PERCENTAGE COMPOSITION

Answer all the questions below then check your answers

1. What is the relative atomic mass (Ar) of carbon?

   a) 12   b) 14   c) 16   d) 18

2. Fill in the Gap: The relative molecular mass (M_r) of water (H_2O) is _____.

3. Calculate the relative molecular mass (M_r) of CO_2 (carbon dioxide).

   Ar of C=12,   Ar of O=16

4. Matching Type: Match the following compounds with their relative molecular masses (Mr), use the periodic table to look up the relative atomic masses of the elements.

   A) H_2SO_4 B) CH_4 C) NaCl

5. Calculate the percentage by mass of nitrogen in ammonia (NH_3).

6. Calculate the relative formula mass (Mr) of calcium carbonate ($CaCO_3$) and the percentage by mass of calcium in the compound.

7. Calculate the relative molecular mass (Mr) of glucose ($C_6H_{12}O_6$) and the percentage composition by mass of carbon in glucose.

8. Fill in the Gap: The relative molecular mass (Mr) of sulfuric acid (H_2SO_4) is _____ and the percentage composition of sulfur is _____.

9. Match the compound with its percentage of oxygen by mass:

  A) H_2O B) CO_2 C) CaO

10. Calculate the relative formula mass (Mr) of ammonium sulfate $((NH_4)_2SO_4)$

And the percentage by mass of hydrogen in ammonium sulfate.

Answers

1. What is the relative atomic mass (Ar) of carbon?

    a) 12   b) 14   c) 16   d) 18

Answer: a) 12

2. Fill in the Gap: The relative molecular mass (M_r) of water (H_2O) is _____.

    Answer: 18

3. Calculate the relative molecular mass (M_r) of CO_2 (carbon dioxide).

    Ar of C=12,   Ar of O=16

Answer: 44

4. Matching Type: Match the following compounds with their relative molecular masses (Mr), use the periodic table to look up the relative atomic masses of the elements.

    A) H_2SO_4 B) CH_4 C) NaCl

Answer: 98   16   58.5

5. Calculate the percentage composition by mass of nitrogen in ammonia (NH_3).

    Answer: M_r of ammonia = 17

    % by mass of N= (14/17) * 100% = 82%

6. Calculate the relative formula mass (Mr) of calcium carbonate ($CaCO_3$) and the percentage by mass of calcium in the compound.

    Answer: M_r of calcium carbonate = 100

    % by mass of C= (40/100) * 100% = 40%

7. Calculate the relative molecular mass (Mr) of glucose ($C_6H_{12}O_6$) and the percentage by mass of carbon in glucose.

Answer: M_r of glucose = 180

% by mass of C= (72/180) * 100% = 40%

8. Fill in the Gap: The relative molecular mass (Mr) of sulfuric acid (H_2SO_4) is _____ and the percentage composition of sulfur is _____.

Answer: 98, 33%

9. Match the compound with its percentage of oxygen by mass:

   A) H_2O B) CO_2 C) CaO

      88.9%   72.7%   28.6%

10. Calculate the relative formula mass (Mr) of ammonium sulfate (($NH_4)_2SO_4$)

And the percentage by mass of hydrogen in ammonium sulfate.

Answer: M_r of ammonium sulfate = 132

% by mass of N= (14/132) * 100% = 10.6%