

Section A – Recall

Q1 (1 mark)

Crust, mantle, outer core, inner core

Q2 (1 mark)

Igneous rock

Q3 (1 mark)

Sedimentary rock

Q4 (1 mark)

Nitrogen

Q5 (2 marks)

Any two:

- Hard
- Crystals present
- Formed from cooled magma/lava
- Resistant to erosion
- No layers

(1 mark each)

Q6 (2 marks)

Any two:

- Fossil fuels
- Metals
- Minerals
- Fresh water
- Coal
- Oil
- Natural gas

(1 mark each)

Q7 (2 marks)

Any two:

- Nitrogen
- Oxygen
- Carbon dioxide
- Argon
- Water vapour

(1 mark each)

Q8 (2 marks)

Any two:

- Burning fossil fuels
- Deforestation
- Driving cars
- Factory emissions
- Air travel

(1 mark each)

Q9 (2 marks)

Any two:

- Reduces landfill waste
- Saves raw materials
- Saves energy
- Reduces pollution
- Conserves resources

(1 mark each)

Section B – Understanding

Q10 (3 marks)

- Earth has four layers (1)
- Crust is the thin outer layer / mantle beneath crust (1)
- Core is made of metals and inner core is solid / outer core liquid (1)

Q11 (3 marks)

- Sediments are deposited in layers (1)
- Layers are compacted (1)
- Cementation forms sedimentary rock (1)

Q12 (2 marks)

- Existing rock is changed by heat and pressure (1)
- Without melting (1)

Q13 (2 marks)

Any two:

- Saves resources
- Reduces pollution
- Uses less energy
- Reduces landfill

(1 mark each)

Q14 (3 marks)

- Human activities burn fossil fuels (1)
- This releases carbon dioxide (1)
- Increased CO₂ strengthens the greenhouse effect / climate change (1)

Section C – Application

Q15 (4 marks)

Any four:

- Igneous rocks contain crystals
- Usually hard
- No layers or fossils
- Formed from cooled magma/lava
- Example given e.g. granite or basalt

(1 mark each)

Q16 (4 marks)

Any four:

- Rocks can melt into magma
- Magma cools to form igneous rock
- Weathering and erosion create sediments
- Sediments compact into sedimentary rock
- Heat and pressure form metamorphic rock

(1 mark each)

Q17 (4 marks)

Any four:

- Burning fossil fuels releases CO₂
- CO₂ is a greenhouse gas
- Greenhouse effect increases

- Earth becomes warmer
- Climate patterns change
- Sea levels may rise

(1 mark each)

Q18 (4 marks)

Any four:

- Natural resources are finite
- They take millions of years to form
- Humans use them faster than replacement
- Fossil fuels can run out
- Increasing population increases demand

(1 mark each)

Section D – Extended Response

Q19 (6 marks)

5–6 marks

- Detailed explanation of the rock cycle
- Includes igneous, sedimentary and metamorphic rock formation
- Uses key scientific vocabulary accurately
- Clear sequence/processes explained

3–4 marks

- Some correct explanation of the rock cycle
- Mentions at least two rock types/processes
- Some scientific vocabulary used

1–2 marks

- Basic statements about rocks or rock types
- Limited detail

0 marks

- No relevant content

Indicative content:

- Magma cools to form igneous rock
- Weathering and erosion create sediments
- Compaction and cementation form sedimentary rock
- Heat and pressure form metamorphic rock
- Melting restarts the cycle

Model Answer:

The rock cycle describes how rocks change from one type to another over time. Igneous rocks are formed when magma or lava cools and solidifies. Weathering and erosion break rocks down into small sediments, which are compacted and cemented together to form sedimentary rocks. When rocks are exposed to heat and pressure underground, they become metamorphic rocks. If rocks melt, they turn back into magma, restarting the rock cycle.

Q20 (6 marks)

5–6 marks

- Detailed explanation of atmospheric composition and climate impacts
- Includes main gases and human activities
- Explains greenhouse effect clearly

3–4 marks

- Some correct knowledge of atmosphere and climate change
- Mentions gases and/or human activities

1–2 marks

- Simple statements about gases or pollution

0 marks

- No relevant content

Indicative content:

- Atmosphere mostly nitrogen and oxygen
- Small amounts of carbon dioxide and other gases
- Burning fossil fuels increases CO₂

- Deforestation reduces carbon dioxide removal
- Enhanced greenhouse effect causes global warming

Model Answer:

The Earth's atmosphere is mainly made of nitrogen and oxygen, with small amounts of carbon dioxide and other gases. Human activities such as burning fossil fuels in cars and factories release extra carbon dioxide into the atmosphere. Deforestation also increases carbon dioxide levels because fewer trees are available to absorb it. Carbon dioxide is a greenhouse gas, so increased amounts strengthen the greenhouse effect and cause global warming and climate change.