

Biology A Syllabus - Fall 2022

Week	Topic	Details
1	Scientific Inquiry	how to think like a scientist activity using “mystery” cubes; learn about observations, inferences, and opinions
2	Animal cell model	build animal cell model and learn about functions of organelles
3	Osmosis and diffusion	understand difference between osmosis and diffusion; perform Gummy Bear Osmosis lab
4	Cellular Respiration	learn about cellular respiration by performing an experiment to see how exercise affects CO ₂ production
5	DNA model and extraction	build a DNA model using marshmallows and red vines; extract DNA from strawberries
6	Mitosis	learn the steps of mitosis using yarn
7	Genetics	learn about genetics using Easter eggs/beads and Punnett squares
8	Bacteria	build a bacterial cell model; inoculate bacteria from common objects on agar plates
9	Viruses	build models of common viruses; observe bacterial growth on agar plates
10	Immunity and Disease Transmission	using a glow-in-the-dark gel, students will observe how easily “germs” can be transmitted to others; students will become antibodies and act out an immune response; learn how inactivated and attenuated vaccines (like DTaP/MMR/Polio) train the immune system (COVID vaccine will not be covered.)
11	Yeast and Fermentation	perform a fermentation experiment
12	Protists	learn about the Kingdom Protista; make paramecium and Euglena models; observe pond-water protists using a microscope