

Measuring Dolphins

Grade Level: Grade 2

Mathematics Skills: Measuring length and weight

Florida Sunshine State Standards: MA.2.G.3.1, MA.2.G.5.4 (measuring weight and mass only)

Description:

Students will learn about how dolphins in an aquarium setting are cared for. They will apply mathematical skills by taking the length and weight measurements of dolphins, both on paper and with hands-on examples.

Materials:

- “Why Train a Dolphin?” story
- Play dough (preferably gray)
- Rulers
- Weight scale
- Ziploc bags
- Felt
- Straws
- Stapler
- “Measuring Dolphins” worksheet

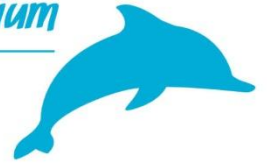
Preparations:

Pull out 1 Ziploc bag per student. Place one ball of gray play dough, one square of felt, and two straws in each Ziploc bag. Make enough copies of the “Measuring Dolphins” worksheet for each student to have 1.

Procedures:

- 1) Ask the class about the dolphins they have seen at zoos or aquariums. Discuss some of the different tricks or “behaviors” that the dolphins perform during shows and have students offer suggestions as to why these behaviors are taught to the animals.
- 2) Read “Why Train a Dolphin?” aloud to the class. After the reading, have students raise their hands and recall some of the behaviors the dolphins performed that helped the trainers to keep them healthy.

- 3) Explain to students that today they will be learning about how dolphin trainers measure dolphins' weight and length.
- 4) Pass out the Ziploc bags and "Measuring Dolphins: Instructions Sheet"



Why Train a Dolphin?

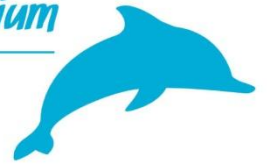
The Clearwater Marine Aquarium is not your typical aquarium. It is actually a marine animal hospital. All the animals that live at the aquarium were rescued from the wild because they were very sick or were injured in some way. The reasons they arrived at CMA are all different, but once they are there, they receive the best care.

One of the types of animals that live at the Clearwater Marine Aquarium is the Atlantic Bottlenose Dolphin. The dolphin trainers at CMA work very hard to care for our rescued dolphins. They are in charge of teaching the dolphins to perform behaviors on cue, feeding the dolphins as a reward for correct behavior, and making sure the dolphins are healthy. There is a lot of hard work that goes on behind-the-scenes, including dividing up the dolphin's daily food, cleaning and scrubbing the dolphin's tanks, and working long hours to feed the dolphins on time. The most exciting parts of the day are the training sessions that occur during the dolphin shows. Although these shows are very fun for the dolphins, their trainers, and all the guests watching, they serve a very important purpose.

Dolphins have lots of energy and need tons of exercise. In the wild, dolphins would get their exercise by hunting or avoiding predators. At the Clearwater Marine Aquarium, the dolphins perform "high energy behaviors", like jumps, flips, and tail slaps to get their exercise. All of these behaviors mimic ones that dolphins do in the wild, either to hunt or play.

Dolphins are also very intelligent. Just like we do puzzles, play games, or go to school to learn more about the world around us, the dolphins that live at the Clearwater Marine Aquarium like to do activities that require a lot of thinking. They call these "cognitive behaviors." Sometimes the trainers will have the dolphins match one toy with another based on its shape or size. Other times, they will work on training a new behavior to the dolphin, just like we might learn a new way to do a math problem or a new vocabulary word in school.

The most important reason that the dolphins at the Clearwater Marine Aquarium are trained is to help take care of them. Sometimes, going to the doctor can make people nervous, even if it's just for a check-up. Dolphins will get nervous just like we do, so the trainers at the Clearwater Marine Aquarium help to keep the dolphins calm by rehearsing the different behaviors they would do during a check-up with the veterinarian. These behaviors are called "husbandry behaviors." The dolphins practice presenting their tail flukes to the trainers, just like they would have to if they were getting a shot. They also practice holding still while the trainers look in their mouths to check their teeth, just like a dentist visit. One of the most exciting behaviors that the dolphins practice is when they beach themselves, or come all the way out of the water onto a platform. This is a good time for the trainers or the vet to look at the dolphin's whole body and make sure they are healthy.



