Solids, liquids and gases – Checkpoint Primary Chemistry

1. No.2

Chen finds information about the melting points and boiling points of some substances.

substance	melting point in °C	boiling point in °C	
ethanol	−144	78	← 78 − −144 = 222
propanone	−95	56	← 56 − −95 = 151
salt solution	−6	106	← 106 − −6 = 112
water	0	100	← 100 − 0 = 100

(a) What is the meaning of the words **melting point**?

temperature at which solid changes to liquid

[2]

(b) Which substance has the greatest difference between its melting point and its boiling point?

ethanol (difference is 222°C) [1]

(c) Salt solution is a mixture of salt and water.

Describe the effect of adding salt to the boiling point of water.

- Increases (or rises) the boiling point of water.
- Water boils at 100°C
- With salt the b.p will rise to 105°C. [1]

2. No.6

This question is about the properties of gases.

Look at the table that shows some properties of four gases.

gas	colour of gas	odour of gas
carbon dioxide	colourless	odourless
chlorine	pale green	like bleach
nitrogen	colourless	odourless
oxygen	colourless	odourless

(a) Write down **two other** properties of all gases.

1 Mass of gas

2 gas fills container it is placed in

[2]

(b) Blessy thinks that all gases are colourless.

Explain why Blessy is **not** correct.

Use information from the table in your answer.

Chlorine is pale green gas and not colourless. [1]

3. No.10

This question is about melting point and boiling point.

(a) Describe the change of state that happens at the melting point.

from Solid to Liquid [1]

(b) What is meant by the words **boiling point**?

temperature at which a liquid changes to a gas [1]

(c) Ethanoic acid has a melting point of 17 °C and a boiling point of 118 °C.

Room temperature is 25 °C.

Tick (✓) one box to show if ethanoic acid is a solid, liquid or gas at room temperature.

solid	☐
liquid	☑
gas	☐

Explain your answer.

Room temperature 25°c is higher than 17°c the melting point of the Ethanoic acid but less than 118°c its boiling point. [2]

17°c < 25°c < 118°c.