AQA, OCR, Edexcel

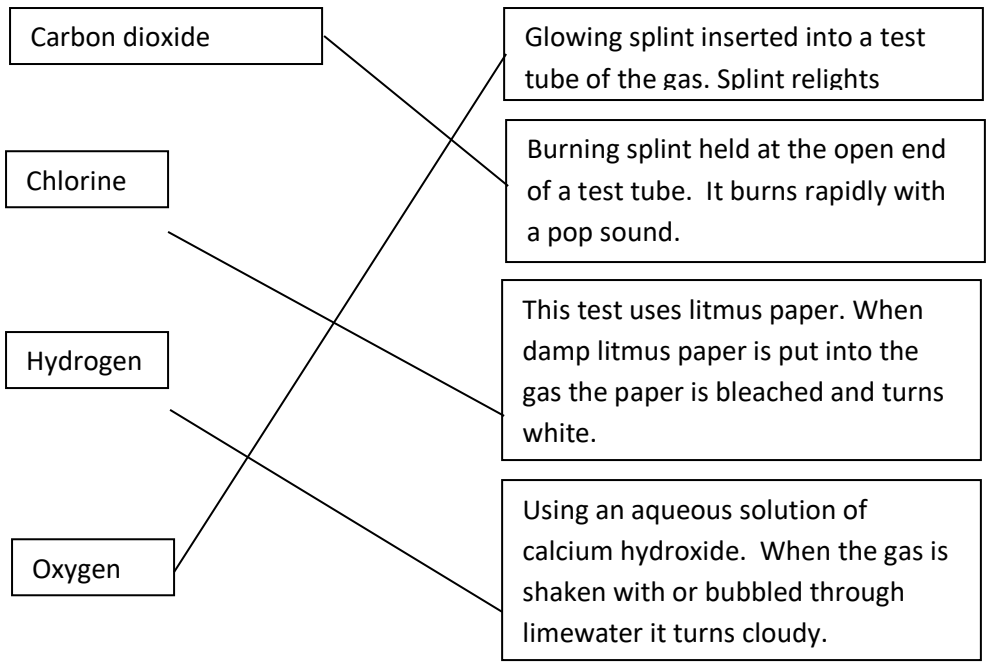
GCSE Science

GCSE Chemistry

Tests for Ions and Gases Questions

Total Marks: /28

Q1: Match up these tests for these common gases.

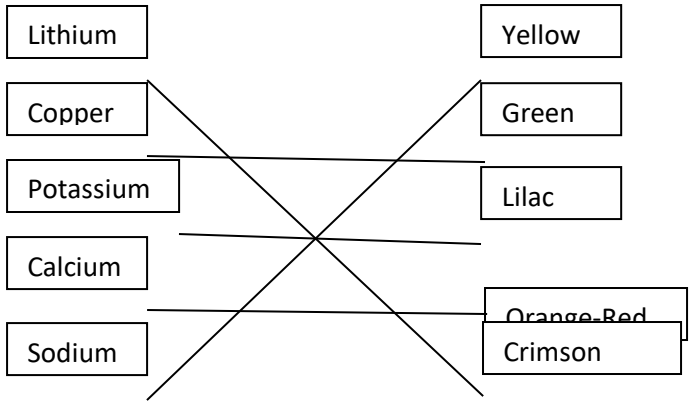


(4 marks)

Flame tests

Q2: Flame tests can be used to identify metal ions.

Match up the compounds with the colour of the flame.



(6 marks)

Q3: If a sample contains a mixture of ions what can happen to the flame colour?

A=Flame colour can be masked.

(1 mark)

Metal hydroxides

Q4: Sodium hydroxide is used to identify some metal ions. Fill in the gaps in the following sentences.

Solutions of **aluminium (1 mark)**, **calcium (1 mark)** and **magnesium (1 mark)** ions form white precipitates when sodium hydroxide solution is added.

(3 marks)

Q5: Which hydroxide precipitate dissolves in excess sodium hydroxide solution?

A= aluminium hydroxide

(1 mark)

Q6: Solutions of copper (II), iron (II) and iron (III) form coloured precipitates. What colours are these?

Ions	**Colour**
Copper (II)	Blue (1 mark)
Iron (II)	Green (1 mark)
Iron (III)	Brown (1 mark)

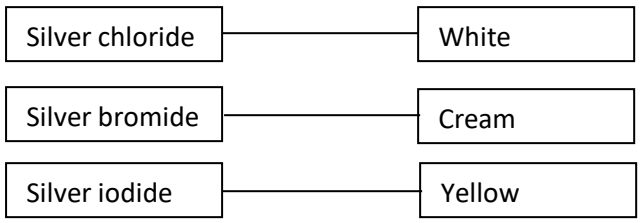
(3 marks)

Q7: Complete the following sentences.

Carbonates react with **dilute acids (1 mark)** to form **carbon dioxide gas (1 mark)**. This can be identified using **limewater (1 mark).**

(3 marks)

Q8: Halide ions in solution produce precipitates with silver nitrate solution in the presence of dilute nitric acid. What colour are the precipitates?



(3 marks)

Q9: What is flame emission spectroscopy?

A= An instrumental method used to analyse metal ions in solutions.

(1 mark)

Q10: Explain how it works.

A= The sample is put into a flame (1 mark) and the light given out is passed through a spectroscope (1 mark). The output is a line spectrum that can be analysed to identify the metal ions in solution and measure their concentrations (1 mark).

(3 marks)