

**AQA – Periodic table – GCSE 2022 CS Chemistry**

1. June/2022/Paper\_8464/C/1F/No.1

0 1

This question is about Group 1 elements.

0 1 . 1

What are the Group 1 elements known as?

[1 mark]

Tick (✓) **one** box.

Alkali metals

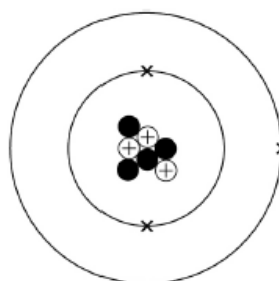
Halogens

Noble gases

0 1 . 2

Figure 1 shows a lithium atom.

Figure 1



What is the number of electrons and neutrons in the atom of lithium?

[2 marks]

Number of electrons \_\_\_\_\_

Number of neutrons \_\_\_\_\_

0 1 . 3

What is the relative charge on a lithium ion?

[1 mark]

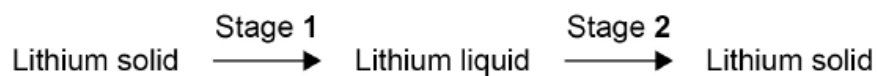
Tick (✓) **one** box.

+1

0

-1

0 1 . 4 Lithium is heated and then cooled in an experiment.



Two physical changes happen in the experiment.

Draw **one** line from each stage to the physical change that happens in that stage. **[2 marks]**

