

**Main Ideas, Key Points,
Questions:**

After watching the video segment, write down key points, main ideas and big questions.

Objective(s):

- *To explain the difference between saturated and supersaturated solutions.*
- *To create and interpret solubility graphs.*
- *To explain the difference between dissolution of gases and solids.*
- *To produce models illustrating the differences between polar and non-polar solutes*

Notes:

During the video segment, use words, phrases or drawings to take notes.

Summary:

*After watching the video segment, write at least three sentences explaining what you learned.
You can ask yourself: "If I was going to explain this to someone else, what would I say?"*

After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

You should carry out an investigation of the solubility of three salts before starting the Unit 7B video.

- 1. Why is it important for materials to attract each other in order for dissolution to occur?**
- 2. Solubility is the maximum amount of a solute that can be dissolved in a given quantity of solvent at a given temperature. Why do we need to know the temperature of the solution when measuring solubility?**
- 3. If we have added the maximum amount of solute to be dissolved in a solvent at a particular temperature, what type of solution have we made?**
- 4. Look at the data you gathered from the solubility experiment you just performed. Are calcium and sulphate ions more attracted to water or to each other?**
- 5. If you have not yet used your data to make a solubility curve graph, look at the graph provided in the video and identify the label of the vertical (y) axis and the label of the horizontal (x) axis**
- 6. Look at the solubility curves for solids. You will notice that most solids dissolve better at higher temperatures. Now, compare the solubility curves provided for gases. What pattern can be seen among all the gases that dissolve in water?**
- 7. A supersaturated solution is formed when a solution is holding more solute than it would normally hold at that temperature. How can you make a supersaturated solution of a solute?**
- 8. How can you cause a supersaturated solution to crystallize?**
- 9. Describe what it looks like when a supersaturated solution starts to crystallize.**

After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

You are expected to carry out an investigation comparing solutions that are electrolytes and non-electrolytes. Once you have conducted this demonstration, you may continue with the Unit 7B video.

10. Explain what makes a solution an electrolyte.

11. Compare and contrast the behavior of an electrolyte solution and a non-electrolyte solution.

12. Explain why polar solutes will dissolve in polar solvents.

13. Soap molecules have a polar “head” and a non-polar “tail”. How does that help explain why soap is so good at cleaning dirty clothes?