

Mammals Unit Lesson 2: Black Bears and Sea Otters

OVERVIEW Students will learn how the California Black Bear and the California Sea Otter share the main characteristics of all mammals. They will also learn about the distinctive characteristics that make them well suited to their habitat.

OBJECTIVES Students will compare and contrast the California Black Bear and the California Sea Otter. Students will list two special characteristics of each of these mammals.

VOCABULARY dense, skeleton, hibernate

MATERIALS Mammal Unit Lesson 2 PowerPoint Presentation, copy of 1 inch squares for students to draw hairs on, pencils

Engage		
Teacher Says/Does	Probing Questions	Student Responses
<p><i>I am going to play a noise for you. Close your eyes and listen carefully. Click link and play sound. (Mammals Lesson 2 Slide 2)</i></p>	<p><i>Turn to your neighbor and make a guess about what you just heard.</i></p>	<p>Dog, cat, animal, etc.</p>
<p><i>That noise was actually a bear cub! Today we are going to learn about two of California's special mammals: the California Black Bear and the California Sea Otter.</i></p>	<p><i>Have any of you ever seen a bear or a sea otter? Where?</i></p>	<p>Answers will vary.</p>
<p><i>These animals are mammals that can be found in California State Parks. California State Parks works to protect all wildlife including the Black Bear and Sea Otter.</i></p>		

Explore		
Teacher Says/Does	Probing Questions	Student Responses
<p>Hand out 1 inch squares to students.</p> <p><i>I am giving you all a one inch square on a piece of paper. When I say go, I want you to draw as many "hairs" as possible on the square. Ready? Go!</i></p> <p>Time them for 30 seconds.</p>		

<p><i>Stop! Now count how many hairs you were able to draw.</i></p>	<p><i>How many hairs were you able to draw?</i></p>	<p>Answers will vary.</p>
<p>Show sea otter image. (Mammals Lesson 2 Slide 3) <i>Sea Otters can have up to 1,000,000 hairs in one square inch of their skin.</i></p>	<p><i>What do you think it would feel like if you had that many hairs on your body?</i></p>	<p>Hot, furry, sweaty, etc.</p>
<p><i>Sea Otters are mammals that live in the water just like the whales we have learned about before.</i></p>	<p><i>Does anyone remember how whales stay warm without fur that can slow them down?</i></p>	<p><i>Blubber</i></p>
<p><i>Sea otters don't have blubber, but they are still able to stay very warm.</i></p>	<p><i>How do you think sea otters stay so warm without blubber?</i></p>	<p><i>They have so much fur</i></p>
<p><i>That's right! Sea otters have a lot of fur in a small amount of space. We call that dense hair. This helps keep them warm even in cold water. Black bears and sea otters are mammals with special characteristics to help them survive in their habitats.</i></p>		

Explain		
Teacher Says/Does	Probing Questions	Student Responses
<p>Show image of sea otter and human skeletons. (Mammals Lesson 2 Slide 4)</p> <p><i>These are diagrams of the skeletons of the sea otter and a human like you.</i></p> <p><i>Because sea otters and humans are both mammals, their skeletons are very similar. They have a skull to</i></p>	<p><i>Turn to your neighbor and make some observations about these skeletons.</i></p> <p><i>What is similar?</i></p> <p><i>What is different?</i></p>	<p>Answers will vary.</p>

<p><i>protect their brains and a spine to protect their nerves!</i></p>	<p><i>Do you think a bear skeleton looks similar or different than these skeletons? Why?</i></p>	<p>Answers will vary.</p>
<p>Show image of thermometer. (Mammals Lesson 2 Slide 5) <i>We have talked about how all mammals are warm-blooded, which means they can usually keep the same body temperature all the time.</i></p> <p><i>Humans are usually at 98.6° F, but sea otters keep their temperatures around 100° F.</i></p>	<p><i>Does anyone know the normal body temperature for a human?</i></p>	<p>98.6°F</p>
<p><i>Black bears do something interesting in the winter. They hibernate.</i></p> <p><i>Black bears usually have a temperature of 100°F, just like sea otters, but in the winter the black bear lowers its temperature to about 88°F to save energy.</i></p>	<p><i>Turn to your neighbor and guess what happens to black bears' temperatures in the winter.</i></p> <p><i>Do you think their temperature increases or decreases in the winter?</i></p>	<p>Answers will vary.</p>
<p>Show image of sea otter pups and black bear cubs. (Mammals Lesson 2 Slide 6)</p> <p><i>Black bears and sea otters are mammals, so they feed their young milk. Black bear cubs drink milk until they are about 8 months, then the mother will teach them to hunt. Sea otters nurse their young for about a year before they teach hunting.</i></p>	<p><i>What do you think these animals are doing?</i></p> <p><i>Has anyone ever seen a mother dog or cat take care of their puppies or kittens?</i></p> <p><i>Why do you think they have to take care of the young so carefully?</i></p>	<p>Feeding their young milk.</p> <p>Answers will vary.</p> <p>Answers will vary.</p>

Elaborate		
Teacher Says/Does	Probing Questions	Student Responses
<p><i>Look at these pictures of the Black Bear. (Mammals Lesson 2 Slide 7)</i></p>	<p><i>What color is its fur?</i></p>	<p><i>Red, brown, etc.</i></p>
<p><i>The Black bear isn't called Black because its fur is black. Some black bears have black fur, but many of them have other colors like red, brown, or even white!</i></p>	<p><i>Can you think of any other animals or plants with names that don't always match their looks?</i></p>	<p>Answers will vary.</p>
<p>Show image of koala bear. (Mammals Lesson 2 Slide 8) <i>An example is a koala bear. Koala bears aren't bears at all. They aren't even mammals! They are a marsupial, which means they carry their young in a pouch. Sometimes animals were given names long before scientists found out what they really were.</i></p>		

Evaluate		
Teacher Says/Does	Probing Questions	Student Responses
<p>Show double bubble template on the screen.</p> <p><i>Let's create a concept map to compare and contrast the California Black Bear and the California Sea Otter.</i> (You can use a Venn diagram or other similar concept maps for this activity.)</p>	<p><i>What do the black bear and sea otter have in common?</i></p> <p><i>What characteristics do they have that are different from one another?</i></p>	<p>Answers will vary.</p> <p>Answers will vary.</p>

One Inch Squares (Cut out one per student)

