

# Cetaceans 4<sup>th</sup> Grade Curriculum

## Lesson 6: Cetacean Behaviors<sup>1</sup>

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### Description

Students will learn about behaviors that many whales and dolphins can be seen doing.

Students will make whale puppets and use them to model different behaviors. Students will conduct a simulated whale research expedition.

### Objectives

By the conclusion of the activities, students will:

- Be able to describe at least four common behaviors displayed by cetaceans
- Be able to identify a few of these behaviors from photographs or video footage
- Be able to plot data on a grid

### What You Will Need

- Ability to project PowerPoint presentation
- Copy of *Cetacean Behaviors* PowerPoint presentation
- Optional: Internet connection (as a backup to show videos directly from YouTube)
- Optional: Speakers for PowerPoint presentation

- Copies of materials for activities from *Whales, Activities Based on Research from the Center for Coastal Studies*
- PowerPoint and book can be downloaded from <https://www.flseagrant.org/cetaceans/>

### Standards

#### Florida Sunshine State Standards

#### SCIENCE

- **SC.4.L.16.3** Recognize that animal behaviors may be shaped by heredity and learning.

### Strategy

There is an instructional PowerPoint presentation and two (optional) activities that reinforce concepts introduced in the presentation.

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# Presentation: Whale Behavior (PowerPoint)

## Teacher Script

**Slide 1.** Many of you have probably seen dolphins or other toothed whales performing at places like Marineland or SeaWorld [or *insert your local marine mammal park's name*]. The things that these animals do on command in captivity are usually based on behaviors that the animals perform naturally in the wild. Today we are going to learn about some whale and dolphin behaviors.

**Slide 2.** Why do we care about whale behavior? Because whales and dolphins spend so much time underwater, often in very deep water, it is a challenge for biologists to study them. Although whales make sounds, we cannot tell what those sounds mean. [If desired, you can play one or more whale sounds from this website: <https://dosits.org/galleries/audio-gallery/marine-mammals/>.] However, when these animals are at the surface, we can make observations about what they are doing, and can try to learn more about them based on their behaviors.

**Slide 3.** Let's read these behaviors together [Point to each one in turn and have the class read them out loud with you. Explain to the class that "bow" in "bow riding" is pronounced the same way as the verb, "to bow," with a long "ow" rather than a shorter "oh" sound]. In this lesson, we will learn more about these common dolphin behaviors.

**Slide 4.** Whales and dolphins also have many different types of feeding behaviors, which will be covered in a different lesson. However, I want to point out this commonly seen behavior called begging. Begging is a learned behavior of dolphins and other marine mammals that have received food from humans. Feeding or attempting to feed a dolphin or other marine mammal is illegal. [See Lesson 7.]

**Slide 5.** Dolphin species are often seen moving very slowly at the surface of the water in small groups. This behavior is called resting. It is very important to give these dolphins lots of space, because they need to rest in order to have enough energy to feed, mate, and nurse their young. Some dolphin species such as spinner dolphins rest during the day.

**Slide 6.** Groups of dolphins are often seen moving quickly in the same direction. This behavior is called traveling.

**Slide 7.** Our next behavior is called breaching. Breaching is a dramatic behavior. During breaching, a dolphin or whale jumps headfirst out of the water. While in the air they may rotate so they land on their side, creating a HUGE splash! Both baleen and toothed whales do this. Scientists are not sure why whales and dolphins breach. Possibilities include communicating with other animals, stunning prey so they are easier to catch, or showing that they feel threatened by something. [Click on the video to start it. Video is about 60 seconds in length. You might want to mute the audio for this clip—there are people shrieking quite loudly in it!] Did you recognize the type of whale in this video? [Correct answer is orca or killer whale.]

**Slide 8.** Let's start by talking about bow riding. Many different types of dolphins can be seen bow or wake riding. Note that baleen whales do not bow ride. Dolphins ride the waves created in front of or behind boats and may do this for minutes to hours. It may look like the boat will run over the dolphins, but scientists think dolphins do this to save energy. Bow riding may be similar to "body surfing," which is surfing without a surfboard. This is often a fun game for humans to play at the beach. Keep in mind that people should never drive a boat towards dolphins in order to try to get them to bow ride. This can be dangerous to the dolphins. Let's watch some dolphins bow riding in this clip. [Click on the video to play it. If needed, the direct link is also on the slide, but this will require an Internet connection, and it will open the video in a new window. Video clip is about 1.5 minutes long.]

**Slide 9.** Dolphins may display certain behaviors when they feel threatened, or when people get too close. These can include tail slapping or breaching, shielding calves from people or vessels, and quick retreats. Scientists call these "disturbance behaviors."

**Slide 10.** Dolphins are social animals, but they need lots of space. View them from a distance. It is difficult to tell the difference between social behaviors and disturbance behaviors.

