

0	1
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Iron will rust in damp air.
Iron reacts with water and oxygen to produce rust.
As iron rusts there is a colour change.

0	1	.	1
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Draw a ring around the correct answer to complete the sentence.

[1 mark]

During the reaction iron changes from grey to

blue **brown** **green**

Rust is hydrated iron oxide.

0	1	.	2
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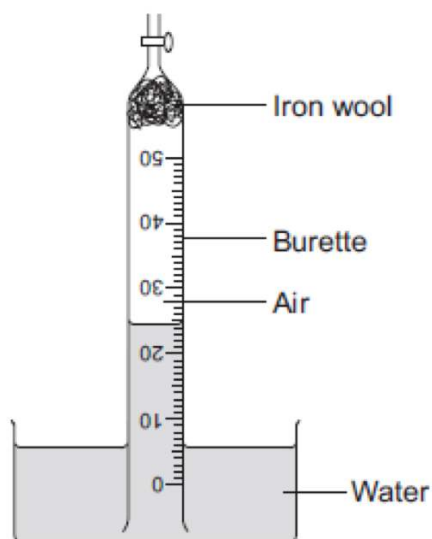
Write a word equation for the reaction of iron with oxygen and water.

[1 mark]

.....

A student set up the apparatus shown in **Figure 1**.

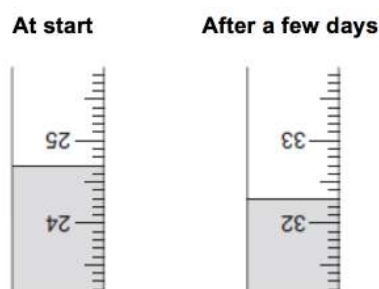
Figure 1



The student left the apparatus for a few days.
The water level in the burette slowly went up and then stopped rising.

Figure 2 shows the water level in the burette at the start of the experiment and after a few days.

Figure 2



0	1	.	3
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Complete the table below to show the reading on the burette after a few days.

[1 mark]

Burette reading at start	24.7 cm ³
Burette reading after a few dayscm ³

0	1	.	4
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Calculate the volume of oxygen used up in the reaction.

[1 mark]

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Volume = cm³

The percentage of air that is oxygen can be calculated using the equation:

$$\text{percentage of air that is oxygen} = \frac{\text{volume of air used up}}{\text{volume of air at the start}} \times 100$$

0	1	.	5
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The student **cannot** use his results to calculate the correct percentage of air that is oxygen.

Explain why.

[2 marks]

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(Total 6 marks)

End