Year 11 Science: Physical properties and the uses of materials

Name: _____ Date: _____

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

Practice

1. A frying pan has an aluminium body, a PTFE non-stick coating on the inside, and a plastic handle. (a) Name the type of material for the aluminium body and for the PTFE coating. (b) Explain why aluminium is suitable for the body of the pan. (c) Discuss why the handle is made from a polymer rather than from aluminium.

2. Using the melting point and density table, which metal there has the lowest melting point, and what is its melting point?

3. Why does solid salt not conduct electricity, while salt water does?

4. A crystal of salt is hit with a hammer and shatters. Why?

5. Why is graphite used in pencils but diamond in drill tips?

6. Why is a magnesium alloy used for a wheel instead of pure magnesium?

Fix the mistake

7. Correct this statement: "Solid salt conducts electricity because it is made of ions."

8. Correct this statement: "Alloys are harder because the bonds in them are stronger."

9. Correct this statement: "Salt dissolves because water breaks the covalent bonds in the NaCl molecules."

10. Correct this statement: "Magnesium wheels are better because magnesium is lighter."