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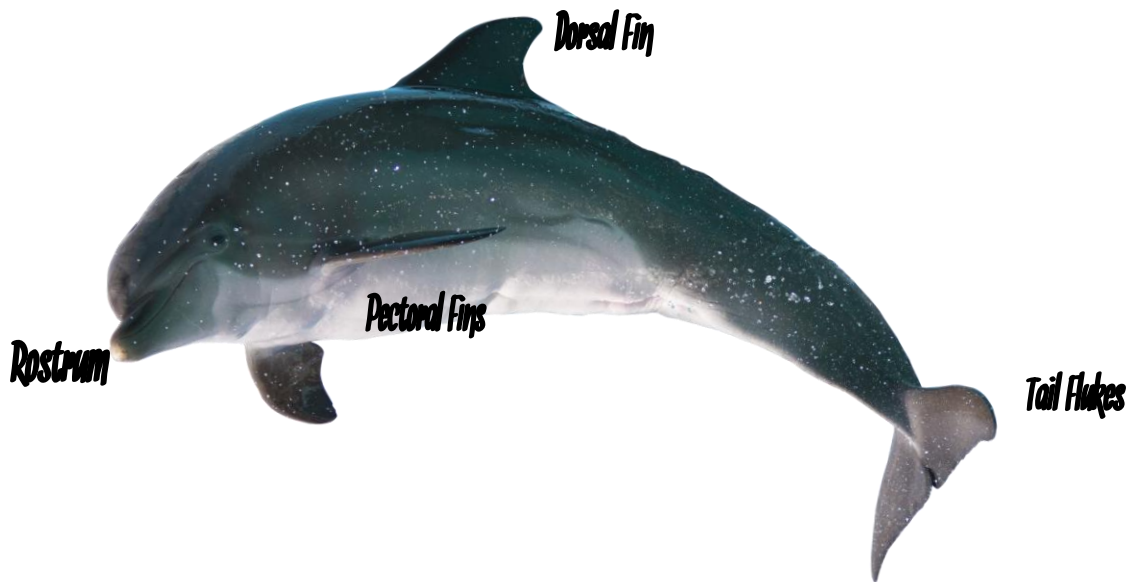
Name: _____

Description: Just like you go to the doctor for a physical examination or your dog or cat may go to the vet for their yearly check-up, the dolphins that live at Clearwater Marine Aquarium are examined to make sure they are healthy. In this activity, we'll practice measuring by using some of the same techniques used with the dolphins.

- 1) Using the play dough you've been given, mold a dolphin that is approximately 15 centimeters long. Give your dolphin a name.

Dolphin Name: _____

- 2) Measure the different parts of your dolphin in centimeters



a) From the rostrum to the tail flukes _____ cm

b) From the rostrum to the dorsal fin _____ cm

- c) From the dorsal fin to the tail flukes _____ cm
- d) From the rostrum to the left pectoral fin _____ cm
- e) From the rostrum to the right pectoral fin _____ cm
- f) From the right pectoral fin to the left pectoral fin (on top) _____ cm
- g) From the right pectoral fin to the left pectoral fin (on bottom) _____ cm

3) Weighing a dolphin can be a complicated process. One way to weigh a dolphin is to lift them out of the water in a stretcher. We're going to construct a stretcher out of felt and straws to lift your dolphin.

- a) Fold your felt in half like a hot dog.
- b) On either side of the felt, wrap a piece of the fabric around a straw. Have a teacher staple the felt around the straws
- c) Place your dolphin in the center of the felt and lift using the two straws on either side.

4) Using the stretcher, lift your dolphin onto the scale.

- a) Measure the weight of both the dolphin and the stretcher _____

Why is this weight not the accurate weight of the dolphin?

- b) After placing your dolphin back in the water, weigh just the stretcher _____

c) Subtract the weight of "b" from the weight of "a" to get the accurate weight of your dolphin.

Your dolphin's accurate weight: _____