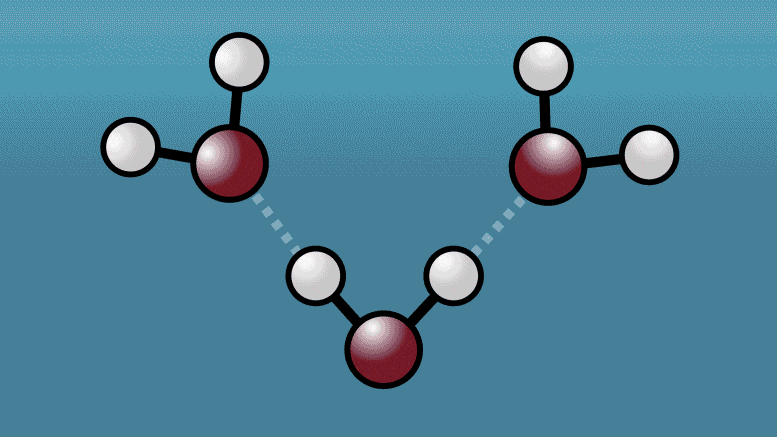
Chemistry of Life



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

**Topics:**

1. Chemistry of Life

**Objectives:**

1. Understand matter and how matter is affected (physical versus chemical changes).
2. Describe atoms and molecules (subatomic particles, atomic number, atomic mass, isotopes).
3. Explore types of bonds between atoms and molecules (covalent, ionic, hydrogen).
4. Identify and explain hydrogen bonding and its relationship to the properties of water.
5. Define solutions especially when water is the solvent.
6. Describe acidic and basic solutions in terms of pH, ion concentration and examples.
7. Explain buffers and their relevance to life.

TAKE NOTE

1. Test Corrections – see “Resources” folder (due before next week’s class)
2. Notes/Study Guide (1 week)
3. Homework from Text (1 week)
4. Lab Chemistry Overview
5. Quiz Chapter 2
6. Week 3 Devotional (<https://www.learningctronline.com/devotional>)

**Text**: Chapter 2: Chemistry of Life pp. 20 – 39

Read the assigned pages in the text.

**Class Notes: PowerPoint or PDF**

**Notes/Study Guide:** Fill in the Chapter 2 Study Guide worksheet to understand the class notes.

**Homework**: (1 week)

* Study Questions (at the end of the chapter in the text) #5-9, 12-13, 16-18, 21-22, 24-26
* Use a Word document format as follows:
  + Heading: Your name, Chapter in Text, Study Questions
  + Number the appropriate questions you are to answer
  + Write the answer in a complete sentence use the question as the template (do not copy the question, but reword it into a statement that answers the question).
* Use the same document each week by starting a new “Study Question” for a different chapter on the next page.
* Assignments will be “spot checked” during class or submitted via email.

**Lab**: Chemistry Overview

* Complete the "Chemistry Overview Lab" using the lab worksheet provided.
* After completing the Lab worksheet, email it to [learningctronline@gmail.com](mailto:learningctronline@gmail.com) for grading.
* Save document into your LAB folder in the Biology folder on your desktop.

**TEST:** QuizChemistry of Life

1) the academic integrity policy

* Tests must be completed **WITHOUT** referring to books, notes, the internet, people, or any outside resources.
* Students **MAY** use the approved Periodic Tables, approved Reference Tables, or approved equation (formula) sheet (provided by the teacher) along with calculators and scratch paper.
* A guardian should be proctoring the test. Proctoring means to monitor the following:

2) This quiz is composed of 15 multiple choice questions.

* The **multiple-choice test must be taken "in one sitting"**, meaning that once you start the test, you must complete it without interruption. (20 minutes)
* There is no written portion of this test.

3) There is a **20-minute time limit** on this test. Please have the proctor write the time taken at the top of your answer sheet with their signature or initials.

4) Proctors should NOT be reading the test or engaging students during the test.

5) Do NOT use RED font. Black font is best.

Supplemental Resources (Optional)  
  
<http://somup.com/cFQilMVRKj> Physical Versus Chemical Changes LAB ctr (5:01) ... demonstrations (part 1)

<https://www.youtube.com/user/AmoebaSisters> (1:25) The Amoeba Sisters Channel – Trailer

<https://youtu.be/3jwAGWky98c> The Amoeba Sisters Channel – **Properties of Water** (6:50)

<https://somup.com/c3Q6rvUuiz> Ionic Bonds and Ionic Compounds (2:27)

<https://somup.com/c3Q6rYUuiq> Covalent Bonds: Polar and Non**-**polar (4:32)  
  
[Dancing Water ctr](https://screencast-o-matic.com/watch/cFXiD9YP5e) (1:09) ... Polarity of Water

[Dissolving (Dissolution) & Hydration](http://somup.com/cFXjnmninF) (1:19) How Water Dissolves Salt  
  
[Solution Formation: Dissolving (Dissolution) / dissociation & Hydration](http://somup.com/cFliqOnXI0) (0:46) animation

[Rainbow Connection](http://somup.com/cFX603niZO) (4:04) Acid-Base Indicators

You will hear a "special needs" student in the background who will brighten your day!

Physical Versus Chemical Properties (2:36) Burning Water

<https://screencast-o-matic.com/watch/cFQiooqpMR>