KS3 SCIENCE · CHEMISTRY

Earth and atmosphere: exam questions

Name _____
Total: 22 marks

1 Name the three main layers of the Earth. Start from the outside. **[3 marks]**

2 Describe how sedimentary rock forms. **[3 marks]**

3 Granite and basalt are both igneous rocks. Granite has large crystals. Basalt has very small crystals. Explain why. **[2 marks]**

4 State the difference between weathering and erosion. **[2 marks]**

5 Limestone is a sedimentary rock. Marble is a metamorphic rock. Describe how limestone becomes marble. **[2 marks]**

6 State the approximate percentages of nitrogen and oxygen in dry air. **[2 marks]**

7 Name one process that adds carbon dioxide to the air and one process that removes it. **[2 marks]**

8 Explain how greenhouse gases keep the Earth warm. **[2 marks]**

9 Give two effects of global warming. **[2 marks]**

10 Explain why it is important to recycle metals. **[2 marks]**

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Earth and atmosphere: mark scheme

Total: 22 marks

1 [3 marks]

- Crust **(1)**
- Mantle **(1)**
- Core (accept: outer core and inner core) **(1)**

2 [3 marks]

- Pieces of rock (sediment) settle in layers (accept: deposition) **(1)**
- The layers are squashed by the weight of the layers above (accept: compaction) **(1)**
- Minerals glue the grains together to make rock (accept: cementation, or the grains stick together) **(1)**

3 [2 marks]

- Granite formed from magma that cooled slowly, so the crystals had time to grow (accept: it cooled underground) **(1)**
- Basalt formed from magma that cooled quickly (accept: lava that cooled at the surface) **(1)**

4 [2 marks]

- Weathering breaks rock down where it is (accept: wears rock down by physical, chemical or biological processes) **(1)**
- Erosion is the movement of the pieces by water, ice or wind **(1)**

5 [2 marks]

- Heat and pressure (deep underground) change the rock **(1)**
- The rock does not melt (accept: it changes while it is solid, or new crystals form in the solid rock) **(1)**

6 [2 marks]

- Nitrogen: 78% (accept: 78 to 80%) **(1)**
- Oxygen: 21% (accept: 20 or 21%) **(1)**

7 [2 marks]

- Adds: respiration, combustion (accept: burning) or decay (any one) **(1)**
- Removes: photosynthesis (accept: dissolving in the oceans) **(1)**

8 [2 marks]

- The warm surface of the Earth gives out energy as radiation **(1)**
- Greenhouse gases absorb some of it, so less energy escapes to space **(1)**

9 [2 marks]

- One from: ice sheets and glaciers melt, sea level rises, more floods, more droughts, more heatwaves, more extreme weather **(1)**
- A second effect from the same list **(1)**

10 [2 marks]

- There is only a limited amount of metal ore in the Earth (accept: ores will run out) **(1)**
- Recycling means that less ore has to be extracted, so it lasts longer (accept: it saves energy, or mining damages less land, or less waste goes to landfill) **(1)**