10.1 SCIENCE 2012
METALS AND NON-METALS TEST

Name: Answers key **Teacher:** _____ **Mark:** /61

SECTION A: **MULTIPLE CHOICE** (3 marks)

Select the best answer for each question below.

1. Select the alloy from the list below.

   (a) Aluminium
   (b) Copper
   (c) Bronze
   (d) Mercury

2. Choose the **incorrect** statement.

   (a) Mixtures are not compounds.
   (b) Elements are also molecules.
   (c) Compounds are also molecules.
   (d) Compounds are not molecules.

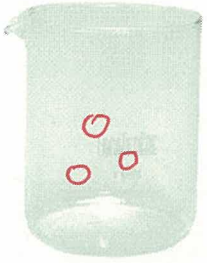
3. Choose the **correct** statement.

   (a) Steel is an alloy or iron with small amounts of carbon added to it.
   (b) The properties of the new alloy are usually not as good as those of the base metal.
   (c) Most of the metals around you are pure metals.
   (d) An alloy is made up of a small amount of base metal and a lot of another metal added to it.

SECTION B: **SHORT ANSWER**

1. In the beaker on the right, draw an element with 3 atoms. (1 mark)

2. In the beaker on the right, draw a mixture. (1 mark)



3. In the beaker on the right, draw a compound with 3 atoms. (1 mark)

4. Explain the difference between an element and a compound. (2 marks)

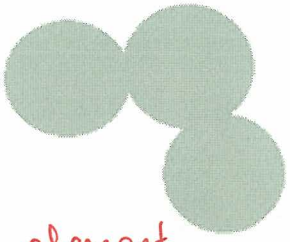
Element is made up of one type of atom, compound is made up of different ~~ele~~ types of atoms

5. Explain the difference between a mixture and a compound. (2 marks)

Mixture are atoms not chemically combined, Compounds are atoms chemically combined.

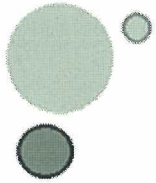
6. Classify the following as either a compound, element or molecule. Some may be **more than one**. (6 marks)

A



element molecule

B



mixture

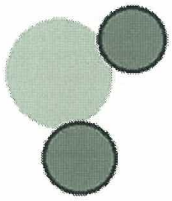
C

element molecule

D

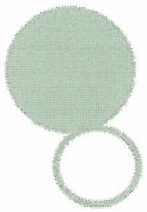
atom, molecule. element

E



molecule compound

F



molecule compound

7. Write definitions for the following words.

Ductile: Able to be stretched into wires. (2 marks)

Malleable: Able to be hammered into another shape. (2 marks)

Boiling point: The temperature at which a substance changes from a liquid to a vapour (2 marks)

Melting point: The temperature at which the substance changes state from a solid to a liquid (2 marks)

Electrical conductivity: whether a substance can allow an electric current to pass through it. (2 marks)

Lustre: How shiny or dull a substance is. (2 marks)

8. Why can't most metals be used as pure elements? (1 mark)

Too soft to be used.

9. What are 'alloys'? (2 marks)

A metal combined with small amounts of another ~~met~~ element.

10. Brass is 70% Cu and 30%, what element is the base metal? Copper. (1 mark)

11. Fill in the table below with the **general** information. (15 marks)

Characteristic	Metals	Non-metals	Metalloids
Ductile? (yes or no)	Yes	No	No
Malleable? (yes or no)	Yes	No	No
State in room temperature	solid	solid, liquid gas	solid
Electrical conductivity (good or poor)	good	poor	poor
Lustre	shiny	dull	dull or shiny

11. Fill in the missing spaces. (5 marks)

Compounds are made of ~~atoms~~ one or more different atoms chemically combined together. For example, water is made up of two hydrogen atoms and one oxygen atom chemically combined together.

Mixtures are two or more different atoms mixed together without being chemically combined.

Molecules are one or more atom chemically combined.

Elements are only made of one type of atom. So gold is made of only gold atoms.

12. Write the names of the following elements. (6 marks)

Sn: Tin
Cu: Copper
Hg: Mercury
Au: Gold
N: Nitrogen
Si: Silicon
Zn: Zinc
Ni: Nickel
Al: Aluminium
H: Hydrogen
S: Sulfur
B: Boron

13. Draw lines to **match up** the types treatment to their descriptions. (3 marks)