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Fuels from crude oil burn to provide heat energy.

When a fuel burns, it combines with oxygen in the air and produces carbon dioxide and water. When there is not enough oxygen, the fuel burns and also produces carbon monoxide and carbon particles.

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Draw a straight line from each substance that links it to a possible environmental problem.

[3 marks]

One has been done for you.

Substance	Possible environmental problem
Carbon dioxide	Causes global dimming
Carbon particles	Causes global warming
Crude oil	Non-polluting liquid
Water	Non-renewable resource
	Toxic gas

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Sulfur is a non-metal.

Sulfur burns in the air to produce sulfur dioxide, SO₂

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Why is it important that sulfur dioxide is **not** released into the atmosphere?

[1 mark]

Tick (✓) **one** box.

- Sulfur dioxide causes acid rain.
- Sulfur dioxide causes global dimming.
- Sulfur dioxide causes global warming.

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Sulfur dioxide dissolves in water.

What colour is universal indicator in a solution of sulfur dioxide?

Give a reason for your answer.

[2 marks]

Colour.....

Reason.....

.....

Sulfur dioxide is a gas at room temperature.

The bonding in sulfur dioxide is covalent.

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Explain, in terms of its structure and bonding, why sulfur dioxide has a low boiling point.

[3 marks]

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(Total 9 marks)

End