

## IGCSE (EDEXCEL) Chemistry : Tests for cations

Q1. Fill in the missing words,

To perform a flame test you need to clean a \_\_\_\_\_ wire loop by dipping it in some dilute \_\_\_\_\_ and then placing it in a non luminous flame. When you hold the loop in the flame and it burns without any \_\_\_\_\_, you can now dip it in the sample you want to test. This is used to test for \_\_\_\_\_.

(4)

Q2. The boxes give a list of cations and the colour emitted in a flame test. Draw one straight line from each cation to the colour it emits.

(5)

Lithium

lilac

Sodium

blue-green

Potassium

red

Calcium

yellow

Copper

orange-red

Q3. We can test some cations using sodium hydroxide. Match the cation with the test result.

(4)

Copper (II),  $\text{Cu}^{2+}$

green

Iron (II),  $\text{Fe}^{2+}$

Ammonia gas given off

Iron (III),  $\text{Fe}^{3+}$

blue

Ammonium,  $\text{NH}_4^+$

red-brown

## **IGCSE (EDEXCEL) Chemistry : Tests for anions**

Q1. How do we test for Carbonates?

(3)

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Q2. How do we test for Sulfates?

(3)

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Q3. How do we test for Halides?

(5)

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Q4. Why should we not add Sulphuric acid before adding barium chloride?

(1)

## **IGCSE (EDEXCEL) Chemistry : Tests for gases / water**

**Q1. How do we test for Chlorine gas?**

**(2)**

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**Q2. How do we test for Oxygen gas?**

**(1)**

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**Q3. How do we test for Carbon dioxide gas?**

**(2)**

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**Q4. How do we test for Hydrogen?**

**(1)**

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**Q5. How do we test for Ammonia gas?**

**(2)**

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**Q6. Describe a chemical test for water?**

**(2)**

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## **IGCSE (EDEXCEL) Chemistry : Tests for cations 2**

**Q1.** Describe how you would perform a flame test?

(2)

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**Q2.** How would you clean the metal loop ?

(2)

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**Q3.** Why must the metal loop be clean ?

(2)

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**Q4.** Describe how you would test for Copper (II),  $\text{Cu}^{2+}$  ions?

(2)

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**Q5.** What colour precipitate does Iron (II),  $\text{Fe}^{2+}$  form ?

(1)

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**Q6.** What colour precipitate does Iron (III),  $\text{Fe}^{3+}$  form ?

(1)

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**Q7.** How do we test for Ammonium ions  $\text{NH}_4^+$

(3)

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## **IGCSE (EDEXCEL) Chemistry : Tests for anions 2**

**Q1.** . The boxes give a list chemical tests needed to detect the anions. Draw one straight line from each chemical test to the relevant anion.

(3)

add nitric acid followed by silver nitrate

Carbonate

add dilute hydrochloric acid

Sulphate

add hydrochloric acid followed by barium chloride

Halides (chlorides , bromide, iodide)

**Q2.** The boxes give a list of anions and the result of a chemical test. Draw one straight line from each anion to the result of the test.

(5)

Carbonate

white precipitate

Sulphate

Carbon dioxide gas given off

Chloride

yellow precipitate

Bromide

white precipitate

Iodide

cream precipitate

**Q3.** Acidified silver nitrate solution is used to test for chloride ions.

Give a reason why hydrochloric acid is not used to acidify silver nitrate solution.

(1)

**Q4.** When testing for sulphates, why do we add hydrochloric acid before the barium chloride.

(1)

## IGCSE (EDEXCEL) Chemistry : Tests for gases / water 2

Q1. The boxes give a list of gases and the result of a chemical test for that gas. Draw one straight line from each gas to the result of the test.

(5)

Chlorine

damp red litmus turns blue

Oxygen

limewater turns cloudy, when gas is bubbled through

Carbon dioxide

bleaches damp blue litmus paper

Hydrogen

the gas relights glowing splint

Ammonia

(squeaky) pop with lighted splint

Q2. Describe a physical test to show a colourless liquid is pure water.

(2)

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Q3. Describe a chemical test to show that a colourless liquid contains water.

(2)