

#### Education and Research: Testing Hypotheses

# Lesson Plan— Swimming with the Jellies Christy Long & Laura Brummer Navarre, FL/West Navarre Intermediate

### Summary

At the end of the unit, students will be able to differentiate between the different species of jellyfish in the local Pensacola/Navarre area and be able to teach family, friends and classmates about the jellyfish. Students will conduct research that compares and contrasts the major stages of the jellyfish lifecycle, why they exist and how they impact the environment, and the local population. Students will also learn about jellyfish safety. Students will find data using jellywatch.org and resources presented in lesson plans found on mbari.org. Students will develop research skills and communicate their findings through a culminating research project.

Tags – Pensacola jellyfish, jellyfish lifecycle, jellyfish safety, jellyfish impact on environment, jellyfish population

### **Key Concepts**

- Jellyfish population
- Species local Pensacola area
- Jellyfish safety
- Environment impact
- Jellyfish lifecycle
- Florida State Standards
  - SC.4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment.
  - SC.4.L.16.1 Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.
- Align with the NGSS Disciplinary Core Ideas (Orange foundation box): http://www.nextgenscience.org/search-standards-dci

# **Objectives**

Include clear, measurable statements of what students will be able to do, such as:

- *Observe* and *identify* the local jellyfish species
- *Record* jellyfish population data (local jellyfish sightings by species)
- *Demonstrate* understanding of jellyfish lifecycle, environmental impact, local population differences by species, jellyfish safety.
- *Communicate* results through a variety of research projects (i.e., Discovery Education Board Builder, iMovie presentation, poster or teacher approved project)
- *Engineer* a jellyfish model based on the details facts students learned throughout the unit

## Materials

- Websites jellywatch.org, mbari.org, perdidokeyassociation.org, accuweather.org, Discovery Education, Scratch
- Aps Skype, jellywatch.org, iMovie, Twitter
- Art Supplies
  - 1. 3D Jellyfish model plastic bottles, pipe cleaners, crepe paper streamers, googly eyes, paint, yarn, pom pom balls, white construction paper, markers/crayons/colored pencils, scissors, hot glue gun/glue sticks
  - 2. Life Cycle Model white and colored construction paper, markers/crayons/colored pencils, glue sticks, scissors

### Procedures (specifics to follow)

#### WEEK ONE

Day One - Unit Introduction

- Grabber show clip of Nemo swimming through jellyfish from Finding Nemo https://www.youtube.com/watch?v=nYfOPAI-LWE
- What do you know, what do you want to know students discuss what they know about jellyfish and what they want to learn.
- Watch video on jellyfish Discovery Education video
- Scratch choose a jellyfish photo from Google images, make jellyfish move to music

Day Two – Jelly Hunt

- Visit several websites to complete jelly knowledge hunt "Finding Jelly". Focus on myths and truths to present on Day three. Record facts on paper for use on Day Three.
- Jellywatch.org
- Perdidokeyassociation.org
- http://www.accuweather.com/en/weather-news/jellyfish-explosion-gulf/55342



Day Three –

- Jellyfish safety guest speaker local Pensacola beach lifeguard speaks on jellyfish safety, myths, etc.
- Jellyfish myths and truths each student has laptop and displays myths and truths from Day Two using app (looking for name of app). This is displayed on the LCD projector for others to see.

Day Four - Jellyfish Life Cycle

- Teach about the life cycle of the jellyfish.
- Direct students to mbari.org to view Power Point on life cycle of jellyfish
- Students display what they learned by re-creating the jellyfish life cycle using construction paper, markers, etc.

Day Five – Environmental impact of Jellyfish

• Teach about the environmental impact of Jellyfish bloom

## WEEK TWO

Day One – Begin creating Jellyfish Model. Begin research on jellyfish species

- Begin research on jellyfish species local to our area Direct students to map on jellyfish.org to learn about different jellyfish species
- After looking at the local species, students partner up to choose a species to research
- Students research their species, take notes, then put information together into a research presentation.
  - (i.e., Discovery Education Board Builder, iMovie presentation, poster or teacher approved project)
  - goal of project is to demonstrate knowledge of jellyfish species

Day Two – Continue Jellyfish model. Continue research.

Day Three – Continue Jellyfish model. Continue research.

Day Four – Continue Jellyfish model. Continue research.

Day Five – Research and jellyfish model presentations



## Assessment

- **Performance** Students will re-create the jellyfish lifecycle, jellyfish model, species research project.
- **Product** jellyfish lifecycle, jellyfish model, species research project.
- Assessment should be directly related to the lesson objectives
- Assessment rubrics that you would use in the classroom are also helpful



# **Additional Resources**

Please list any Web sites, books, publications, or other resources that would be helpful for teachers or students preparing for this lesson.

\*\* Lots more details to come...``