**Stage**

**Physical change**

Boiling

Condensing

Dissolving

Freezing

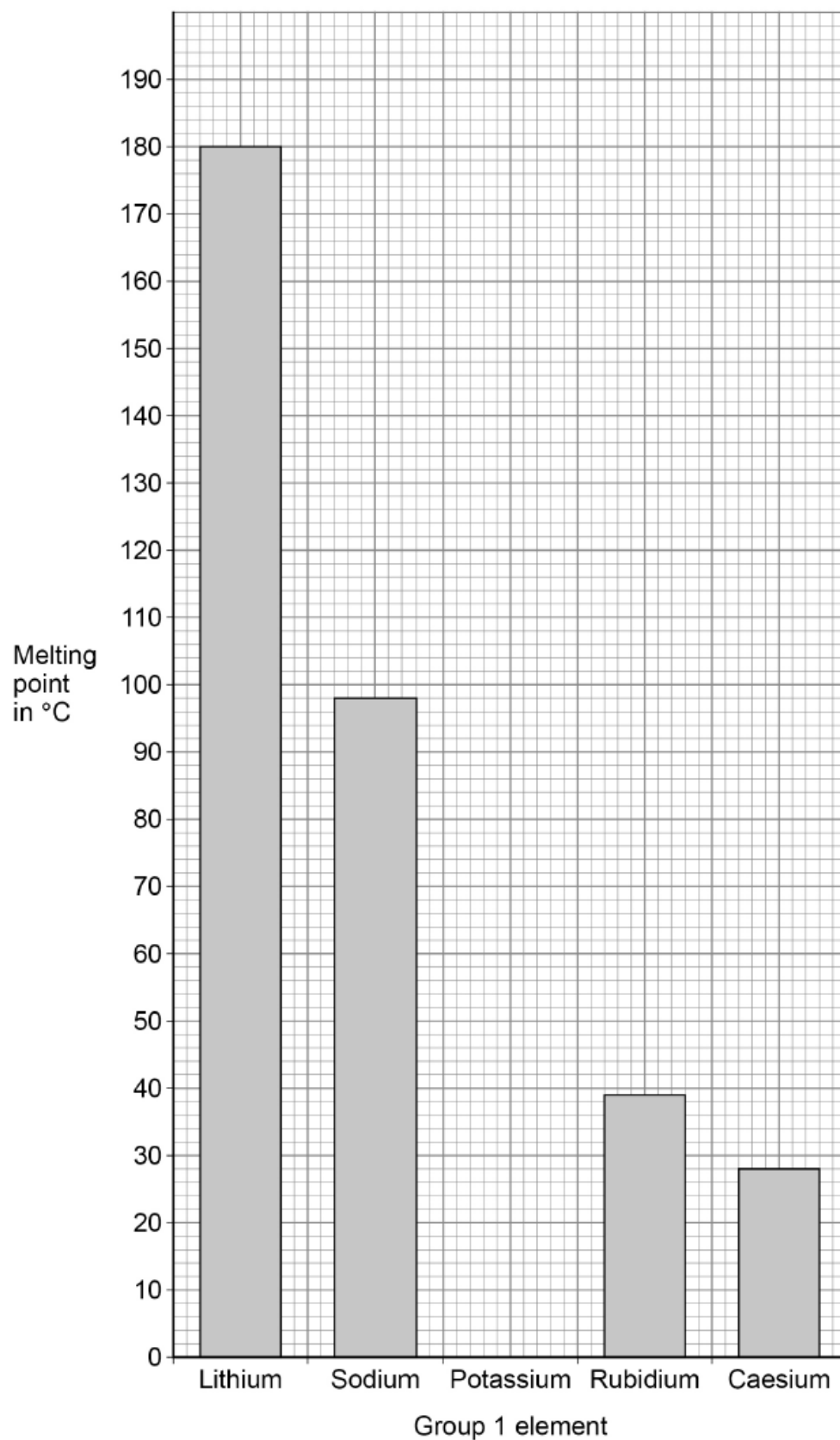
Melting

Stage 1

Stage 2

Figure 2 represents the melting points of some Group 1 elements.

Figure 2



0 1 . 5 What is the melting point of caesium?

Use **Figure 2**.

[1 mark]

Melting point = \_\_\_\_\_ °C

0 1 . 6 The melting point of potassium is 63 °C

Draw a bar for the melting point of potassium on **Figure 2**.

[1 mark]

0 1 . 7 Describe the trend of the melting points of the Group 1 elements in **Figure 2**.

[3 marks]

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0 1 . 8 The boiling point of sodium is 883 °C

What is the state of sodium at 150 °C?

Use **Figure 2**.

[1 mark]

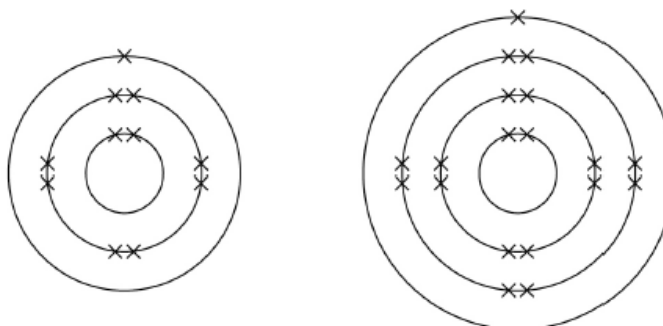
Tick (✓) **one** box.

Gas	<input type="checkbox"/>
Liquid	<input type="checkbox"/>
Solid	<input type="checkbox"/>

0 1 . 9

**Figure 3** represents the electronic structure of a sodium atom and of a potassium atom.

**Figure 3**



Sodium atom

Potassium atom

Complete the sentence.

Choose the answer from the box.

[1 mark]

gains an electron

loses an electron

shares an electron

Potassium is more reactive than sodium because potassium more easily \_\_\_\_\_.

## 2. June/2022/Paper\_8464/C/1H/No.4

0 4

This question is about Group 7 elements.

0 4 . 1

What are the Group 7 elements known as?

[1 mark]

0 4 . 2

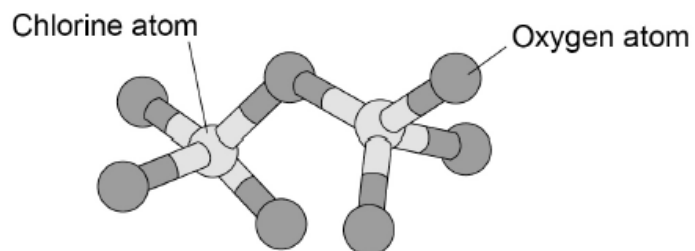
Why do Group 7 elements react in similar ways?

[1 mark]

0 4 . 3

Figure 3 shows the structure of a molecule of chlorine oxide.

