

**HOMEWORK #1** Due at the start of the class band on Friday, September 8, 2017

- A. Carefully read the course policies and sign the contract.
- B. Have a parent/guardian carefully read the course policies and sign the contract.
- C. Be prepared with all required materials every day: both pen and pencil, three-ring binder with loose leaf, calculator, and pocket folder.

**HOMEWORK #2** Due at the start of the class band on Wednesday, September 13, 2017

- A. Watch the following online video: “The Nature of Science”  
<https://www.youtube.com/watch?v=77TFiYWPxOQ>
- B. Answer the following questions in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.
  1. What is the purpose of a scientific experiment?
  2. Explain why an explanation that involves gods or ghosts is *not* considered scientific explanation.
  3. Give *two* examples of scientific explanations that have been changed as new evidence has been gathered.

**HOMEWORK #3** Due at the start of the class band on Friday, September 15, 2017

- A. Watch the following online video: “Growth Mindset Chapters 1–5”  
<https://www.youtube.com/watch?v=2zrtHt3bBmQ>  
<https://www.youtube.com/watch?v=bycrqTvgclk>  
<https://www.youtube.com/watch?v=hI-TVYV-IHs>  
<https://www.youtube.com/watch?v=ObCK3gsSQrA>  
<https://www.youtube.com/watch?v=qt1iw8kmW9U>
- B. Visit the course webpage: go to <http://www.spraguescience.com>, click the tab for “Living Environment” on the top of the screen, and read through the following sections with a parent/guardian.
  - Frequently Asked Questions
  - Good Advice from Former Students
  - How to Succeed in this Class

**Note:** Students who do *not* have internet access at home may use the library computers in room 224 during OPTA or make an appointment with Mr. Sprague or Ms. Vogel to use the computers in room 403 after school.

- C. Create a written study plan for the semester, including:
  - one paragraph describing your reaction to the readings from the course webpage
  - one paragraph explaining how you will ensure that you succeed in this class

**HOMEWORK #4**

*This assignment is due at the start of the class band on \_\_\_\_\_.*

A. Watch the following online video: “Scientific Variables”  
[https://www.youtube.com/watch?v=nzfDvfoBv\\_g](https://www.youtube.com/watch?v=nzfDvfoBv_g)

B. Answer the following question in **complete sentences** on a **separate sheet of paper**. You may type or neatly handwrite your answers.

Some people claim that large doses of vitamin C injected into a vein speed up the healing of surgical wounds. Design an experiment to test this hypothesis. In your answer:

- identify the independent and dependent variables in this experiment [2]
- state the hypothesis that you are testing [1]
- explain how the experimental group will be treated different from the control group [1]
- identify *two* conditions that must be kept the same in both groups [2]
- explain what you would expect to see in order for the data to support the hypothesis [1]

**Note:** Be sure to answer *all* of the bulleted questions.

**HOMEWORK #5**

*This assignment is due at the start of the class band on \_\_\_\_\_.*

*Your work may be neatly handwritten or typed, and must be turned in on a **separate sheet of paper**.*

A. Watch the following online video: “Liv Env Episode 3 Graphing”  
[https://www.youtube.com/watch?v=WtwnTwZ\\_g6M](https://www.youtube.com/watch?v=WtwnTwZ_g6M)

B. Answer the following question on a **sheet of graph paper**.

**Respiration in Yeast**

Temperature (°C)	Rate of Fermentation (gas bubbles per minute)
15	10
20	40
25	70
30	100
35	130

1. Label both the *x*-axis and the *y*-axis. Be sure to include units.
2. Mark an appropriate scale on both the *x*-axis and the *y*-axis.
3. Plot the data, connect the points, and surround each point with a small circle.