**Acids & Bases Neutralization Chapter 19B**

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

**Topics:**

1. Acids & Bases Neutralization

**Objectives:**

1. Differentiate between strong and weak acids and bases based on dissociation and ionization.
2. Explain how the acid-dissociation constant, Ka, and the base dissociation constant, Kb, relate to the acid & base strength.
3. Differentiate between the concentration & strength of solutions.
4. Predict the products of acid-base neutralization reactions, and calculate the molar concentrations of acid or base needed.
5. Explain the use of titration in chemistry, and describe the steps of the titration process. Recognize & describe titration graphs for strong and weak acids & bases.
6. Explain hydrolysis (reverse reaction to neutralization). Show how salt solutions can be acidic, neutral, or basic.
7. Explain buffers and write the resulting chemical equations when an acid or base is added to the system.
8. *Explain Arrhenius acids and bases based on the dissociation of water.*
9. *Define pH and pOH. Use the pH scale to characterize the acidity and basicity of solutions and properties of acids and bases.*
10. *Convert between pH, pOH, hydrogen ion concentration and hydroxide ion concentration.*
11. *Describe Bronsted-Lowry acids and bases.*
12. *Identify conjugate acids and conjugate bases as well as conjugate pairs in a Bronsted-Lowry acid–base reaction.*
13. *Describe Lewis acids and bases. [Honors]*

TAKE NOTE

1. Notes / Study Guide
2. Lesson Check/Sample problems or Alternative Worksheets
3. Lab Quiz: Titration Lab (open notes)
4. HONORS 🡪 Study Guide [objectives, major points, minor points]
5. Acid & Base Test
6. Upcoming Semester Exam (Week 32) … Study Guide Available (Chapter 11-12, 14-21 due within 10 days after week 32’s class)
7. Class Song: Let Them Go!
8. Week 30 Devotional (<https://www.learningctronline.com/devotional>)

**Text**: Chapter 19: Acids & Bases Neutralization pp. 672-689

Read the assigned pages in the text.

**Class Notes: PowerPoint or PDF**

**Notes/Study Guide:** Fill in the Chapter 19 worksheet to understand the class notes.

**Homework**: TEXT

(1) Answer the KEYED **"Lesson Check"** questions at the end of each of the chapter.

(2) Answer the **"Sample problems"** found in the "Sample Problem" boxes throughout the chapter. An answer KEY is provided for you to use to self-correct your homework problems.

* Put your answers into complete thoughts in a Word document. Do NOT just put the answer, but write a phrase or sentence that you can study from for your tests. Save your work in a WORD document and SAVE into your HOMEWORK folder in the Chemistry folder on the desktop.
* Assignments will be “spot checked” during class or submitted via email.

**Alternate Homework**:

1. Chapter 19 Review Exam (Acids & Bases)

HONORS (research a practical application for Buffer systems in the body or Titration) … [no less than 1 hour, no more than 2 hours]

**Lab**: Titration Lab

1. Perform the “Titration Lab” lab using the video and worksheet provided.

[Titration Lab Video](http://somup.com/cqerrcnTsz) (6:11)

1. Answers are provided at the end of the document for guidance, but do NOT copy and paste. Use your own words.
* Save the document into your LAB folder in the Chemistry folder on your desktop.
* When ready take the Lab Quiz. **You MAY use the worksheet on the quiz, but no other resources.**
* There is a **20-minute time limit** on this Lab Quiz.

**TEST:** Acids & Bases Neutralization

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) The test is composed of 20 multiple choice questions and some written problems.

* The **multiple-choice test must be taken "in one sitting"**, meaning that once you start the test, you must complete it without interruption. (40 minutes)
* Take a short break (5-10 minutes)
* The **written portion of the test must be taken "in one sitting"**, meaning that once you start the test, you must complete it without interruption. (30 minutes)

3) There is a **70-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)

1. pH, pOH, [H+] and [(OH)-] Practice Worksheet
2. Chapter 19 Study Guide Pearson

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

[Neutralization & Hydrolysis of a Salt ctr](http://somup.com/cqfTY8nwQi) (9:08) Includes practice problems.

[Titration](http://somup.com/cqfZDanvPF) (1:18)

[Titration & Buffers ctr](http://somup.com/cqVo0XnoOa) (10:26) Includes titration graph interpretation (adding acid to base or base to acid)

[Be Diligent to Enter His Rest Hebrews 4:10-11; Love is Not a Fight](http://somup.com/cYhqFijzau) (4:39)