Grade Level: K-2

Time Estimate: 1-3 days

INTRODUCTION TO MEASUREMENT / LESSON OVERVIEW

Objectives

The students will:

- learn about different types of measurement;
- identify different standard and non-standard units of measurement;
- be able to explain the importance of measurement in a scientific setting;
- and be able to measure shark lengths using standard and non-standard units.

Lesson Summary

Part 1. Introduction to Measurement (3 – 5 minutes)

Define measurement. Introduce concepts of standard and non-standard units.

Part 2. Measurement (Standard Units) (10 – 15 minutes)

- Define standard units of measurement.
- Learn how scientists aboard the OCEARCH research vessel use standard units of measurement to collect data.
- Students gain skills by measuring classroom objects using standard units.

Part 3. Measurement (Non-standard units) (10 – 15 minutes)

-Define non-standard units of measurement.
- Learn how non-standard units of measurement can be used.
- Students gain skills by measuring classroom objects using non-standard units.
- Students realize why non-standard units are not used in collecting scientific data.

Activity 1. Standard Units of Measurement (20 – 30 minutes)

This activity provides an excellent opportunity for students to develop skills using standard units of measurement. Using real-life data from the OCEARCH Global Shark Tracker™, students will use standardized units of measurement to create a visual representation of an assigned shark's length.

Materials

String of any color, scissors, pencil, measuring tape or ruler, tape (optional), computer(s) with internet access, standard units of measurement worksheet (provided), and journal or paper to record observations.

Activity 2. Non-standard Units of Measurement (10 – 20 minutes)

In this activity, students will use the pre-measured strings from Activity 1. Standard Units of Measurement to measure their sharks in non-standard units of measurement. Students will gain skills and knowledge in using non-standard units of measurement to collect data. Students will engage in critical thinking as to why non-standard units of measurement should not be used in science.

Materials

Pre-measured strings representing shark lengths, non-standard units of measurement worksheet (provided), pencils, and textbooks.