OIMB GK12 CURRICULUM

2nd Grade **30-45 minutes**

ANIMALS THAT MAKE SHELLS (CATEGORIZING)

Oregon Science Content Standards:
2.1L.1 Structure and Function: Living and non-living things vary throughout the natural world.
2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.3 Scientific Inquiry: Scientific inquiry is a process used to explore the natural world using evidence from observations.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.
2.3S.3 Make, describe, and compare observations, and organize recorded data.

Ocean Literacy Essential Principles:
5. The ocean supports a great diversity of life and ecosystems

Goals:
- To introduce/review three types of animals which make shells.
- Have students make observations and learn how scientists put things into groups.
- Have students recognize traits that are the same and different among these three groups.

Concepts:
- Echinoderms, molluscs, and crustaceans make shells that we find at the beach.
- All crustaceans have jointed arms and legs and a hard exoskeleton (crabs, hermit crabs, shrimp, lobsters, etc).
- Echinoderms have spiny skin and tube feet (sea stars, sea urchins, sea cucumbers, brittle stars, sand dollars).
- Molluscs have a soft body and often have a shell (clams, sea slugs, sea snails, limpets, chitons, octopuses, etc.).

Materials:
- Animals that Make Shells Worksheet
- Pictures of animals from the three groups
- Tape
- Live animals or drawing materials

Lesson Plan:
1. Introduce the students to classification. Ask the class why scientists classify things, put things into groups. Then ask for 6 volunteers and put them into two groups based on a characteristic they share (wearing shorts vs. wearing pants) and have the rest of the class guess why you grouped them the way you did. Then tell them that you could close your eyes, pick anyone out of the shorts group, and know that that person is wearing shorts.

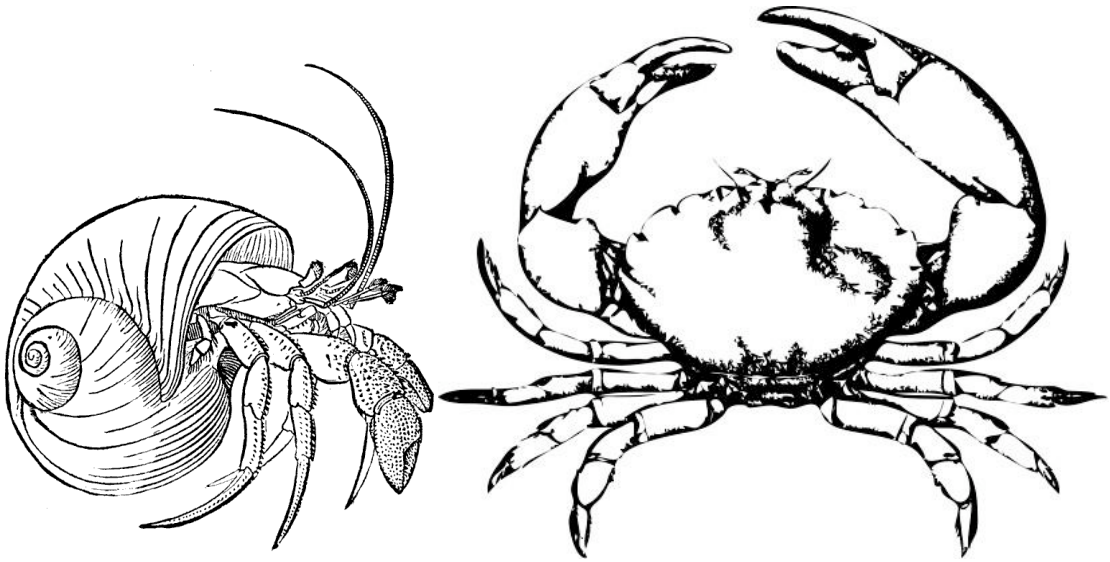
Repeat this exercise until it is clear that scientists group things based on characteristics they have in common. Emphasize that by putting things into groups, you learn something about those items (ex: wearing shorts, has curly hair, wearing sneakers, etc.).

2. Tell the students that they are going to learn about three different groups of animals. Pass out the worksheet and have the students look at the first box. The first group is crustaceans. Ask the students what is the same about the hermit crab and the crab. Why would they be in the same group (joints and a hard exoskeleton)?
3. Next have the students look at the second box. This group is echinoderms. Have them look at the pictures of the sea star and the sea urchin. Why would they be in a group together (spiny skin)? Ask them why a sea star would not belong in the crustacean group. Ask them why a crab would not belong in the echinoderm group.
4. Now have the students look at the two pictures of molluscs. Have them tell you what is the same about them (soft bodies), and why they wouldn't be in the crustacean or echinoderm group.
5. Tell them that animals in all three of these groups make shells and ask them why animals have shells (protection, keep from drying out, etc).
6. Hold up pictures of different animals and have the students tape them on the board under the appropriate group's name.
7. If you have live animals, break the students into groups and have them decide which group the animals belong to. If you do not have live animals, you can have the students create their own crustacean, mollusc, or echinoderm, making sure they include the traits typical of that group.

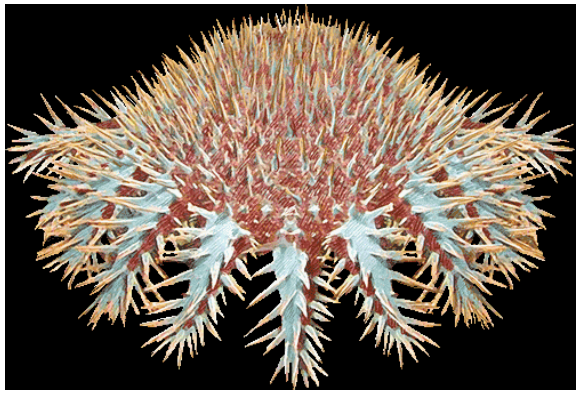
Assessment: Ask the students to tell you what is special about each group of animals.

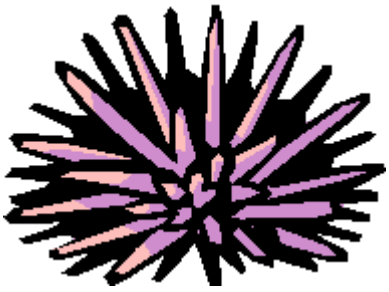
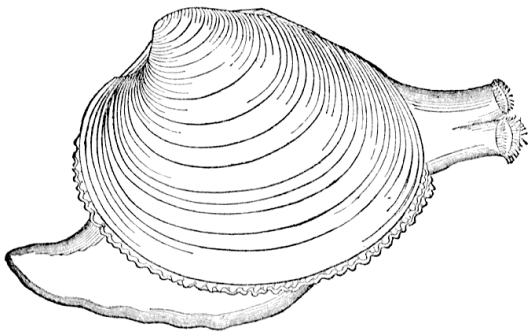
GK12 Fellow: Maya Wolf

Crustaceans have:_____



Echinoderms have:_____





Molluscs have: _____