

Jiggling Jellyfish

Grade Level: Fifth

Developers: Kim Banta, Steve Heyer, Shari Main (teachers); Mike Holmes (fellow)

Learning Goals:

After completing this unit students will be able to:

- Collect jellyfish data accurately
- Analyze data to answer questions

Oregon State Science Standards addressed:

Content Standard for Science as Inquiry: Fundamental abilities necessary to do scientific inquiry, Grades K-4

*Make observations

*Ask a question about objects, organisms, and events in the environment.

*Plan and conduct a simple investigation.

*Employ simple equipment and tools to gather data and extend the senses.

*Use data to construct a reasonable explanation.

*Communicate investigations and explanations.

Material list for the unit:

- Thermometers
- Salinity gauges (constructed by students)
- Jellyfish nets
- Cups
- Buckets
- Gallon size Ziploc bags (“official” jellyfish measures)
- Jellyfish field guides
- Clipboards
- Field journals
- Pencils
- Plankton tow (for extensions)

Time needed for the unit:

Pre-teaching: 2 to 3 lessons to introduce field trip

Post field trip: 3 to 6 lessons to analyze data, write report, present findings, art extensions

Time needed for the field trip: one day

Best locations for the field trip: Charleston docks, Empire docks, Millicoma

Summary of Unit

Pre-lessons:

- Jellyfish introduction
 - KWL -- brainstorm together
 - Phylum chart – place in relation to other ocean animals
 - Video (Monterey Bay Aquarium)
- Jellyfish Life Cycle
 - Read together about life cycle
 - Diagram -- explain each stage
- Build measurement tools
 - Jelly dippers
 - Salinity gauges (straw/clay) and practice using
 - Ziploc baggie -- measure scale marked in cm
- After showing a map of Coos Bay, pose the question, “what are differences between Coos River, Empire and Charleston waters?” Have kids brainstorm ideas. “How might these differences influence jellyfish distribution? Come up with hypotheses testable with the available tools.

Field trip:

- The field trip takes place at three sites with 30-45 minutes at each site. Arrive in Charleston 2 hours before high tide. Collect data and travel to Empire docks and collect data. Travel to Millicoma and collect data.
- Data to collect:
 - Measure water temperature
 - Measure salinity
 - Collect jellyfish (10 minute time limit)
 - Count of each jellyfish species
 - Measure size of jellyfish
 - Sketch jellyfish and look up species (dichotomous key)

Post-trip:

- Graph results
- Analyze and interpret data of salinity, temperature, distribution and size. Make conclusions.
- Complete science work sample
- Presentations
- 3-D artwork

How does the unit address active inquiry learning?

Students will form hypotheses, collect data, analyze data and draw conclusions.

What is the work sample the students will produce?

- Field journal with data
- In-class graphs
- Science work sample

How can the unit be integrated into the existing curriculum and into other disciplines?

Math: mean, median, mode, range, graphing

Literacy/Communication: writing, reading, speaking

Geography: mapping

Art: drawing: 3-D replica of a jellyfish, etc.

Technology: salinity gauge