

11: Redox, electrochemistry and Group VII – Topic questions**Paper 6**

The questions in this document have been compiled from a number of past papers, as indicated in the table below.

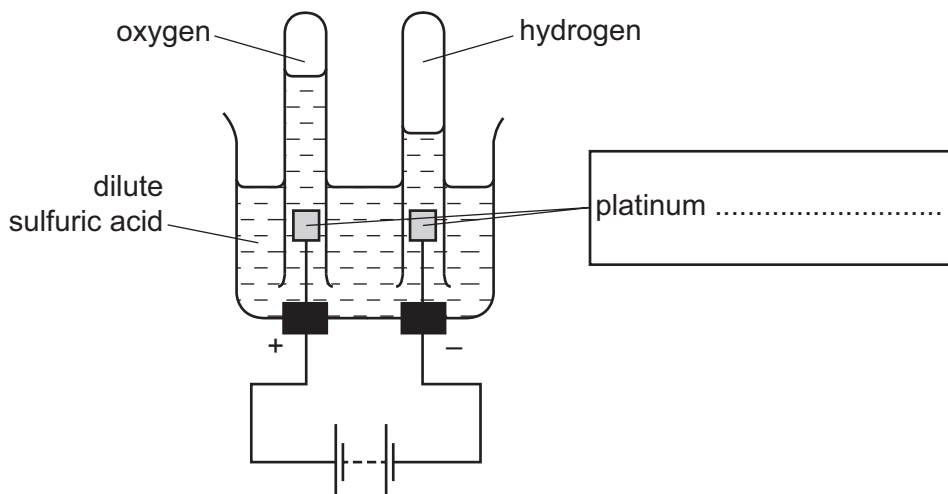
Use these questions to formatively assess your learners' understanding of this topic.

Question	Year	Series	Paper number
1	2016	November	61
4	2016	November	62

The mark scheme for each question is provided at the end of the document.

You can find the complete question papers and the complete mark schemes (with additional notes where available) on the School Support Hub at www.cambridgeinternational.org/support

- 1 The diagram shows the apparatus used to electrolyse dilute sulfuric acid.



- (a) Complete the box to show the role of the platinum. [1]

- (b) Give **one** observation made during this electrolysis.

..... [1]

- (c) (i) Compare the volumes of oxygen and hydrogen produced.

..... [2]

- (ii) Which substance breaks down to form these gases?

..... [1]

- (d) Give **one** test to distinguish between oxygen and hydrogen.

test

result with oxygen

result with hydrogen [2]

[Total: 7]

- 4 Metal rings can be coated with a layer of copper using electricity.
Plan an experiment to electroplate a small metal ring with copper.
You are provided with common laboratory apparatus, a copper rod, copper(II) sulfate crystals, water and a small metal ring.
Include a labelled diagram in your answer.

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..... [6]

[Total: 6]

Question	Answer	Mark
1 (a)	electrodes	1
1 (b)	bubbles/fizz/effervescence	1
1 (c) (i)	more hydrogen twice as much hydrogen/half as much oxygen	1 1
1 (c) (ii)	water	1
1 (d)	<i>lighted splint</i>	1
	no effect/brighter for oxygen	1
	'pops' for hydrogen	1
	OR <i>glowing splint</i> relights for oxygen	1 1
		Total: 7
4	clean/sandpaper the metal ring dissolve copper(II) sulfate in water/copper(II) sulfate solution set up circuit/switch on electricity/complete circuit copper rod anode (+ve electrode) metal ring cathode (-ve cathode) rotate the metal ring/agitate remove the metal ring, wash and dry	6
		Total: 6