

Curriculum Map - Living Environment

Month	Content	Skills	Assessment
September	<ul style="list-style-type: none"> • Scientific Method & Measurement - introduction to Biology - characteristics of life - metric measurement - microscopic study - using the scientific method 	<ul style="list-style-type: none"> • Demonstrate knowledge of scientific process. • Compare living with non-living. • Measure sizes of cells under microscope. • Make measurements in SI units. • Prepare slides & observe them. • Organize & analyze results of an experiment. 	<ul style="list-style-type: none"> • written lab reports-sponge animals & microscope use • work sheets • tests: multiple choice/short answer • graphing practice sheets • To show they can discern between the dependent & independent variables.
October	<ul style="list-style-type: none"> • Unity & Diversity - cell structure - cell permeability - Biochemistry - classifications of organisms 	<ul style="list-style-type: none"> • Observe cell parts. • Determine cell permeability to various sized molecules. • Use indicators to test for presence of nutrients. • Create & use identification keys. 	<ul style="list-style-type: none"> • written lab reports - own cells, plant cells vs. animal cells • work sheets • tests: multiple choice/short answer • quizzes • key generation - basic understanding of 4 groups of biochemicals
November describe	<ul style="list-style-type: none"> • Heredity - structure & organization of DNA - DNA replication & mitosis - gametogenesis - protein synthesis - genetic change by: <ul style="list-style-type: none"> - mutation - re-combination - engineering techniques 	<ul style="list-style-type: none"> • Diagram DNA structure. • Observe chromosomes in mitosis. • Run & analyze a <ul style="list-style-type: none"> - sample DNA - fingerprint • Create a bacteria transformed to glow due to a firefly gene. • Participate in a protein synthesis simulation. 	<ul style="list-style-type: none"> • written lab reports • class activity & competitions • tests: multiple choice/short answer • group project/report • Be able to show the process & the results of DNA fingerprinting & gene transfer.

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December	<ul style="list-style-type: none"> • Evolution - evidence of evolution - natural selection - evolutionary history 	<ul style="list-style-type: none"> • Research evidence for evolution. • Simulate natural selection on fictitious moth species. • Describe examples of natural selection occurring today. 	<ul style="list-style-type: none"> • evolution vs. creationism debate • evolution survey • written lab reports • tests: multiple choice/ short answer • Show the mechanisms that cause species to change over time. (Evolution)
January/ February	<ul style="list-style-type: none"> • Maintenance - nutrition & photosynthesis - respiration - hormonal control & homeostasis - immunity & disease - feedback & regulation 	<ul style="list-style-type: none"> • Separate plant pigments for identification. • Measure lung capacity. • Observe videos of immune responses. • Research & present a disease. • Dissect & analyze a fetal pig. 	<ul style="list-style-type: none"> • written lab reports • tests: multiple choice/ short answer • oral/ written report • lab practical • Be able to record & assess their diets using diet balancer.
March	<ul style="list-style-type: none"> • Reproduction & Development - asexual reproduction - meiosis & sexual reproduction - fertilization & development 	<ul style="list-style-type: none"> • Dissect flowers & seeds • Collect examples of seeds & describe dispersal strategies 	<ul style="list-style-type: none"> • written lab reports • quizzes • tests: multiple choice/ short answer • seed collections • work sheets
April/May	<ul style="list-style-type: none"> • Ecology - ecological organization - energy flow models - Cycling of matter - Population ecology - Ecological relationships - Biodiversity - Ecological succession 	<ul style="list-style-type: none"> • Measure the diversity of the stream ecosystem and assess the stream purity. • Simulate the cycle between predator & prey populations. • Compare the various stages of succession in the school forest ecosystem. 	<ul style="list-style-type: none"> • written lab reports • tests: multiple choice/ short answer • work sheets on simulations • report on stream quality • labs on ecosystem comparisons • Be able to collect, identify, & describe the characteristics of stream macro-invertebrates. • To use those macros to assess water quality as “water canaries”.

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May/June	<ul style="list-style-type: none"> • Human Impact on the Environment <ul style="list-style-type: none"> - resource management - pollution controls & habitat destruction - impacts of technology - decision making & risk assessment • Living Environment Review for Regents Exam 	<ul style="list-style-type: none"> • Research land use practices that destroy the environment. • Identify endangered species & describe possible conservation steps. • Relate technological advances to detrimental environmental processes. • Complete guided notes packets for each topic. • Complete questions in review book. 	<ul style="list-style-type: none"> • Written lab reports • Tests: multiple choice/short answer • Land use simulation work sheet • Endangered species oral report • “Create a Fact Sheet” research project • Show biomagnification using student-based simulation. • Guided notes packets • Review book practice questions. • Weekly & daily quizzes on assignments • Practice questions for bell work.