

Biology

Class Outline 2016-2017



Week 1 (Nov 29th)- Teambuilding/Introduction to Biology/Microscopes

A.M.- Pre-test and teambuilding activities to get to know each other. Introduction into Biology
P.M.- Learn Greek & Latin terms, review scientific method, and begin discussion of our at-home individual projects. Introduction with microscopes

Week 2 (Dec 6th)- Chemistry of Biology/Cells

A.M.- Atoms, molecules, ionic bonds, covalent bonds, and how it ties into biology.
P.M.- Discussion over cells, what makes our cells, how our cells function.

Week 3 (Dec 13th)- Cells/Mitosis and Meiosis

A.M.- Discuss the differences in plant and animal cells. Begin going over Mitosis
P.M.-Begin Meiosis, look at onion cells and fish cells undergoing mitosis. **Project idea due today**



Week 4 (Dec 20th)- Genetics

A.M.- Basics of genetics, Punnett squares, dominant and recessive traits, phenotype, genotype.
P.M.- Pedigrees, karyotypes, DNA, Monster Mutation activity and DNA extraction.

Week 5 (Jan 3rd)- Classification

A.M.- What is classification? Who came up with it? How are living things classified? We will discuss and answer all these important questions.
P.M.- Talk about Dichotomous Keys and have a dichotomous key challenge with trees around the center!

Week 6 (Jan 10th)- Single-Celled Organisms

A.M. – Begin discussion over single-celled organisms and what classifies as a single-celled organism. Collect water samples around campus that we will look at under the microscope.
P.M.- Look at water samples and a couple of live Protista samples!

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Week 7 (Jan 17th)- Fungi

What's so fun about Fungi? We'll learn what makes up a fungus, search for and identify fungus on the 4-H Center campus. We may also get to try out some fungi food while we are at it!

Week 8 (Jan 24th)- Plants

What makes a plant a plant? How are plants divided? What is the difference between monocots and dicots? We'll use plants on our campus in our learning.

Week 9 (Jan 31st)- Animals

Discuss the different types of animals, compare and contrast vertebrates .vs invertebrates classes.

Week 10 (Feb 7th)- Presentations

Each student will give a presentation of their at-home project to their fellow biology classmates.

Week 11 (Feb 14th)- Dissections

We will continue our study of animals by doing dissections. In the morning we will dissect squid and in the afternoon we will dissect frogs.

Week 12 (Feb 21st)- Final Test/Wrap-Up

A.M.-Students will take final test. This will be the same test that the students took at the beginning of the semester.

P.M.-We will finish the day wrapping up our semester and enjoying our last class together.



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Microscopes



We will be using microscopes often. In college microscopes are a big component in course work and my goal is to prepare you. Our goal is to be proficient in understanding how to use a microscope, preparing a slide, and differentiating objects on the slide.



Be Prepared for Weather

We will be outside many days. It is important to dress appropriately for both cold and wet weather.

Grades



Each student will receive a grade for the class. The grades will be based on: Final Test (30% of final grade), class participation (15%), quizzes (20%), semester project paper (20%), and project presentation (15%). You will be able to check student's grade throughout the semester through your personal account on www.engage.com (I will email you the password and username for you to log onto student's account.)

Pictures & Weekly Report



I will post pictures and a report of our weekly activities to our "SEEK Biology" Facebook group. I will also send out weekly emails before Friday of each week.

I am looking forward to our semester! If you ever have any questions feel free to contact me via email, phone, Facebook, or Engrade.

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