HONORS BIO

Unit 1

Wednesday 9/5

Talk with your group…

- What makes a good scientific experiment? What should you avoid?

- Safety contract
- Experimental design lab

Learning Target

- Student can develop and carry out an effective scientific investigation.

Safety Contract

- Found on class website in the “About” section
- Fill out the Google Form with a guardian

Popper lab

- Design an experiment involving rubber poppers
- Work in table groups
- Complete the experiment
- Write-up needed (one per group)
- Make sure to include the main pieces we discussed in class!

Homework

- Popper reflection questions due TOMORROW
- Use book for help
    - **You need your group's hypothesis!**
- Will be difficult! Use internet, book, etc.
- **Must be written in complete sentences**
- **Must be completed when you enter class!**
    - I will ***NOT*** be available for help tonight!

Thursday 9/6

- **Please turn popper reflection responses into correct tray**

- Discuss in your table group what specific things worked and did not work when planning/executing your lab

Learning Target

- Student can develop and carry out an effective scientific investigation.

Variables Review

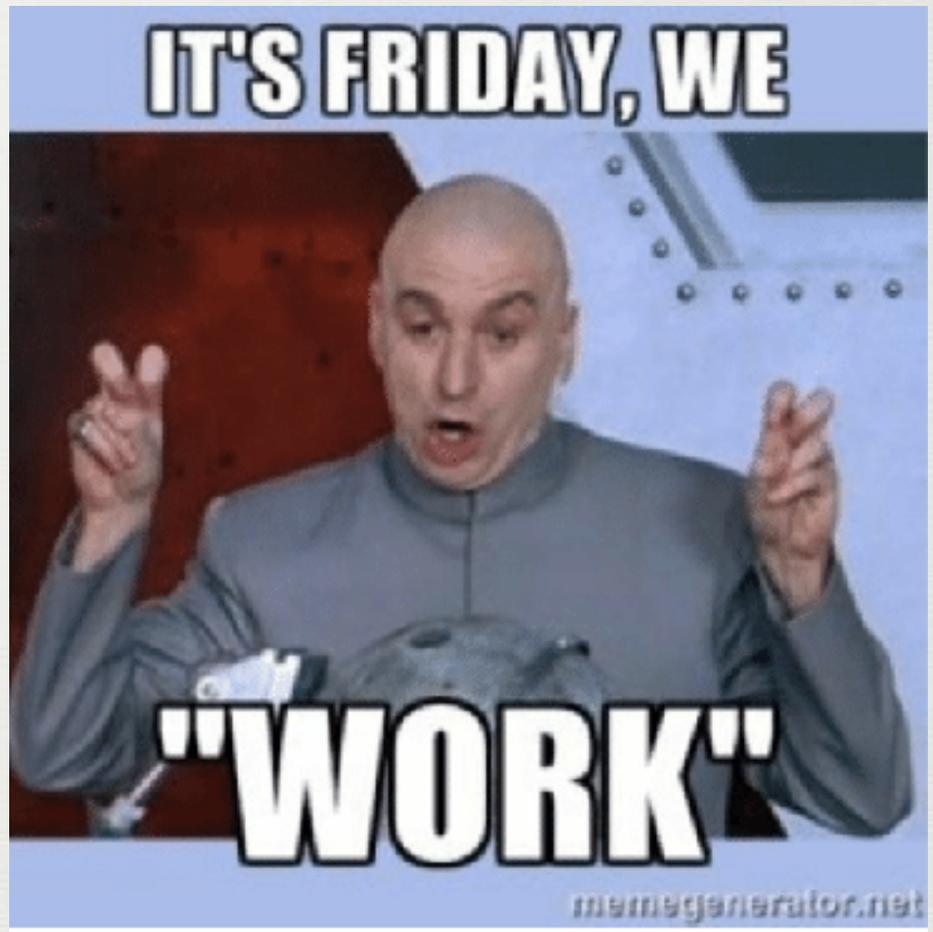
- Think back to your popper lab…
    - Independent variable?
    - Dependent variable?
    - Control group?
    - Control variable/constants?
- Homework: Experimental variable worksheet

Lab Report

- Keep in the front of your binder!
  - Cricket lab
    - With a partner, design an experiment involving crickets
    - Will be given crickets, plastic tub, basic classroom materials
    - Check research question with Mrs. Shoemaker
    - Create GoogleDoc within Google Classroom and begin lab report (can complete through procedure today!)
    - **BRING ALL EXTRA MATERIALS TOMORROW**

Friday 9/7

- HAPPY FRIDAY!
- Have out experimental variables worksheet, do not turn in



- Experimental variable review
- Cricket lab

Learning Target

- Student can develop and carry out an effective scientific investigation.

