



CREST
Olympiads
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CREST Science Olympiad (CSO) Worksheet *for*

Class 4



Topic

Solute, Solvent and Solution



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Worksheet on Solute, Solvent and Solution

1. Lucas made hot chocolate by mixing the cocoa powder in the milk. Identify the solute, solvent and solution in this situation.

- a. Solute: Cocoa powder, Solvent: Water, Solution: Hot chocolate
- b. Solute: Cocoa powder, Solvent: Milk, Solution: Hot chocolate
- c. Solute: Coffee, Solvent: Milk, Solution: Hot chocolate
- d. Solute: Milk, Solvent: Hot chocolate, Solution: Cocoa powder

2. On the basis of solubility, select the odd one out.



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- 3. Why is water often referred to as the "universal solvent"?**
- Water dissolves all substances equally.
 - Water is the most common liquid found on Earth.
 - Water is used in various scientific experiments.
 - Water can dissolve a wide variety of substances.
- 4. Jon and Arya conducted an experiment to study the factors affecting the making of a solution. Jon dissolved salt in water by constantly stirring it, while Arya added salt to water without stirring. What would be the likely results of their experiments?**
- The salt will dissolve faster in Jon's experiment.
 - The salt will dissolve faster in Arya's experiment.
 - The salt will dissolve at the same rate in both experiments.
 - The salt will not dissolve in either experiment.
- 5. Which of the following factors does not play a significant role in making a solution?**
- Stirring the mixture
 - Adding more of the solute
 - Increasing the temperature
 - Appearance of the solute

Answer Key

- b - The cocoa powder is the solute because it is being dissolved in the milk, which acts as the solvent. When the cocoa powder mixes with the milk, it creates hot chocolate, which is the solution.
- c - Oil is an insoluble substance, whereas vinegar, coffee powder, and salt are all soluble in water.
- d - Water is often called a "universal solvent" because it has the ability to dissolve a wide variety of substances.
- a - Jon's experiment with constant stirring will make the salt dissolve faster because stirring helps the salt mix better with the water.
- d - Factors like stirring the mixture, adding more solute, and increasing the temperature can all affect the process of making a solution. However, the appearance of the solute does not have any major impact on the ability to form a solution.

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