

**Chemistry Weekly Assignments for the Next 7 Weeks**  
**April 1 – May 20**

**Weekly Assignments for April 1- 8**

**Unit 2.**                    **Introduction to Matter**    <https://www.gpb.org/chemistry-matters>

**Segment A.    Properties of Matter**

Students explore the chemical and physical properties of matter and discover how scientific ideas are connected to each other rather than existing in isolation.

**Segment B.    Density Lab Results/ Crush Lab**

Students continue their discussion of penny densities in this segment and begin a crushing experiment to examine the different physical properties of chemicals.

**Segment C.    Physical Properties and Phase Change**

In this segment, we continue with our exploration of physical properties, including brittleness and malleability. We also learn about phase changes and observe a demonstration on the freezing point of water.

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**Weekly Assignments for April 8- 15**

**Unit 2.**                    **Introduction to Matter**    <https://www.gpb.org/chemistry-matters>

**Segment D.    Phase Change Demonstrations**

Dr. Adrian Elliott from the Fernbank Science Center joins us in this segment for a special interview, and our students discuss sublimation and deposition.

**Segment E.    Chemical Properties**

During this segment, we learn the difference between chemical and physical properties, and we see a demonstration of reactivity.

**Segment F.    Mixtures**

Homogeneous and heterogeneous mixtures are the focus of this segment as well as solutions and alloys.

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**Weekly Assignments for April 15 - 22**

**Unit 2.**                    **Introduction to Matter**    <https://www.gpb.org/chemistry-matters>

## **Segment G. Separation of Mixtures**

In this segment, students learn how to separate particles from a mixture while completing a candy chromatography lab.

## **Segment H. Chromatography**

Our students begin this segment by discussing the results of their candy chromatography experiment. Then they're given an engineering design challenge to further explore the process of separating solutions.

## **Segment I. Mixture Challenge Results & Water Treatment**

In this segment, our students discuss the results of their engineering design challenge and we hear from special guest Stan Brinkley, with the Cobb County Marietta Water Authority.

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### **Weekly Assignments for April 22 - 29**

#### **Unit 5. Chemical Reactions & Unit 6. The Mole & Stoichiometry**

<https://www.gpb.org/chemistry-matters>

#### **Unit 5.**

##### **Segment A. Balancing Equations**

The law of conservation of mass and balancing equations are the focus of this segment.

#### **Unit 6.**

##### **Segment A. Dimensional Analysis**

Stoichiometry is introduced in this segment, and the students discuss the basics of dimensional analysis.

##### **Segment B. The Mole**

This segment examines the mole and Avogadro's number. The students continue their exploration of dimensional analysis.

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### **Weekly Assignments for April 29 – May 6**

#### **Unit 6. The Mole & Stoichiometry** <https://www.gpb.org/chemistry-matters>

##### **Segment C. Percent Composition & Empirical Formula**

The topics found within this segment include converting moles to liters as well as calculating percent composition, empirical formulas, and molecular formulas.

### **Segment D. Stoichiometric Calculations**

This segment explores stoichiometric calculations and mole ratios.

### **Segment E. Limiting Reactants**

This segment explores limiting reactants as we watch the students perform a lab with s'mores.

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## **Weekly Assignments for May 6 - 13**

**Unit 6.**      **The Mole & Stoichiometry**      <https://www.gpb.org/chemistry-matters>

### **Segment F. Combustion Lab**

In this segment, the students discuss the ratios they have calculated in a rocket combustion lab.

### **Segment G. Combustion Lab Results**

The students analyze data from the rocket combustion lab started in the previous segment and hear from special guest Dr. David Gottfried about nanotechnology.

## **Weekly Assignments for May 13-20**

**Unit 3.**      **Atomic Structure**      <https://www.gpb.org/chemistry-matters>

### **Segment A. Atomic Models**

In this segment, the students learn about different models of the atom, including Dalton's model, Thomson's model, Rutherford's model, and the Bohr model.

### **Segment B. The Periodic Table**

The periodic table is the focus of this segment. The students explore periodic trends as well as atomic number and average atomic mass.

### **Segment C. Characteristics of Electrons**

In this segment, students build models of atoms as they learn about characteristics of electrons. They also explore how quantum levels affect fireworks by performing a flame test.