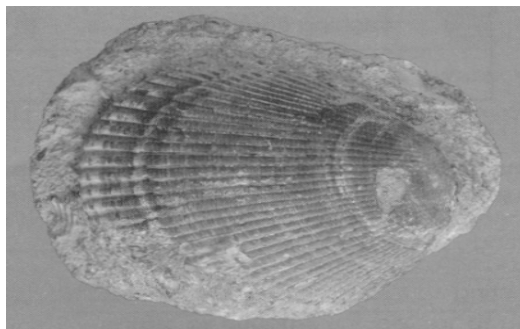
**Question 4:**

(a) Over many years, cliffs may be affected by weathering. Describe **one** effect of weathering on a cliff.

.....  
.....

1 mark

(b) The photograph shows a piece of sandstone.



(i) The sandstone in the photograph contains a fossil. What is a fossil?

.....  
.....

1 mark

(ii) What group of rocks does sandstone belong to?

.....

1 mark

(c) Granite and basalt are igneous rocks. They contain crystals but **no** fossils.

(i) How are igneous rocks formed?

.....  
.....

1 mark

(ii) Explain why igneous rocks do **not** contain fossils.

.....  
.....

1 mark

(iii) Granite takes much longer to form than basalt.  
How will the size of the crystals in granite be different from the size of the crystals in basalt?

.....  
.....

1 mark

Maximum 6 marks

**Question 5:**

(a) The table gives the names of three different rocks and how they are classified.

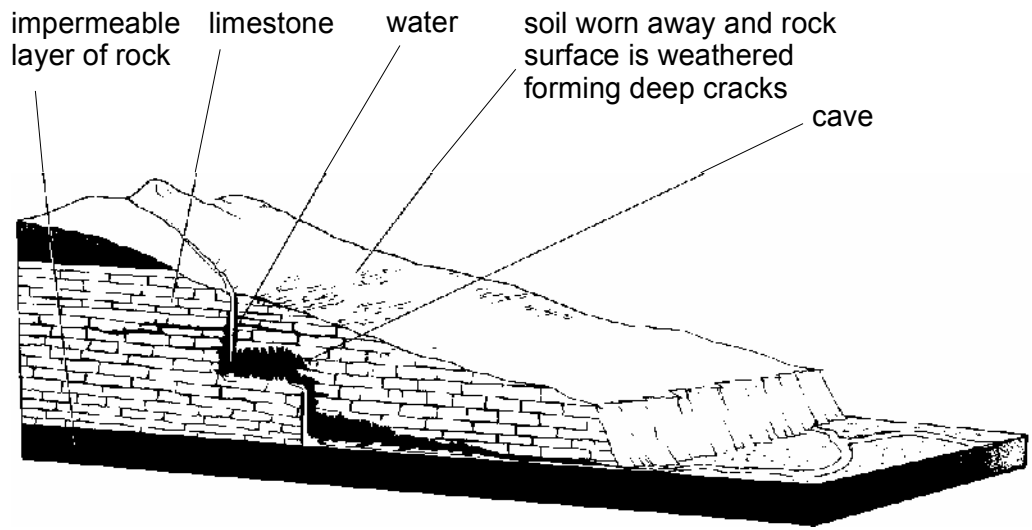
<b>name of rock</b>	<b>class of rock</b>
granite	igneous
marble	metamorphic
shale	sedimentary

In the table below, draw lines to connect the name of each rock to the description of how the rock was formed and then to the correct description of features of the rock.

<b>how the rock was formed</b>	<b>name of rock</b>	<b>features of the rock</b>
layers of mud and tiny dead animals compressed and turned into rock	granite	large interlocking crystals
magma cooling slowly underground in the Earth's crust	marble	crumbly, layered, containing fossils
limestone changed by heat and pressure	shale	hard, shiny, white with veins of colour, fizzes with acid

3 marks

(b) The diagram shows a section through a limestone cliff.



(i) There are caves in the limestone.

Explain how **chemical** weathering causes caves to form in limestone.

.....

.....

.....

.....

2 marks

(ii) Limestone is a porous rock. Water can enter the spaces in limestone.

Describe how this causes **physical** weathering of the limestone.

.....

.....

.....

2 marks

Maximum 7 marks