

0 1

This question is about acids and bases.

0 1 . 1

What is the pH of sulfuric acid?

[1 mark]Tick (✓) **one** box.1 7 14 **0 1 . 2**

An acid reacts with zinc to produce zinc chloride and hydrogen.

Which acid reacts with zinc to produce zinc chloride?

[1 mark]Tick (✓) **one** box.Hydrochloric acid Nitric acid Sulfuric acid **0 1 . 3**

What type of substance is zinc chloride?

[1 mark]Tick (✓) **one** box.Alkali Base Salt 

0 1 . 4 An alkali is a base in solution.

Which compound is an alkali?

[1 mark]

Tick (✓) **one** box.

Sodium hydroxide

Sodium nitrate

Sodium sulfate

0 1 . 5 The formula of the copper ion is Cu^{2+}

The formula of the oxide ion is O^{2-}

What is the formula of copper oxide?

[1 mark]

Tick (✓) **one** box.

Cu_2O_2

CuO_2

CuO

Question 1 continues on the next page

Turn over ►



A student reacts an acid with copper oxide.

0 1 . 6

The reaction between the acid and copper oxide is very slow at room temperature.

How could the student speed up the reaction?

[1 mark]

0 1 . 7

Complete the sentence to show how the student makes sure that **all** the acid reacts.

Choose the answer from the box.

[1 mark]

in excess

in solution

molten

soluble

The student adds copper oxide to the acid until the

copper oxide is _____.

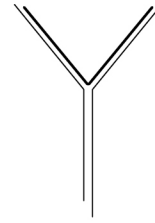
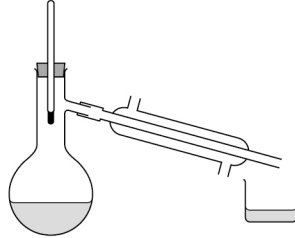
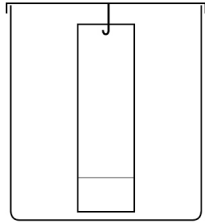


0 1 . 8 The student filters the unreacted copper oxide from the solution.

Which apparatus does the student use?

[1 mark]

Tick (✓) **one** box.



0 1 . 9 What process is used to produce crystals of a salt from a salt solution?

[1 mark]


9

Turn over for the next question

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.
01.1	1		1	AO1 5.4.2.4
01.2	hydrochloric acid		1	AO1 5.4.2.1 5.4.2.2
01.3	salt		1	AO1 5.4.2.1 5.4.2.2
01.4	sodium hydroxide		1	AO2 5.4.2.2
01.5	CuO		1	AO2 5.1.1.1
01.6	any one from: <ul style="list-style-type: none"> • increase the concentration of the acid • increase the surface area of the copper oxide • warm / heat the mixture 	allow use powdered copper oxide ignore increase room temperature allow add catalyst ignore stir	1	AO1 5.4.2.2 5.4.2.3 RPA8
01.7	in excess		1	AO1 5.1.1.2 5.4.2.3 RPA8

01.8			1	AO1 5.1.1.2 5.4.2.3 RPA8
01.9	crystallisation	allow evaporation	1	AO1 5.4.2.2 5.4.2.3 RPA8
Total			9	