EMG Education

Solutions

Lesson Outline

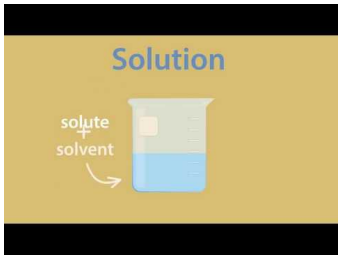
This lesson will cover solutions. Specifically, we will focus on the terms and methods used when dealing with these substances. You can learn about these topics by watching the videos below:

What are solutions?
https://www.youtube.com/watch?v=iWOnCH8m5ug

You only have to watch until 12:42

Solutions and Colloids and Suspensions, Oh my!
https://www.youtube.com/watch?v=yMzl9InNOQA

How to separate Solutions, Mixtures & Emulsions
https://www.youtube.com/watch?v=GV6IdpFwIGk



Chromatography
https://www.youtube.com/watch?v=PvHvx7k7UPU

Boiling point and Melting point - Physical properties
https://www.youtube.com/watch?v=AW8v2Fx0Y8c

Alloy & their Properties/Properties of Matter/ Chemistry/ Fuseschool
https://www.youtube.com/watch?v=KgUmNQD6m5Q

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Question time

CIRCLE the following correct answers

1. solvent + ? = solution **(1 Mark)**
   a) emulsion
   b) mixture
   c) water
   d) solute

2. True or False **(1 Mark)**
   All solutions are liquids.
   a) true
   b) False

3. An alloy is ? than a metal. **(1 Mark)**
   a) harder
   b) softer

4. The boiling point of water is? **(1 Mark)**
   a) 70 ^{0}C
   b) 120 ^{0}C
   c) 100 ^{0}C
   d) 200 ^{0}C

5. Name **three** ways that the rate of dissolution (dissolving) can be increased for when a solid solute is added to a liquid solvent?

(3 marks)

1_____
2_____
3_____

6. Fill in the properties of the 3 different types of mixtures. The **first three properties** can be answered with **yes/no.** the answers to the **last two properties** are NOT in the video, but you should be able to **predict** the answers. **(6 marks)**

Property	**Solution**	**Colloid**	**Suspension**
Settle out	No		
Filtration			
Tyndall effect			
Particle size	small		
Homogeneous or heterogeneous	homogeneous		

7. Give one use for each of the following alloys: (3 marks)

Bronze - _____
Brass - _____
Carbon steel - _____
Stainless steel -_____
Aluminium -_____

Answer the following in FULL sentences

8. How can you tell that a solution is saturated? **(1 marks)**

_____
_____
_____

9. How would you remove ethanol from water? Why is this possible? **(3 marks)**

_____
_____
_____
_____

10. Explain why an alloy is harder than a metal. Draw illustrations in the boxes and write explanatory sentences below them. **(6 marks)**

Metal

_____
_____
_____

Alloy

_____
_____
_____

11. Give definitions for the following methods of separation. **(3 marks)**

Filtration:_____

_____

Evaporation:_____

_____

Simple-distillation_____

_____

12. Describe the process of chromatography, and say what it is used for. **(5 marks)**

_____

_____

_____

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