

Changes in the Earth and its atmosphere

Mark scheme

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	

accept H₂O
accept hydrogen oxide / steam

- (c) any **two** from: 2
- it's a 'greenhouse gas' or increase greenhouse effect
accept action of a 'greenhouse gas'
 - causes global warming or increase in the Earth's temperature
 - sea-levels rise or flooding
 - climate change
 - (polar) ice-caps melt
 - extension of deserts
- mention of ozone / acid rain / global dimming = max 1 mark*

- (d) idea trap / store / lock the carbon dioxide 1
in the oil reservoir or under the sea bed 1
*do **not** accept 'into the oil' / 'under the sea'*

[10]

4. (a) (i) old animals / fossils / rocks match (when the continents are put together)
or (continents) fit together 1
ignore 'they are the same shape'
- (ii) any **two** from:
- continents / plates cannot move (thousands of kilometres)
*accept the continents / plates are attached to the Earth **or** continents / plates cannot drift / float*
 - modern / new animals are different
 - a land bridge (could explain the matching fossils / rocks) 2
ignore 'no evidence' 'no proof' 'no reputation'
- (b) crust 1
allow lithosphere
- mantle 1
- year 1

[6]