ONTARIO CHEMISTRY, GRADE 11, UNIVERSITY PREPARATION (SCH3U) · UNIT D · 25 QUESTIONS

Solutions and Solubility — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A solution is**

- A a homogeneous mixture of a solute dissolved in a solvent
- B a heterogeneous mixture
- C a pure substance only
- D a solid only

Understand It with Pulse | Flag a mistake

2 **In salt water, the solute is**

- A water
- B both water and salt
- C salt
- D neither

Understand It with Pulse | Flag a mistake

3 **In salt water, the solvent is**

A salt

B air

C the container

D water

Understand It with Pulse | Flag a mistake

4 **A saturated solution is one in which**

A the maximum amount of solute is dissolved at that temperature

B no solute is dissolved

C solute is still dissolving rapidly

D only a little solute is dissolved

Understand It with Pulse | Flag a mistake

5 **An unsaturated solution can still dissolve**

A no more solute

B more solute

C only gas

D only solid

Understand It with Pulse | Flag a mistake

6 **Solubility is usually defined as**

A the rate of dissolving

B the mass of solvent only

C the maximum mass of solute that dissolves in a given amount of solvent at a given temperature

D the temperature of a solution

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7 **For most solid solutes in water, solubility generally**

A decreases as temperature increases

B is unaffected by temperature

C becomes zero at high temperature

D increases as temperature increases

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8 **For gases in water, solubility generally**

A decreases as temperature increases

B increases as temperature increases

C is unaffected by temperature

D increases with stirring only

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9 **Stirring a mixture increases the rate of dissolving mainly by**

A increasing solubility

B bringing fresh solvent into contact with solute

C changing the solute

D cooling the mixture

Understand It with Pulse | Flag a mistake

10 **Breaking a solid into smaller pieces increases dissolving rate by**

A decreasing surface area

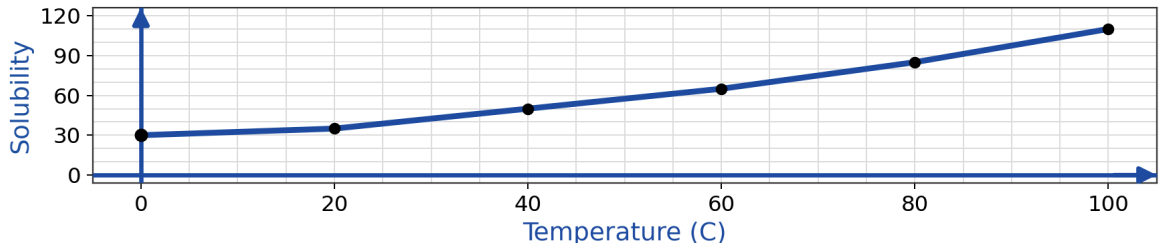
B changing solubility

C increasing surface area

D heating the solvent

Understand It with Pulse | Flag a mistake

11 **The graph shows solubility of a salt in grams per 100 grams of water against temperature. What is the solubility at 60 degrees Celsius?**



ANSWER _____

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12 **What is the concentration in moles per litre of a solution containing 2 moles of solute in 1 litres of solution?**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **What is the concentration in moles per litre of a solution containing 1 moles of solute in 2 litres of solution?**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **What is the concentration in moles per litre of a solution containing 3 moles of solute in 1.5 litres of solution?**

ANSWER

Understand It with Pulse | Flag a mistake

15 **What is the concentration in moles per litre of a solution containing 0.5 moles of solute in 0.25 litres of solution?**

ANSWER

Understand It with Pulse | Flag a mistake

16 **A solution has concentration 2 moles per litre and volume 0.5 litres. How many moles of solute does it contain?**

ANSWER

Understand It with Pulse | Flag a mistake

17 **A solution has concentration 0.5 moles per litre and volume 2 litres. How many moles of solute does it contain?**

ANSWER

Understand It with Pulse | Flag a mistake

18 **A solution has concentration 1 moles per litre and volume 3 litres. How many moles of solute does it contain?**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **Concentration in moles per litre equals**

A moles × volume

B volume ÷ moles

C mass ÷ volume only

D moles ÷ volume in litres

Understand It with Pulse | Flag a mistake

20 **A 2 moles per litre solution of volume 0.1 litres is diluted to 0.5 litres. What is the new concentration in moles per litre?**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A 4 moles per litre solution of volume 0.25 litres is diluted to 1 litres. What is the new concentration in moles per litre?**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A 1 moles per litre solution of volume 0.2 litres is diluted to 1 litres. What is the new concentration in moles per litre?**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Dilution of a solution**

A decreases concentration by adding solvent, while amount of solute stays the same

B increases the amount of solute

C decreases the amount of solute

D increases concentration

Understand It with Pulse | Flag a mistake

24 **A solution that contains more solute than the saturated amount at that temperature is called**

- A dilute
- B supersaturated
- C unsaturated
- D concentrated only

Understand It with Pulse | Flag a mistake

25 **Which factor does NOT change the solubility of a solid in water?**

- A Temperature
- B Pressure for most solids, which has little effect
- C Amount of solvent, which changes total dissolved mass but not solubility per amount
- D Nature of solute and solvent

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	C	**19.**	D
2.	C	**11.**	65	**20.**	0.4
3.	D	**12.**	2	**21.**	1
4.	A	**13.**	0.5	**22.**	0.2
5.	B	**14.**	2	**23.**	A
6.	C	**15.**	2	**24.**	B
7.	D	**16.**	1	**25.**	C
8.	A	**17.**	1		
9.	B	**18.**	3		

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