**Slide 11.** Some whale behaviors have funny names. Let's read these together. *[Point to each behavior and have the class read each name out loud with you.]*

**Slide 12.** Let's watch a video of whales breaching. Breaching may be a way for whales to scratch their backs. *[Click on video to start it; video is 1 minute in length.]* Can you tell me anything about this whale? *[Prompt students to see if they can tell whether it is a toothed whale or baleen whale. It is a humpback whale, which is a type of baleen whale. Students might be able to identify it because of its long, white flippers.]*

**Slide 13.** This next video shows one of the reasons why people should stay far away from whales. Getting too close could be dangerous for both the people and the whale. This is a news report about a young right whale that breached and landed on a sailboat. *[Click on video to start it. Video is about 50 seconds in length. Mention that people need to stay at least 100 yards away from most whales. This is the length of a football field. Mention that people need to stay 500 yards away from right whales.]*

**Slide 14.** Our next behavior is called flippering or flipper slapping. Baleen whales do this by rolling on their side and hitting one flipper on the surface of the water. Scientists do not know why whales do this. *[Click on video to start it. Video is about 25 seconds in length.]*

**Slide 15.** When lobtailing, a whale positions its body so that its head is down and the tail flukes are above the surface of the water. The whale repeatedly hits the surface of the water with the big flukes. The sound can be very loud and may travel for some distance. Scientists do not know why whales display this behavior. Captive groups of dolphins that are upset or annoyed display a similar behavior called tail slapping. *[Click on video to start it. Video is about 4 minutes in length, but the first 20 seconds or so should give the students the idea. To stop the video, click on it again.]*

If you have visited Marineland, SeaWorld, or other marine parks, you may have seen whales or dolphins trained to “wave goodbye” by standing on their heads and waving their tail flukes at the crowd. This is an example of how trainers are able to modify a natural behavior and train whales and dolphins to perform the movement on command.

**Slide 16.** Logging is different from the behaviors seen so far. The term describes a behavior in which whales stay very still at the water's surface, moving mainly to take a breath. This behavior may be part of resting after a deep dive. It is possible that whales sleep in this position. *[Click on video to start it. Video is about 30 seconds in length.]* Whales can be very hard to see in this position. Logging whales are at risk of being hit by boats or ships.

**Slide 17.** Spouting refers to the spray of fine water droplets that forms when a whale exhales, or breathes out. In colder weather, the breath is more visible. The breath is made of warm air and water droplets. The spout of different types of whales looks quite different. Experienced observers can identify a species of whale from the appearance of the spout on the horizon. *[Click on video to start it. Video is about 18 seconds in length. Note that the right whale should have a V-shaped spout. In this video clip, it is hard to make that out.]*

**Slide 18.** Here we have a blue whale spouting. *[Click on video to start it. Video is about 1.5 minutes in length. Note that the blue whale spout does not rise as high in the air as the humpback whale spout. The character of the spout is thicker at the bottom. The whale filmed here is traveling, making the character of the spout more difficult to describe.]* Imagine if you were a whale biologist and you were trying to identify the type of whale you were seeing based only on its spouting. That might be a bit of a challenge! Remember that some whales can hold their breath for a long time, so you might easily have to wait ten minutes to see a single whale breathe twice—assuming it doesn't swim too far away for you to see it during that time!

**Slide 19.** When “spy hopping,” a whale pops its head out of the water and looks around. To do this, the whale positions itself in the water column with its head up and tail down. It lifts its body above the surface so it can see what may be happening nearby. In this video, we will see a young gray whale spy hopping off the coast of California. *[Click on video to start it. Video is about 30 seconds in length.]*

**Slide 20.** Learning about animals that live their entire lives in the ocean can be difficult. Generally, most behaviors that we can see are only those that are visible from the surface. There is much more going on under the water! This lesson has shown you commonly observed whale and dolphin behaviors. Scientists try to interpret these behaviors to learn more about whales.

**Slide 21.** As we watch this final video clip of humpback whales, see how many different behaviors you notice. *[Click on video to start it. You may want to play it a second time and have the students call out the behaviors that they see. These include breaching, lobtailing, flipper slap, spouting, and possibly spy hopping (or a weak breach). Clip is 1.25 minutes.]*

NOTE: All of the video clips used in the PowerPoint presentation are used with permission of the owners. Please contact the clip owner before using the clips in anything other than this curriculum.

## Activities

Buffington, K., M. Fleming, D. Kovacs, K. Steuer, and N. Ward. 1992. *Whales, Activities Based on Research from The Center for Coastal Studies*. New York, NY: Scholastic Professional Books.

### **Whale Behavior, pages 27 to 32**

This workbook has a worksheet and activity that relate directly to this lesson on whale behavior. Pages 28 to 29 have a poster that includes depictions and brief descriptions of the behaviors described in this lesson (and two feeding behaviors covered in Lesson 7). Pages 30 to 32 have a simple whale puppet that can be made as an easy craft project. Students can then use the puppet to display the behaviors they have studied.

### **Conducting Whale Research, pages 39 to 42**

This activity requires students to complete a (fictional) whale observation data sheet, and use the data sheet to plot the locations of whales on a simple map. Students will answer a few questions based on the chart and map.