Year 12 Science: Structure and properties of solids

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. What type of solid is magnesium, Mg?

2. What type of solid is silicon dioxide, SiO_2?

3. What type of solid is dry ice, solid CO_2?

4. Does solid potassium bromide, KBr, conduct electricity?

5. Will iodine, I_2, dissolve in hexane?

Exam-style question: copper, magnesium chloride and iodine

Copper, Cu, is used for electrical wiring; magnesium chloride, $MgCl_2$, is a salt found in seawater; and iodine, I_2, is a dark grey solid.

6. Give the type of solid and the particles in each of copper, magnesium chloride and iodine.

7. Explain why copper conducts electricity as a solid, but magnesium chloride conducts only when molten or dissolved.

8. Explain why iodine has a much lower melting point than magnesium chloride.

9. Predict and explain whether magnesium chloride and iodine will dissolve in hexane, a non-polar solvent.

Fix the mistake

10. Correct this statement: "When iodine melts, the covalent bonds between the iodine atoms break."

11. Correct this statement: "Solid sodium chloride conducts because it is made of ions."

12. Correct this statement: "Metals conduct because their positive ions move through the metal."

13. Correct this statement: "Graphite conducts because its layers can slide over each other."