

GCSE Chemistry A (Gateway Science)
J248/02 C4-C6 and C7 Foundation (Foundation Tier)

Question Set 11

1 Chemical tests are used to identify gases, anions and cations.

(a) Draw lines to match the **gas** to the correct **chemical test**.

gas	chemical test
	relights a glowing splint
carbon dioxide	turns moist red litmus blue
chlorine	turns moist blue litmus red and then white
ammonia	turns acidified potassium manganate(VII) solution colourless
hydrogen	turns lime water milky
oxygen	burns with a squeaky pop
	turns moist pH paper green

[5]

(b) A student uses the flame test to identify the cations in a solid.

Describe how she should do a flame test.

[3]

(c) The student does three chemical tests on an unknown solution.

Look at her results.

Chemical test	Result
pH probe	pH value is 3
dilute hydrochloric acid followed by barium chloride solution	white precipitate
dilute nitric acid followed by silver nitrate solution	white precipitate

Which ions are present in the solution? Choose from:

calcium **hydrogen** **iron(II) chloride** **sulfate**

Explain your answer.

[4]

Total Marks for Question Set 11: 12

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