Figure 3

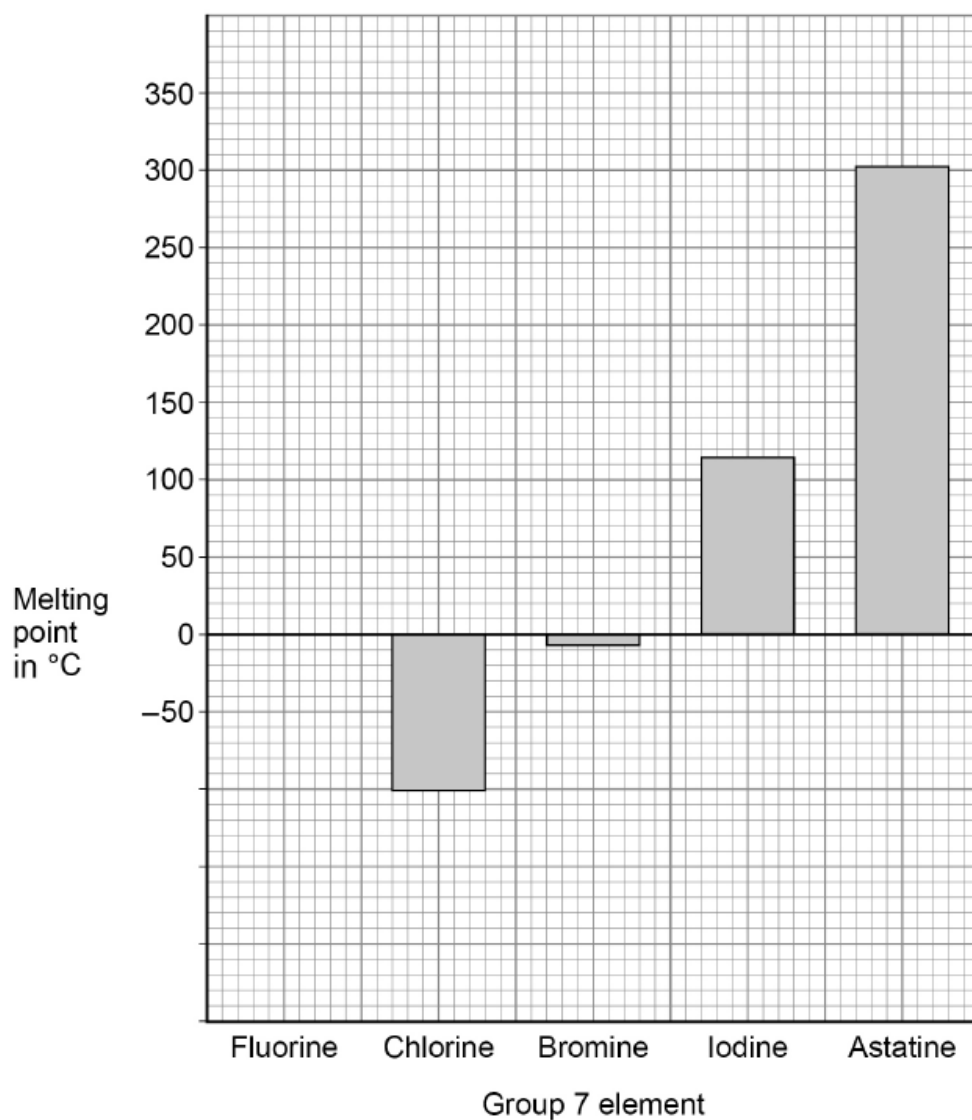


What is the molecular formula of the chlorine oxide molecule in Figure 3?

[1 mark]

Figure 4 shows the melting points of some Group 7 elements.

Figure 4



0 4 . 4 The melting point of fluorine is  $-220\text{ }^{\circ}\text{C}$

Complete **Figure 4**.

You should:

- complete the scale on the y-axis
- draw the bar for the melting point of fluorine.

[2 marks]

0 4 . 5 Explain the trend in the melting points of the Group 7 elements.

Use Figure 4.

[3 marks]

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0 4 . 6 What is the state symbol for bromine at  $-50\text{ }^{\circ}\text{C}$ ?

Use Figure 4.

[1 mark]

Tick (✓) **one** box.

(aq)  (g)  (l)  (s)

0 4 . 7 Evaporation and boiling occur at the surface of bromine at its boiling point.

Name **one** more process that happens at the surface of bromine at its boiling point.

[1 mark]

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