

Pro-Vision Academy Charter School
High School Science Distance Learning Plan

High School Science
Learning Plan

Week of March 23 – 27

Biology
(Suggested: 90 minutes of off-line activities)

Monday

Create a Venn diagram of eukaryotic cell structures that are 1) Used to maintain homeostasis and transport, 2) Used to produce energy, 3) Used for proper functioning of the cell, 4) Used to maintain structure of the cell. You will have 4 intersecting circles.

Tuesday

Create a set of trading/matching cards that show how/why viruses usually target specific cells. Information on cards must be accurate to receive points.

Wednesday

Create a 10 most wanted information sheets for 10 of the most dangerous bacteria for humans. Make sure to describe the reasons why they made the list in each form to get credit. Also include an image (can be hand-drawn).

Thursday

Humans can be considered a niche for many viruses and bacteria. Make an analogy between a virus/bacteria colonizing a human and a new species colonizing an already inhabited island.

Friday

Create a dichotomous key to identify the following cells and virions: E. coli, coronavirus, bacteriophage, sperm cell, Streptococcus, human skin cell, plant stem cell, and plant epidermal cell.

Pro-Vision Academy Charter School

High School Science Distance Learning Plan

Chemistry (Suggested: 90 minutes of off-line activities)

Monday

If you live in an area that experiences cold winters, you have probably noticed people spreading salt to melt icy sidewalks and roads. Create a poster to display in one of the local stores explaining how salt makes a winter drive safer?

Tuesday

Answer the following questions: Explain the nature of colligative properties. Describe four colligative properties of solutions. Explain why a solution has a higher boiling point than that of the pure solvent.

Wednesday

Pick at least 3 different properties of water from the list below and describe at least one observation you have made while being at home that illustrates a property of water. Universal solvent, cohesion, adhesion, capillary action, surface tension and polar molecule.

Thursday

Predict whether it would be better to use coarse rock salt or fine table salt when making homemade ice cream. Explain.

Friday

Practice Problems: What are the boiling point and freezing point of a 0.625m aqueous solution of any nonvolatile, nonelectrolyte solute? What are the boiling point and freezing point of a 0.40m solution of sucrose in ethanol?

Writing in Chemistry: Brainstorm a list of questions that must be addressed through research before deep ocean sequestration is attempted.

Pro-Vision Academy Charter School

High School Science Distance Learning Plan

Physics (Suggested: 90 minutes of off-line activities)

Monday

Create a graphic organizer including, but not limited to - concept map, Venn diagram, flowchart, bubble map - of the different types of motion.

Tuesday

Create a brochure of Newton's 3 laws of motion and the Law of universal gravitation. Include image and description of each of the laws of motion as well as the law of universal gravitation.

Wednesday

Create a 10-most wanted information sheets for 10 of the different sources of energy used in the world to generate power. Make sure to describe the reasons why they made the list in each form to get credit. Also include an image (can be hand-drawn).

Thursday

Using the simulation below, design an experiment to describe the relationship between period and mass of pendulum bob, between period and release angle, between period and length of string, and between period and gravity. Record data for at least 6 trials in a data table for each variable under investigation.

<https://phet.colorado.edu/en/simulation/pendulum-lab>

Friday

Be prepared to discuss your investigations with your teacher when you return to class. Create your presentation on a PowerPoint, Word, or handwritten.