



2017/2018  
JSHS Senior High School  
Honors Chemistry Summer Assignment

**Rationale:** Honors Chemistry is a course designed to introduce students to the structure and changes of matter in a rigorous format. Upon registering for this course students were required to have basic understanding of several science concepts taught in previous science courses. To ensure that you are prepared for September we have included a list of topics and URL links. At the beginning of the school year, you will be tested on said topics after review with the teacher. Honors Chemistry is designed around the concept of computational thinking, critical thinking, and problem solving. It is important students are able to think critically, collect data, interpret that data, and communicate the information to others.

**Student Responsibility:** Prior knowledge and understanding of both science and math are essential to successful completion of course. You will be assessed on the material at the start of the school year. During the first few classes we will discuss and review any questions or concerns regarding this assignment. All of these concepts will be reviewed prior to the assessment.

1. Topics are listed below these should be reviewed and studied over the summer months. These topics will be quickly covered in the first week of Honors Chemistry. You are required to practice and familiarize yourself with these concepts. It will be anticipated you have a basic understanding of these concepts entering the first weeks of the school year. Again, you will be assessed on this material within the first week on school.
2. Included in this packet are URL links where you will watch a short video and complete the notes/ worksheet pages. **Main page link:** <http://www.gpb.org/chemistry-study-of-matter/students/chemistry/semester1>
3. Please know that this Honors Chemistry class is designed for students who are willing to challenge themselves. The pace of the class is faster than a college preparatory class and additional projects/assignments are given. This class is not designed for all students. Please pay careful attention to the course description regarding math placement and other relative science courses.

### Topics:

1. Scientific Method- experimental design including basic graphing skills  
Episode101: <http://www.gpb.org/chemistry-study-of-matter/episodes/101>
2. SI Units of Measurement –know prefix values (Tera through pico) along with dimensional analysis/conversions/factor-label method on how to convert from one unit value to another.  
Episode 102: <http://www.gpb.org/chemistry-study-of-matter/episodes/102>  
Episode 104: <http://www.gpb.org/chemistry-study-of-matter/episodes/104>
3. Scientific Notation  
Episode 103: <http://www.gpb.org/chemistry-study-of-matter/episodes/103>
4. Accuracy and Precision
5. Significant Figures (You will be taught this. However, we will move VERY quick!)
  - a. Exact numbers
  - b. Using Significant Figures in Calculations
  - c. Qualitative and Quantitative Measurements

<https://www.youtube.com/watch?v=hQpQ0hxVNTg&index=2&list=PL8dPuuaLjXtPHzzYuWy6fYEaX9mQQ8oGr>

### 6. Temperature Conversions

[https://www.ck12.org/chemistry/Temperature-and-Temperature-Scales/lesson/Temperature-and-Temperature-Scales-CHEM/?referrer=featured\\_content](https://www.ck12.org/chemistry/Temperature-and-Temperature-Scales/lesson/Temperature-and-Temperature-Scales-CHEM/?referrer=featured_content)  
[https://www.ck12.org/chemistry/Temperature-and-Temperature-Scales/?referrer=featured\\_content&by=ck12&difficulty=all#interactive](https://www.ck12.org/chemistry/Temperature-and-Temperature-Scales/?referrer=featured_content&by=ck12&difficulty=all#interactive)

### 7. Density and physical properties of matter.

Episode 201: <http://www.gpb.org/chemistry-study-of-matter/episodes/201>

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*In the Science Department, we take Academic Integrity seriously, and will expect the same from you. Academic misconduct is any attempt by a student to gain an academic advantage, or to help others do so, through dishonest actions. You are responsible for understanding these concepts!*