



Concentration Calculations

Answer the following questions. Show your working

Remember: $1 \text{ dm}^3 = 1\,000 \text{ cm}^3$

1. State the formula used to calculate concentration using mass and volume.

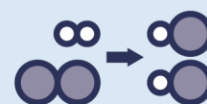
2. Calculate the concentration (in g/dm^3) of:
 - a. 40 g solute in 350 dm^3

 - b. 100 g solute in 77 dm^3

 - c. 0.08 g solute in 20 cm^3

 - d. 90g solute in 780 cm^3

3. The mass of H_2SO_4 is 32.5 g and the volume of the solution is 0.400 dm^3 . Calculate the concentration of the solution formed in g/dm^3 .





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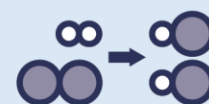
b. 250 cm^3 of a 71 g/dm^3 solution

c. 2.3 dm^3 of a 61 g/dm^3 solution

9. A solution of sodium chloride has a concentration of 400 g/dm^3 . Calculate the mass of sodium chloride in 0.8 dm^3 of solution.

10. Explain what would happen to the mass of solute in question 6 if more water was added to the solution.

11. A solution of sodium chloride has a concentration of 400 g/dm^3 . Calculate the mass of sodium chloride in 400 cm^3 of solution.





12. A student pours 0.2 dm^3 of hydrochloric acid into a beaker. The acid had a concentration of 75 g/dm^3 . Calculate the mass of hydrochloric acid in the solution.
13. Using 83g of solute, how much water is needed to:
- Make a 34 g/dm^3 solution?
 - Make a 0.1 g/dm^3 solution?
 - Make a 83 g/dm^3 solution?
 - Make a 79 g/dm^3 solution?

