

Name _____

Exploring Marine Science at the Seymour Center

“Who Are Scientists?” (Purple Pod)



SEYMOUR CENTER AT LONG MARINE LABORATORY

Read all the questions below, then choose at least three to answer from this area.

1. Who are scientists, what questions do they ask, and what answers do they find?
2. What is marine snow made of and why is it important to life in the ocean?
3. Use the microscope to find and sketch one of the organisms that lives in and around marine snow.
4. Name three scientific tools Mary Silver uses to study marine snow.
5. Where do salmon live as young fry? Where do they migrate to?
6. Name 2 differences between the life cycles of salmon and rockfish.
7. What is an otolith? What does it tell scientists?
8. Explain how Jim Estes concluded that orcas were definitely responsible for 45,000 otters disappearing in Alaska during the 1990s.

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“Who Are Scientists?” (Purple Pod): ANSWER KEY



Read all the questions below, then choose at least three to answer from this area.

1. Who are scientists, what questions do they ask, and what answers do they find?

Scientists are all kinds of people and they usually work in teams (the leader is the Principal Investigator). Scientists only ask questions whose answers can be tested. Scientists find answers in the natural world to questions about the natural world.

2. What is marine snow made of and why is it important to life in the ocean? Marine snow is made of mucus, bits of dead plants, microscopic organisms and small marine animals (including marine worms). It carries pollutants and debris to the bottom of the ocean and circulates nutrients.

3. Use the microscope to find and sketch one of the organisms that lives in and around marine snow.

Various responses

4. Name three scientific tools Mary Silver uses to study marine snow.

1. Niskin bottle
2. Clear, six liter cylinder
3. A remote controlled submersible with lights and cameras

Note: Plankton nets are not used because the sample could become damaged in the net.

5. Where do salmon live as young fry? Where do they migrate to?

As young fry, salmon live in freshwater streams. They later migrate to the ocean.

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6. Name 2 differences between the life cycles of salmon and rockfish.

Possible responses: 1. Salmon spawn in freshwater rivers and eggs hatch within a few weeks. Rockfish have internal fertilization and give birth to live young. 2. Salmon migrate to their birthplace at the end of their 1-6 year life cycle in order to spawn. Rockfish, once mature, remain in their preferred habitat and can reproduce there for many years. Some rockfish live to be more than 100 years old. 3. Young salmon grow in freshwater streams. Young rockfish grow in kelp beds or on the sea floor.

7. What is an otolith? What does it tell scientists?

An otolith is a specialized bone in a fish ear. Scientists can use the otolith to determine the age of the fish.

8. Explain how Jim Estes concluded that orcas were definitely responsible for 45,000 otters disappearing in Alaska during the 1990s.

Jim Estes used population counts, lab work and statistical tests in his research.