Jelly Bellies: Scientific Observation of Cassiopea Jellyfish

The MarineLab instructors will broadcast live from a preferred home of the Cassiopea jellyfish- the MarineLab boat basin! Students will practice making scientific observations using live Cassiopea while learning all about this jellyfish. We will conclude with "three truths and a lie" to help dispel myths of this oft-feared creature. Implications of society's view on organisms such as jellyfish will be discussed.

Grade Level: 3-8

Timing: 30-40 minutes

Format:

INTRO: Where are th FL Keys?
ENGAGE: Word Dump- what comes to mind when you think of a jellyfish?
EXPLORE: Practice making scientific observations
EXPLAIN: Students will make observations of a live Cassiopea jellyfish. Instructor will discuss features they are observing.
ELABORATE: Any jelly anatomy that was not observed by students will be pointed out and discussed. Then we will use powerpoint to play "two truths and a lie" – students will need to choose which statement is false. Implications for these popular beliefs will be discussed.
EVALUATE: We will revisit the initial brain dump and students will decide if we need to make any adjustments to initial thoughts on jellyfish.

Objectives:

Students will…

- Observe live jellyfish and practice the art of scientific observation
- Learn about jellyfish anatomy
- Understand that there are implications to society's views of animals
- Interact with a marine biologist

Vocabulary: observation, Cnidaria, tentacles, medusa, radial symmetry

MarineLab
Marine Resources Development Foundation
Marine Science education in the Florida Keys

Standards Supported:

Next Generation Science Standards:

Featured Science Practice→ Constructing Explanations.

Featured Cross Cutting Concept → Structure and Function.

Disciplinary Core Ideas→ LS1.A. Structure and Function

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction.

MS-LS-1. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

Next Generation Sunshine State Standards

SC.4.N.1.1. Raise questions about the natural worls, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.N.1.2. Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across the group.

SC.4.N.1.6. Keep records that describe observations made, carefully distinguishing actual observations form ideas and inferences about the observations.

SC.5.N.1.6. Recognize and explain the difference between personal opinion/interpretation and verified observation.

SC.5.L.17.1 Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.

SC.912.L.17.20 Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SC.912.L.17.8 Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.

SC.912.N.1.6 Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

Ocean Literacy Principles

5d: Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms (symbiosis, predator-prey dynamics, and energy transfer) that do not occur on land.