1. Magnesium reacts with oxygen to form magnesium oxide. What happens to the electrons?

   ☐ The electrons are delocalised over the whole compound

   ☐ Mg and O share two pairs of electrons

   ☐ Each Mg atom transfers two electrons to an O atom, forming Mg^{2+} and O^{2-}

   ☐ Each O atom transfers two electrons to Mg

2. What is "Co"?

   ☐ Copper

   ☐ A compound of carbon and oxygen

   ☐ The element cobalt

   ☐ Carbon monoxide

3. Why did Mendeleev leave gaps in his table?

   ☐ For elements not yet discovered, so similar elements stayed together

   ☐ Because he ran out of space

   ☐ Because some elements had no atomic weight

   ☐ To show radioactive elements

4. How many lone pairs does each chlorine atom have in Cl_2?

   _____ lone pairs

5. What carries an electric current through copper?

   ☐ Copper ions

   ☐ Copper atoms

   ☐ Protons

   ☐ Delocalised electrons

6. How many particles are in one mole?

   ☐ 6.02×10^{23} grams

   ☐ 6.02×10^{23}

   ☐ It depends on the substance

   ☐ 12

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_____ cm^3

8. A neutral solution contains no hydrogen ions.

   ☐ True ☐ False

9. Two runs give maximum temperatures of 28.6 and 29.0 °C. What is the mean?

   _____ °C

10. Repeat times: 62, 60, 58 s. What is the mean?

    _____ s

1. **Each Mg atom transfers two electrons to an O atom, forming Mg^{2+} and O^{2-}**

   Metals lose electrons and non-metals gain them; magnesium is in Group 2 and oxygen in Group 6.

2. **The element cobalt**

   One capital and one small letter is one element symbol.

3. **For elements not yet discovered, so similar elements stayed together**

   The gaps kept groups with similar properties.

4. **3 lone pairs**

   7 outer electrons − 1 shared = 6 unshared = 3 pairs.

5. **Delocalised electrons**

   They move freely between the ions.

6. **6.02×10^{23}**

   The Avogadro constant is the same for every substance.

7. **22.5 cm^3**

   $23.70 - 1.20 = 22.50$ cm^3.

8. **False**

   It has equal H^+ and OH^-.

9. **28.8 °C**

   $\frac{57.6}{2} = 28.8$.

10. **60 s**

    $\frac{180}{3} = 60$.

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