

MARINE LIFE IN THE BALANCE:

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See Matrix associated with each unit: www.usc.edu/org/cosee-west/curricula.html Below is sampling with standards.

What happens in the ocean determines whether humankind survives.

How can my actions -here and now- help me and humanity survive?

1) First UNIT: Cells as basic unit of life: (1, c, e, f, g, h) (4 weeks)

1. Fundamental life processes of plants and animals depend on a variety of chemical reactions that are carried out in specialized areas of the organism's cells. As a basis for understanding this concept:

Essential Question: Marooned on an ocean island: What do I eat & drink? It means life or death.

INTRODUCTION: Origin and hierarchy of Life on Earth...taxonomy

Activities: Introductory worksheets, PowerPoint, cell models, video animations. Microscope use/investigation: Phytoplankton vs. Zooplankton, cell variety lab. **EDGARCHRO**

TPS (Think Pair Share): What are the main structures all cells have in common whether prokaryote or eukaryote? How are cells alike yet different? Initiate Student made Unit study guide, test corrections

Standards:

c. how prokaryotic & eukaryotic cells (including those from plants & animals), and viruses differ in complexity and general structure.

e. the role of the endoplasmic reticulum and Golgi apparatus in secretion of proteins.

f. usable energy is captured from sunlight by chloroplasts, and stored via the synthesis of sugar from carbon dioxide.

g. the role of the mitochondria in making stored chemical bond energy available to cells by completing the breakdown of glucose to carbon dioxide.

Focus Phylum/Organism: Cnidarians...Jellies...Content standards...Ecological impact...human focus

b. Organelles (Golgi, ER, mitochondria, nucleus, etc.); Focus: stinging cell (**Cnidoblast**), SYMBIOSIS

Activities: Finding Nemo (worksheets) Whiteboard group work, Bio-luminescent lab. Microscope lab practicum. Initiate MAST homework & test protocols. CSI: Dead fish at Animo student made Unit study guide

Assessments: Multiple quizzes, Test, True/false cut-up strips, Organelle matching game, Game day, Organelle Matrix, Jeopardy, Begin CST Questions. Lab section Test questions compilation, Web quests.

TPS: A cell is the basic unit of life: How can one cell keep itself alive?

Focus Phylum/Organism: Porifera...Sponge...Content standards...Ecological impact...human focus

Standards:

1a. Cells are enclosed within semi-permeable membranes that regulate their interaction with their surroundings.

Activities: egg osmosis lab, Diffusion of gases; ABC (Activity Before Concept): What stinks around here? Cell size ratios & diffusion, Physical characteristics of water lab (Why am I shorter when I get out of the ocean?), PowerPoint presentation, worksheets...Web quests. Student made Unit study guide

2) UNIT: Molecules of Life (1.h) (2 weeks)

Essential Question: Why do Worms Love Dead Bodies?

Standards:

h. most macromolecules (polysaccharides, nucleic acids, proteins, lipids) in cells and organisms are synthesized from a small collection of simple precursors.

Focus Phylum/Organism: Annelida...worms...Content standards...Ecological impact...human focus

Macromolecules: 4 building blocks of life.

Activities: *Where's the fat?* Nutrition labels & Taste tests: protein, carbohydrates, fat, etc

Scientific method: Question, Hypothesis, Experiment, Data, Conclusion. Whale worm article. Skinny Whales. Earthworm dissection. Popsicle chemical bond energy lab. Web quests.

Assessments: Multiple quizzes, Test, macromolecule poster/ foldable, True/false cut-up strips, Molecules matrix, Game day, Jeopardy, overhead CST Questions, whiteboard group challenge, Student made Unit study guide.