

Changes in the Earth and its atmosphere

| | | | | |
|----|-----|--|---|------------|
| 1. | (a) | carbon dioxide | 1 | |
| | | <i>accept formula CO₂</i> | | |
| | | oxygen | 1 | |
| | | <i>accept formulae O₂ / O</i> | | |
| | (b) | 4% | 1 | |
| | (c) | carbon dioxide has <u>decreased</u> / from 95% to 0% | 1 | |
| | | oxygen has <u>increased</u> / from 0% to 21% | 1 | |
| | | any one from: | 1 | |
| | | (carbon dioxide decrease) | | |
| | | • carbon dioxide used during photosynthesis / by plants | | |
| | | • carbon dioxide dissolves in oceans | | |
| | | • carbon dioxide is locked up in rocks / carbonates / fossil fuels | | |
| | | (oxygen increase) | | |
| | | • oxygen released during photosynthesis / by plants | | |
| | | | | [5] |
| 2. | (a) | core | 1 | |
| | (b) | (i) 3 or below / low on the Richter scale | 1 | |
| | | <i>accept vibrations <u>not felt</u> / causes no damage</i> | | |
| | | <i>ignore references to injuries</i> | | |
| | | (ii) 4 | 1 | |
| | | (iii) movement of (Earth's / tectonic) plates | 1 | |
| | | <i>allow plates collide</i> | | |
| | | (iv) (earthquakes) cannot be predicted / sudden / without warning / random | 1 | |
| | | <i>ignore under / in the sea</i> | | |
| | | | | [5] |
| 3. | (a) | oxygen and nitrogen | 1 | |
| | | 20 – 21 % and 78 – 80 % | 1 | |
| | | <i>accept any two correct responses in the correct space for one mark</i> | | |
| | (b) | (i) acid rain | 1 | |
| | | <i>accept toxic gas or consequence of acid rain</i> | | |
| | | (ii) idea of the removal or use of sulphur dioxide gas (from the waste gases) | 1 | |
| | | <i>do not accept remove sulfur from coal</i> | | |
| | | (iii) oxygen | 1 | |
| | | <i>accept O₂</i> | | |
| | | water | 1 | |
| | | <i>accept H₂O</i> | | |
| | | <i>accept hydrogen oxide / steam</i> | | |

| | | | |
|-----|--|---|-------------|
| (c) | any two from: | 2 | |
| | <ul style="list-style-type: none"> • it's a 'greenhouse gas' or increase greenhouse effect <i>accept action of a 'greenhouse gas'</i> • causes global warming or increase in the Earth's temperature • sea-levels rise or flooding • climate change • (polar) ice-caps melt • extension of deserts | | |
| | <i>mention of ozone / acid rain / global dimming = max 1 mark</i> | | |
| (d) | idea trap / store / lock the carbon dioxide | 1 | |
| | in the oil reservoir or under the sea bed | 1 | |
| | <i>do not accept 'into the oil' / 'under the sea'</i> | | |
| | | | [10] |
| 4. | (a) (i) old animals / fossils / rocks match (when the continents are put together) or (continents) fit together | 1 | |
| | <i>ignore 'they are the same shape'</i> | | |
| | (ii) any two from: | | |
| | <ul style="list-style-type: none"> • continents / plates cannot move (thousands of kilometres) <i>accept the continents / plates are attached to the Earth or continents / plates cannot drift / float</i> • modern / new animals are different • a land bridge (could explain the matching fossils / rocks) | 2 | |
| | <i>ignore 'no evidence' 'no proof' 'no reputation'</i> | | |
| | (b) crust | 1 | |
| | <i>allow lithosphere</i> | | |
| | mantle | 1 | |
| | year | 1 | |
| | | | [6] |