



1 Give the formula of the following ionic compounds.

potassium carbonate aluminium hydroxide
calcium nitrate sodium bromide

2 Identify the structure type of the following substances.

Table with 9 columns: name, silver nitrate, silicon oxide, helium, ammonia, copper, buckminsterfullerene, graphene, sucrose. Rows include formula, giant covalent, ionic, metallic, molecular, and monatomic structure types.

3 This question is about some different forms (allotropes) of the element carbon.

Table with 6 rows (A-F) and 10 columns: melting point, boiling point, electrical conductivity (solid/liquid), and structure type (giant covalent, ionic, metallic, molecular, monatomic).

4 Gold nanoparticles have different properties to bulk gold.

- a What are nanoparticles?
b Why do gold nanoparticles have different properties to bulk gold?

5 Calculate the surface area to volume ratio of a cube with sides 5 cm long.

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