

# MCQ on Percentage Solutions



Here are 15 multiple-choice questions based on weight/volume percentage, weight/weight percentage, and volume/volume percentage:

## Weight by Volume Percentage

- 1. What is the weight/volume percentage of a solution made by dissolving 10 grams of NaCl in 100 mL of water?**
  - a) 10%
  - b) 5%
  - c) 20%
  - d) 15%
  - Answer: a) 10%**
- 2. A solution contains 5 grams of glucose dissolved in 200 mL of water. What is the weight/volume percentage of glucose?**
  - a) 2.5%
  - b) 2%
  - c) 3%
  - d) 4%
  - Answer: a) 2.5%**
- 3. Calculate the weight/volume percentage of a solution with 25 grams of sugar dissolved in 250 mL of water.**
  - a) 10%
  - b) 8%
  - c) 12%
  - d) 15%
  - Answer: a) 10%**
- 4. How much NaCl (in grams) is needed to make 500 mL of a 0.9% (w/v) saline solution?**
  - a) 4.5 grams
  - b) 9 grams
  - c) 0.9 grams
  - d) 1.8 grams
  - Answer: a) 4.5 grams**
- 5. What is the weight/volume percentage if 12 grams of KCl is dissolved in 400 mL of water?**
  - a) 2%
  - b) 3%
  - c) 4%
  - d) 6%

- **Answer:** b) 3%

## Weight by Weight Percentage

6. A solution is made by mixing 30 grams of solute with 70 grams of solvent. What is the weight/weight percentage of the solute?

- a) 70%
- b) 30%
- c) 50%
- d) 42.86%
- **Answer:** b) 30%

7. Calculate the weight/weight percentage of 25 grams of solute in 75 grams of solvent.

- a) 25%
- b) 50%
- c) 20%
- d) 33.33%
- **Answer:** d) 33.33%

8. If you mix 40 grams of NaOH with 160 grams of water, what is the weight/weight percentage of NaOH?

- a) 20%
- b) 25%
- c) 40%
- d) 50%
- **Answer:** a) 20%

9. What is the weight/weight percentage of a solution prepared by dissolving 15 grams of urea in 85 grams of water?

- a) 15%
- b) 10%
- c) 20%
- d) 17.65%
- **Answer:** d) 17.65%

10. Determine the weight/weight percentage of 50 grams of NaCl in 150 grams of water.

- a) 25%
- b) 50%
- c) 33.33%
- d) 28.57%
- **Answer:** c) 33.33%

## Volume by Volume Percentage

11. A solution is made by mixing 20 mL of ethanol with 80 mL of water. What is the volume/volume percentage of ethanol?

- a) 20%
- b) 25%
- c) 40%
- d) 15%
- **Answer:** a) 20%

12. If 30 mL of acetic acid is mixed with 120 mL of water, what is the volume/volume percentage of acetic acid?

- a) 25%

- b) 20%
- c) 30%
- d) 15%
- **Answer:** b) 20%

13. Calculate the volume/volume percentage of a solution containing 50 mL of alcohol in 450 mL of water.

- a) 10%
- b) 11.11%
- c) 9.09%
- d) 12.5%
- **Answer:** a) 10%

14. What is the volume/volume percentage of a solution with 75 mL of glycerol mixed with 225 mL of water?

- a) 25%
- b) 20%
- c) 33.33%
- d) 15%
- **Answer:** a) 25%

15. Determine the volume/volume percentage of a solution made by adding 10 mL of HCl to 90 mL of water.

- a) 9%
- b) 10%
- c) 11%
- d) 8%
- **Answer:** b) 10%