

2/1/2020 - Week 1 - Introduction/The Scientific Method

Introduction - Safety, Etiquette, Expectations

Class Outline/Syllabus

Scientific Method and Why It's Important

Real Life Examples of Science and Research

Lab Notebooks and how to write lab reports

Experimental Design Worksheet/Exercise

Given a short passage, identify different components of a scientific experiment including hypothesis, results, conclusion, etc.

Students will ask three scientific questions they don't know the answer to, then provide three experimental designs to explore the scientific question.

Provide feedback and answers for Experimental Design Worksheet/Exercise

Micro-Pipetting Lecture/Demonstration

Micro-Pipetting Practice Exercises

Solutions & Dilutions Lecture

Homework: Solutions & Dilutions Worksheet due next week

Homework: Simple Conversions worksheet

2/8/2020 - Week 2 - Daily Discoveries: Milk Centrifugation

Go over solutions to Solutions & Dilutions and Simple Conversions worksheet

Milk Centrifugation Lecture and Demonstrations

Lab Report due next week

2/15/2020 - Week 3 - Cellular Respiration in Yeast

2/22/2020 - Week 4 - Effects of Antibiotics on Protein Synthesis

2/29/2020 - Week 5 - Enzymes Experiment

3/7/2020 - Week 6 - Dialysis Lab

3/14/2020 - Week 7 - Principles and Practice of Agarose Gel Electrophoresis

3/21/2020 - Week 8 - DNA Restriction Digest

3/28/2020 - Week 9 - DNA Ligation

4/4/2020 - Week 10 - DNA Gel Electrophoresis

Lab Report for weeks 8-10 due week 11

4/11/2020 - OFF

4/18/2020 - OFF

4/25/2020 - Week 11 - Introduce Independent Project List

Come up with Independent Project Ideas by next week, or choose from the list

List of sample inquiry-based projects:

5/2/2020 - Week 12

Work on Independent Biomedical Projects

5/9/2020 - Week 13

Work on Independent Biomedical Projects

5/16/2020 - Week 14

Work on Independent Biomedical Projects

5/23/2020 - Week 15

Work on Independent Biomedical Projects

Independent Biomedical Projects due next week

5/30/2020 - Week 16

Turn in Papers for Independent Biomedical Projects

Put Poster Together

6/6/2020 - Student Research Symposium