



Course: Honors Chemistry

We hope that you, your families and loved ones are well! During the COVID-19 pandemic school closure, we will be doing our best to provide you engaging activities that will enrich your understanding of Chemistry. During term 4, you will primarily be exploring matter and its interactions, including types of chemical reactions, stoichiometry, energy transfer and properties of solutions.

Goal for this week

Learning Objectives:

Students will be able to ...

1. interpret a titration curve and calculate the molarity of an unknown substance.
2. calculate the pH of a solution.
3. determine the oxidation numbers of elements in a compound.
4. identify which elements are being oxidized and which are being reduced in a chemical reaction.

[2016 MA STE Standard: HS-PS1-9(MA) and HS-PS1-10(MA)]

Literacy Objectives:

1. Reading: to understand a concept and construct meaning
2. Writing: to take notes
3. Writing: to generate a response to what one has read, viewed, or heard
4. Reasoning: to identify a pattern, explain a pattern, and/or make a prediction based on a pattern

(<https://www.bpsma.org/schools/brockton-high-school/about-us/mission-literacy-charts>)

Lesson:

Chemistry Café: Acids and Bases

- See the page(s) below for a complete description of what to do and the resources you will need.
- ***Your science teacher will be in contact to clarify expectations (like when and how to submit your work for credit) for your class.***

WHY THIS MATTERS

Acids and bases are a huge part of life, and we need to understand their interactions to learn about their properties. In the human body, the blood and many of the organs have a particular pH that they function at. When this pH is out of balance, that is when body systems could potentially shut down. Understanding how to maintain a healthy pH will ensure you live a very long and happy life. Acids and bases are also in the foods we eat and can potentially cause our bodies to experience stomach trouble after eating certain foods. To learn more, check out this [site](#)!

Additional Support

Email:

- Please reach out to your science teacher with specific questions about the lesson.

Office Hours:

- Here is a list of the [science teachers' office hours](#). Please email your teacher to set up meeting times.

Other questions:

- Science Department Head
Dr. David Mangus
davidmangus@bpsma.org



Chemistry Café

Topic: Acids and Bases

Assignments to do:

Click on the link to view the resource ...

1. Read the [Acids and Bases PowerPoint](#) and complete the [worksheet](#) that goes along with it.
2. Have access to the [oxidation number rules handout](#).
3. Watch the video [Acid-Base Reactions in Solution: Crash Course Chemistry #8](#).
4. Watch the video [pH and pOH: Crash Course Chemistry #30](#).
5. Watch the video [Redox Reactions: Crash Course Chemistry #10](#).
6. Complete the [PhET Simulation: Acids and Bases. Submit a screenshot of the completed simulation](#).
7. Complete the [Oxidation-Reduction worksheet](#).
8. Choose 3 assignments from the café below to complete:
You should select 1 appetizer, 1 main course, and 1 dessert

Appetizer

Complete the [PLIX Simulation: Titration Curves](#).

Complete the [Titration Worksheet](#).

Complete the [Titration Curves Worksheet](#).

Main Course

Complete the [PLIX Simulation: pH Scale](#).

Complete the [pH worksheet 1](#).

Complete the [pH worksheet 2](#).

Dessert

Complete the game: [Oxidation Numbers](#).

Complete the [Oxidation Numbers Worksheet 1](#).

Complete the [Oxidation Numbers Worksheet 2](#).

Recommended Pacing

Monday: Begin pre-work assignments, **Tuesday:** Complete pre-work assignments, **Wednesday:** Complete an appetizer, **Thursday:** Complete a main course, **Friday:** Complete a dessert