



## Course: CP/CPA 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, including characteristics of elements and the formation of ionic and covalent compounds.

### Goal for this week

#### Learning Objectives:

Students will be able to ...

1. convert atoms into ions.
2. predict if an ion is a cation or an anion.
3. calculate the charges of atoms that have lost electrons.

(2016 MA STE Standard: HS-PS1-2)

#### 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: Ionic Bonding

- 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**

Understanding ion formation is important because it explains how atoms interact with one another. Metals giving up electrons create bonds with nonmetals that take in electrons. These interactions make salts that are used every day. Table salt is created using this process and it's not just for putting on your French fries! Check out how scientists are using it to create [low cost silicon nanostructures](#) used in modern electronics, optics, and photovoltaics.

#### **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: Ionic Bonding

Assignments to do:

Click on the link to view the resource ...

1. Read through the [Ionic Bonding PowerPoint](#) slides and take notes.
2. Read through the [Introduction to Simple Ions PowerPoint](#) and complete the [introduction to simple ions worksheet](#).
3. Have access to the [Valence Electrons Periodic Table](#).
4. Watch the [Introduction to Ions](#) video
5. Complete the [Metals, Nonmetals, and Metalloids Worksheet](#).
6. Choose 3 assignments from the café below to complete:  
You should select 1 appetizer, 1 main course, and 1 dessert

### Appetizer

Complete the [metal, nonmetal, and metalloid simulation](#).

Complete the [Metal vs Nonmetals Worksheet](#).

Complete the [Ionic Bond Worksheet](#).

### Main Course

Complete the [PLIX: Atoms- Cations and Anions](#).

Complete the [Cation-Anion Worksheet](#).

Complete the [Ions Worksheet](#).

### Dessert

Complete the [PHET simulation: Build an atom](#).

Complete the [Atom vs Ion Worksheet](#).

Complete the [Atoms vs Ions vs Isotopes Worksheet](#).

### Recommended Pacing

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