Cricket Lab

- Goals
    - Carry out procedure and collect data
    - Work on lab report
        - Need all components of template except “Research”
        - One lab report per partnership (split up work)
        - Turn into Mrs. Shoemaker via Google Classroom
        - Due next Wednesday, 9/12

Monday 9/10

Happy Monday! Review with your group the main part of a lab report and the format in which they are written.

You need a books today! Grab the one that matches your table number

Reading Tutorial

Introduction to Life

Monday 9/10

- **Learning Target**
    - **Student can describe the characteristics of life.**

Reading/Note Tutorial

- This year you will be required to read sections of the book that correspond with what we are learning and take notes.
- Notes will be checked for completion/quality and scored at the end of a unit

Reading/Note Tutorial

- Section 1.3 (Chapter 1 Section 3)
    - Title
    - Main section headers
    - Define all bold terms and explain/give an example
    - Main points from each section
    - Due TOMORROW

Biology

- **The study of life**
- What does is mean to be living or nonliving?
  - Grass
  - A red blood cell
  - An amoeba
  - Controversial topics

Demonstration

- Is it alive?
  - What characteristics are consistent with life?
  - Is it missing anything? If so, what?
  - Group consensus: Is it alive? Why or why not?

Tuesday 9/11

- Review with your group what makes something living or non-living.
    - **Have out Section 1.3 Notes**

- Inquiry POGIL
- **Cricket lab due tomorrow - share doc!**

Tuesday 9/11

- **Learning Target**
    - **Student can describe the main life processes.**

Cricket Lab Report

- Turn in on Google Classroom - only one per partnership!
    - Hour Cricket Last Names
        - Ex: 5hourCricketsShoemaker_Haas
    - **Cannot edit document after this time tomorrow or it is considered late!**

POGIL procedure

- All students fill out a packet
- All students participate; specific group members will be called on
- All students correct answers as we go over them
- One packet will be turned in per group; teacher's choice

Where did life begin?

Theory vs. Law

Explains “why”	Explains “what”
Found more in biology	Used more in physics and chemistry
Established after many proved hypotheses	Scientific foundations for existence
Ex. cell theory, atomic theory	Ex. law of gravity

Homework

- **Complete and submit cricket lab if not done already**
- **Reading section 14.1 and take notes**

Wednesday 9/12

- Describe spontaneous generation versus biogenesis.
  - **Have out Section 14.1 Notes**
  - **If you have not submitted your Cricket lab to me it is late. Do so ASAP**

- **Complete POGIL**
- **Life processes**

Wednesday 9/12

- **Learning Target**
    - **Student can describe the main life processes.**

Life Processes

- What do all living things DO?
- How to remember: Mrs. Gren

Movement

- **Animals**: Muscles and skeleton function to move organism

- **Plants**: Roots follow water, heliotropism (plants turn towards light)

Respiration

- All living things obtain energy from food
  - **Plants**: sugars, autotrophs
  - **Humans**: other food sources, heterotrophs

Life Processes

- **Respiration**
  - Metabolism- The total of all chemical reactions occurring in an organism
  - Breaking down and building up —> Energy surplus

Sensitivity

- Similar to “respond to stimuli”
- Living things react to changes in their environment
    - Homeostasis- Internal and external balance
        - Ex. 98.6°F, sweating, fever-immune response

Growth

- **Growth**- To become larger in size
- **Development**- To become more complex

Reproduction

- Transmission of hereditary material (DNA)
  - **Asexual**: Budding of the same organism, clone
  - **Sexual**: Fusion of sex cells, genetic diversity

Excretion

- Getting rid of waste
- Food products must go somewhere!
- Waste is not always bad.. ex. oxygen

Nutrition

- Intake and use of nutrients
  - Animals- from food
  - Plants- from ground
  - Single-celled organisms- from their environment

Any other missing pieces?

Cell (smallest unit of life)
DNA
homeostasis
metabolism

Virus- living or non?

- https://www.youtube.com/watch?v=VvTfkMhEw3g

- Discuss in your groups

Thursday 9/13

- **Happy Thursday!**

- Review life processes
- Homeostasis lab

Thursday 9/13

- **Learning Target**
    - **Student can describe basic chemical principles.**

Review

- 7 Life Processes
    - M- Movement
    - R- Respiration
    - S.- Sensitivity
    - G- Growth
    - R- Reproduction
    - E- Excretion
    - N- Nutrition

Friday 9/14

- **Review for the quiz with your table mates.**
- **Whiteboard review**
- **Intro to Bio quiz**

Friday 9/14

- **Learning Target**
    - All Intro to Bio targets