

# Unit 1: Nature of Life

Content Area: **Template**  
Course(s):  
Time Period:  
Length:  
Status: **Published**

## State Mandated Topics Addressed in this Unit

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N/A	N/A

## Unit 1: Nature of Life

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### Learning Objectives

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- What is an animal?
- What is life?
- What is science?
- What is the best way for biologists to organize living things?
- What role does science play in the study of life?

### Essential Skills

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

## **Standards**

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9-12.HS-LS1-3

Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

## **Instructional Tasks/Activities**

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- Chapter tests
- Characteristics of living things game
- Design and carry out a novel experiment (indicate all steps of scientific method and variables and use metric system to collect data)
- Exit Cards (answer to daily objective questions)
- Guided Notes
- Homework
- In Class activity identifying living things vs. non living things
- Marty the Martian Activity
- Metric system measurement practicum (length, volume, mass)
- Review game
- Safety Poster/Presentation (identification of safety rule from student-designed posters)
- Section Review Questions
- SpongeBob Experimental Variables Worksheets
- Study Guide Packets
- Use scientific method to solve various environmental scenarios
- Vocabulary flash cards or map (word, picture, sentence, example)
- Vocabulary Quizzes

## **Assessment Procedure**

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- Classroom Total Participation Technique
- Classwork
- DBQ
- Essay
- Exit Ticket/Entrance Ticket/Do Now
- Foldables – organization of material (scientific method & features of living things)
- Group discussion
- Journal / Student Reflection
- Kahoot
- Metric system - demonstration of instruments
- Metric system practice with instruments (meter stick – measure size of room; graduated cylinder; balance)

- Other named in lesson
- Peer Review
- Performance
- PowerPoint presentation of material
- Problem Correction
- Project
- Quiz
- Rubric
- Teacher Collected Data
- Test
- Think, pair, share (read assigned section of text individually, discuss with a partner, present material in pairs to class – use PowerPoint as a reference)
- Worksheet

## **Recommended Technology Activities**

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- Appropriate Content Specific Online Resource
- Chromebook
- 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 Forms
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quiziz
- Screencastify

## **Accommodations & Modifications & Differentiation**

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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**

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

## **Instruction/Materials**

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- 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**

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- 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**

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N/A

## **Resources**

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