Unit #1 Nature of Life

Content Area: **Science**
Course(s):
Time Period:
Length: **7 days**
Status: **Published**

State Mandated Topics Addressed in this Unit

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N/A	N/A

Nature of Life

Learning Objectives

- Objective 1 - Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
- Objective 2 - Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Essential Skills

- Essential Skill 1 - Develop and apply mathematical, physical, and computational tools to build evidence- based models and to pose theories
- Essential Skill 2 - Apply scientific principles and theories to build and refine standards for data collection, posing controls, and presenting evidence
- Essential Skill 3 - Reflect on and revise observations as new evidence emerges
- Essential Skill 4 - Apply data representations and new models to revise predictions and explanations
- Essential Skill 5 - Engage in multiple forms of discussion in order to process, make sense of, and learn from others' ideas, observations, and experiences
- Essential Skill 6 - Represent ideas using literal representations, such as graphs, tables, journals, concept maps, and diagrams
- Essential Skill 7 - Demonstrate how to apply scientific tools and instruments and knowledge of how to handle animals with respect for their safety and welfare
- Essential Skill 8 - Describe modern application of the regulation of cell differentiation and analyze the benefits as risks
- Essential Skill 9 - Investigate and describe the complementary relationship between photosynthesis and cellular respiration

Standards

SCI.HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
SCI.HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

Instructional Tasks/Activities

- Design and carry out a novel experiment (indicate all steps of scientific method and variables and use metric system to collect data)
- Foldables – organization of material (scientific method & features of living things)
- In Class activity identifying living things vs. non living things
- Inquiry based project: Design your own experiment
- Metric system - demonstration of instruments
- Metric system measurement practicum (length, volume, mass)
- Metric system practice with instruments (meter stick – measure size of room; graduated cylinder; balance)
- Mythbusters – examples of experiments – indicate steps of scientific method and variables
- PowerPoint presentation of material Group discussion
- Think, pair, share (read assigned section of text individually, discuss with a partner, present material in pairs to class – use PowerPoint as a reference)
- Use scientific method to solve various environmental scenarios

Assessment Procedure

- Classroom Total Participation Technique
- Classwork
- DBQ
- Essay
- Exit Ticket/Entrance Ticket/Do Now
- Journal / Student Reflection
- Kahoot
- Other named in lesson
- Peer Review
- Performance
- Problem Correction
- Project
- Quiz
- Rubric
- Teacher Collected Data

- Test
- Worksheet

Recommended Technology Activities

- Appropriate Content Specific Online Resource
- Appropriate Content Specific Online Resource
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Gimkit
- GoGuardian
- Google Classroom
- Google Docs
- Google Slides
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quiziz
- Screencastify

Accommodations & Modifications & Differentiation

Accommodations and Modifications should be used to meet individual needs. Their IEP and 504 plans should be used in addition to the following suggestions.

Gifted and Talented

- Compare & Contrast
- Conferencing
- Debates
- Jigsaw
- Peer Partner Learning
- Problem Solving
- Structured Controversy
- Think, Pair, Share
- Tutorial Groups

Instruction/Materials

- alter format of materials (type/highlight, etc.)
- color code materials
- eliminate answers
- extended time
- extended time
- large print
- modified quiz
- modified test
- Modify Assignments as Needed
- Modify/Repeat/Model directions
- necessary assignments only
- Other (specify in plans)
- other- named in lesson
- provide assistance and cues for transitions
- provide daily assignment list
- read class materials orally
- reduce work load
- shorten assignments
- study guide/outline
- utilize multi-sensory modes to reinforce instruction

Environment

- alter physical room environment
- assign peer tutors/work buddies/note takers
- assign preferential seating
- individualized instruction/small group
- modify student schedule (Describe)
- other- please specify in plans
- provide desktop list/formula

Honors Modifications

Resources

- Resource 1
- Resource 2
- Resource 3
- Resource 4
- Resource 5