

## **2<sup>nd</sup> Grade**

### **Graphing Whale Lengths**

**Summary:** Students measure the lengths of whales and dolphins in the halls of the school using tape measures and adding machine tape. After measuring their whale lengths, students complete a graph of whale lengths.

#### **Intended Learning Outcomes for 2<sup>nd</sup> Grade:**

Indicator 3: Conducting investigations.

Indicator 4: Collecting data. Using multiple methods of communicating reasons/evidence.

**Preparation time:** 20 min

**Lesson time:** 50 min

**Small group size:** works best with one adult for every 5 children

#### **Materials:**

Tape measures – one per group, at least 25 feet long

Adding machine tape – purchased from any office supply store

Books with pictures or pictures of the whales to be measured

Markers

Rocks or other objects to hold the adding machine tape in place

Crayons or colored pencils

Graph whale sizes paper

List of all the whale lengths paper

#### **Background information:**

Whales are a type of mammal. Mammals give birth to live young, feed their newborns with milk, have hair, and use lungs to breathe. Whales have hair on their heads as fetuses but then most whales lose their hair as they age. Some whales have teeth and eat fish, and others use a structure called a baleen to filter small organisms called plankton from the seawater. Whales keep warm due to a thick layer of blubber. Whales belong to an order of animals that includes dolphins and porpoises as well. Whales come in a large variety of sizes: blue whales are the largest animals that have ever lived at 115 feet long while the Hector's dolphin is only 4 feet long.

**Pre-lab discussion:** Ask students if whales are mammals and list the characteristics that make a whale a mammal. Ask students where they think a blue whale could fit in their school. Show them several pictures of whales and describe some characteristics of the different types of whales, dolphins and porpoises.

**Instructional procedure:** Place students into groups and give each group of students the lengths of three whales or dolphins to measure in the halls.

1. Find a section of hallway long enough to measure your whales.
2. Mark one end of your whale length with a rock or other small weight.
3. Use the tape measure to measure the length of the animal.
4. Place another weight at the other end of the animal's length.
5. Use the adding machine tape to run a line from one end of the whale to the other. Place the weights on the adding machine tape.
6. Write the name of the mammal and its length on the adding machine tape.
7. When you have finished measuring your whales, be sure and walk through the other student's whale measurements and discuss the different lengths of whales.
8. Have the children record the data for each mammal and graph it on their graph paper.
9. While students are graphing their data show them pictures of the different whales they are graphing.