

Structure & bonding

Reading – pages 28-35

Knowledge

1. What type of ions do metals form?
2. What is an ionic bond?
3. Give 3 properties of ionic compounds
4. What is a covalent bond?
5. Complete the table

	Melting & boiling points	Conduction of electricity?
Simple covalent		
Giant covalent		

6. How many bonds does each carbon form in diamond? In graphite?
7. Which type of substances form covalent bonds?
8. What is an allotrope?
9. What is an alloy?
10. What holds a metal together?

Application

1. Describe, in terms of electrons, what happens when magnesium and oxygen react to form magnesium oxide
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2. Explain why, in terms of structure, magnesium oxide has a high melting point.
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3. Why is carbon dioxide a gas at room temperature?
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4. Explain why graphite can be used in electric circuits
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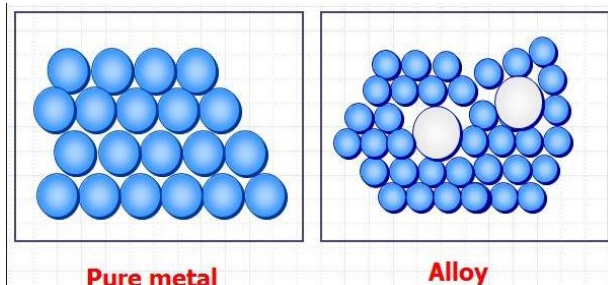
5. Explain why metals have high melting points and conduct electricity

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6. A pure metal and an alloy are shown below:



a) Compare the structure of the alloy and the pure metal

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b) Explain why alloys are stronger than pure metals

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7. Complete the diagram below:



(2,8,1) (2,8,7)

8. Explain why, in terms of its structure, diamond can be used in drill bits

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9. Why can graphite be used as a lubricant in high heat engines?

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