



## 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. prepare a solution.
2. predict the shift of an equilibrium reaction once stress is added to the system.
3. calculate the molarity and perform dilution calculations.

(2016 MA STE Standard: HS-PS1-6)

#### **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: Solutions and Equilibrium

- 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**

Being able to prepare a solution is probably the [most fundamental skill of a chemist](#). Check out the [diverse careers](#) that require chemistry skills. Watch how one African American woman, Clarice Phelps, [claimed a seat at the periodic table](#).

#### **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](mailto:davidmangus@bpsma.org)



# Chemistry Café

## Topic: Solutions and Equilibrium

Assignments to do:

Click on the link to view the resource ...

1. Read the [Solutions and Equilibrium](#) Power Point and take notes.
2. Complete the [PhET Simulation: Concentration and play around with the simulation](#).
3. Watch the video [Solutions: Crash Course Chemistry #27](#)
4. Watch the video [Molarity, Solution Stoichiometry, and Dilution Problem](#).
5. Watch the video [Equilibrium: Crash Course Chemistry #28](#)
6. Choose 3 assignments from the café below to complete:  
You should select 1 appetizer, 1 main course, and 1 dessert

### Appetizer

Watch the [Solution Preparation video](#) and complete the [worksheet](#).

Complete the [Solution Worksheet 1](#).

Complete the [Solution Worksheet 2](#).

### Main Course

Complete the [PLIX Simulation: Dilution](#).

Complete the [Molarity Worksheet 1](#).

Complete the [Dilution Worksheet](#).

### Dessert

Complete the [PLIX Simulation: Le Chatelier's Principle and the Equilibrium Constant: Le Chatelier's Principle](#).

Complete the [Le Chatelier's Principles Worksheet 1](#).

Complete the [Le Chatelier's Principles 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