**Solutions Chapter 8A**

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**See** [**https://www.learningctronline.com/courses**](https://www.learningctronline.com/courses) **for Materials and Resources.**

**Topics:**

1. Solutions

**Objectives:**

* Define "solution," "solute," and "solvent"
* Explain the three ways substances can dissolve in water
* Describe the three properties of a solution that can differ from its solute and solvent
* Explain how the process of solution can be either exothermic or endothermic
* Give examples of applications of endothermic/exothermic solutions
* Describe the factors that affect the rates of dissolving
* Contrast saturated, unsaturated, and supersaturated solutions
* Describe the factors that affect solubility
* Define "percent by volume," "percent by mass," and "molarity"
* Calculate the concentration of solutions

TAKE NOTE

1. Guided Reading Note-Taking Worksheet (Pearson Text)
2. Pearson Concepts in Action Worksheets
3. Lab Solubility of Solids vs Temperature
4. Lab Solubility & Temperature Using Gases
5. Week 13 Devotional (<https://www.learningctronline.com/devotional>)

**Text**: Chapter 8: Solutions pp. 226-249

**Guided Reading Note-Taking Worksheet:**

Complete the worksheet for Chapter 8: Solutions (8.1 – 8.2).

**Class Notes: PowerPoint or PDF**

**Homework**:

* 8.1 Formation of Solutions Worksheet (Pearson Concepts in Action)
* 8.2 Solubility and Concentration Worksheet (Pearson Concepts in Action)
* Assignments will be “spot checked” during class or submitted via email.

**Lab**: Solubility of Solids vs Temperature

* Perform the lab as directed using the worksheet provided.
* Complete all calculations and data, showing work whenever appropriate.
* Conclusions should be answered in complete sentences that convey a complete thought.
* Save the documents into your LAB folder in the Physical Science folder on your desktop.

**Lab**: Solubility & Temperature Using Gases

* Perform the lab as directed using the worksheet provided.
* Complete all calculations and data, showing work whenever appropriate.
* Conclusions should be answered in complete sentences that convey a complete thought.
* Save the documents into your LAB folder in the Physical Science folder on your desktop.
* *Assignments will be “spot checked” during class or submitted via email.*

**TEST:** The test will be given after next week’s lesson.

Supplemental Resources (Optional)

[**http://somup.com/cFXjnmninF**](http://somup.com/cFXjnmninF) **Dissolving (Dispersion) & Hydration (1:19) How Water Dissolves Salt**

[**http://somup.com/cFliqOnXI0**](http://somup.com/cFliqOnXI0) **Solution Formation: Dissolving (Dispersion) / dissociation & Hydration (0:46) animation**

[**http://somup.com/cFXjenninr**](http://somup.com/cFXjenninr) **Electrolytes: The Electric Pickle (2:07) Stephen Spangler**

[**http://somup.com/cFXjebninU**](http://somup.com/cFXjebninU) **"Seeding" a Supersaturated Solution (1:29)**

[**https://screencast-o-matic.com/watch/cFXiD9YP5e**](https://screencast-o-matic.com/watch/cFXiD9YP5e) **Dancing Water ctr (1:09) ... Polarity of Water**

<https://screencast-o-matic.com/watch/cF6elPYlbr> Electrostatic Attractions show Polarity (2:59)

<https://screencast-o-matic.com/watch/cF6h2BYotW> Solubility (polar and non-polar substances) (2:24)

<http://somup.com/cFXQoVnioR> Factors Affecting Solubility & the Rate of Solubility ctr (4:08) stirring/agitation, surface area, temperature, pressure

<http://somup.com/cYhD2VjU1w> Praying the Word Ephesians 6:17-18; On My Knees (4:43)