

SCIENCE·3D

CALIFORNIA WHITE SHARK

In this packet, sample student answers are provided in **red** and notes to teachers are in **blue**.

This **Explore Your Backyard** activity has students investigate the plants and animals in a local environment. They will record whether they are common or rare and explore how human and natural changes can influence the environment and the types and numbers of organisms.

This activity can be done in a number of ways. You could guide students in a discussion about local areas that might have been restored or natural areas that have been protected. Consider using online resources to learn about local environmental issues. If possible, have students go outside to look at local efforts to promote healthy ecosystems.

This is also an opportunity for students to think about what might happen if the local environment changed.



The waters off California used to be very polluted. The kelp forests were almost gone. The animals that lived in kelp forests almost disappeared. White sharks, seals, and sea lion numbers went way down. People caused these changes. Sometimes changes are natural. Weather patterns can change. Wildfires, storms, droughts or other events can cause changes.

If people can cause damage to plants and animals, they can also help fix things. In California, scientists and other people started helping the environment. The waters are now cleaner. Many of the animals have come back.

Explore the place your teacher takes you or tells you to investigate. Observe or research the environment and all of its organisms. Don't forget to look for small plants and animals! Later, you will make a list of the plants and animals you see.

1. Use the space below to **draw** the environment. Include the natural environment and any buildings or human structures.

Drawings should represent the local environment students explored or researched. An example may be something like the drawing below.



2. Look at the drawing you made. **Describe** any ways people have tried to help keep the environment clean and safe for plants and animals.

Answers should match what is occurring in area explored. Examples from the drawing might be:

Garbage cans to keep trash from littering the area. Pathway built so people don't trample the plants or animals. Planted trees so animals have places to live.

3. **Describe** any changes people could make to improve the environment for plants and animals.

Answers will vary, but should relate to the area explored. An example from the drawing might be:

People could allow more wildflowers to grow instead of mowing the lawn. This would provide more food for bumblebees.

4. Use the table below to **list** some of the plants and animals you observed. **Record** whether there were just a few of these plants and animals or if there were many. Sample answers are shown in the table.

	Name of Plant or Animal	Few or Many
1.	Oak Tree	Many
2.	Bumble bee	Few
3.	Frog	Few
4.	Wildflower	Few
5.		
6.		
7.		
8.		
9.		
10.		

Think about ways that the environment you studied might change.

5. **Describe** one change humans might make to the environment.

Answers will vary, but should relate to the area explored. An example might be: Humans might clear more area to build houses or structures.

6. **Predict** how two different plants or animals in your list might respond to the change you thought of in question 5.

Answers will vary, but should relate to the area explored. Examples from the sample might be: If the area is built on, the frogs might lose their pond home and many of the trees will be cut down.

7. **Describe** one natural change that might happen to the environment.

Answers will vary. Accept reasonable answers. Examples might be: Lightening might start a fire. There might be a drought.

8. **Predict** how two different plants or animals in your list might respond to the change in question 7.

Answers will vary, but should relate to the area explored. Examples from the sample might be: A fire would burn the grass and flowers. The bumblebees might lose their food.

Extend the Lesson: Have students, or groups of students, create a poster or presentation to show the changes that they described and the responses they predicted. Then, have them present their ideas to the class. Have the class discuss the different ways humans and nature might change the environment and how organisms might respond. Consider asking: "How could we better protect our local environment?" and "What are ways we can improve our local environment?"

Extend the Lesson: Have students investigate what the local environment used to look like before human settlement. Have them compare the historic environment and the current environment. Discuss if students think that people should try to recreate the historic environment. How might people try to do this?