

Complete the table to show the properties of each type of bonding.

Type of Bonding	Description
Ioninc	
Covalent	
Metallic	

Draw the ions of the following elements.

Lithium

Sodium

Chlorine

Oxygen

Draw dot and cross diagrams for the following covalent compounds

## Bonding, Structure and the properties of matter

Methane CH<sub>4</sub>

Ammonia NH<sub>3</sub>

What sort of shape do giant ionic compounds give?

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Explain why ionic compounds can conduct in solution.

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Draw the structure of a metal

Draw the structure of an alloy

Explain why giant covalent compounds have high melting and boiling points whereas simple covalent compounds have very low boiling and melting points.

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Explain why metals are easily shaped

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Explain why alloys are stronger than metals

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What are nanoparticles?

List some uses of nanoparticles

Explain why graphene can be used for phone screens.

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Explain why carbon nanotubes can be used for electronics.

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