Name: _____ Homeroom: _____

Intro to Sea Stars

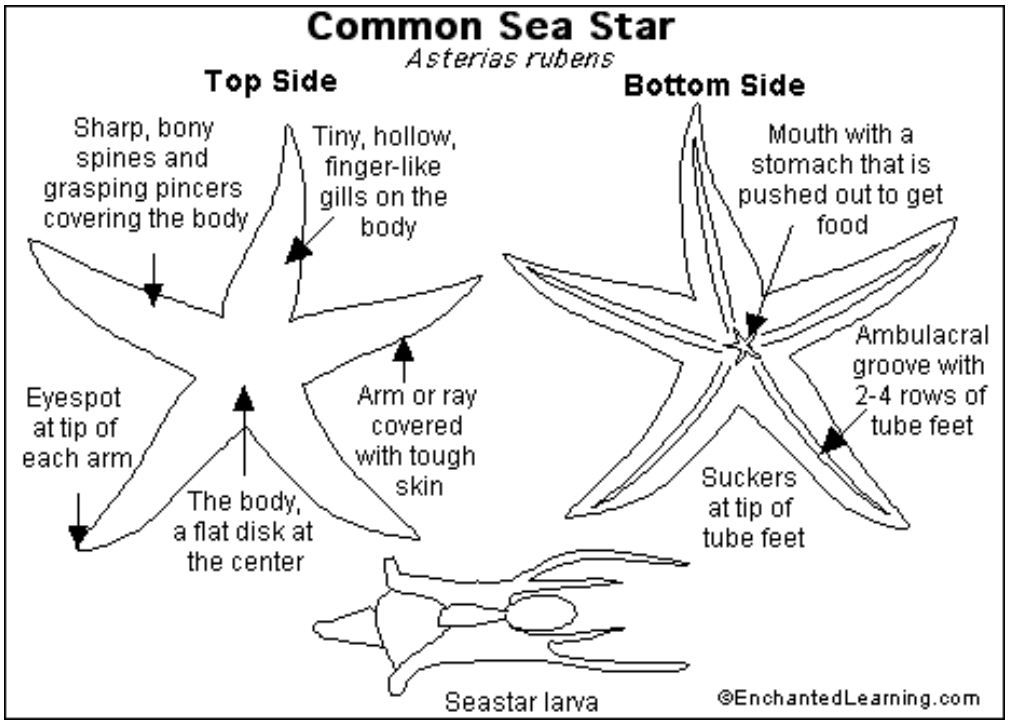
Background: Sea stars (also known as starfish) are spiny, hard-skinned animals that live on the rocky sea floor. These invertebrates are NOT fish; they are echinoderms. Sea stars move very slowly along the sea bed, using hundreds of tiny tube feet. There are over 2,000 different species of sea stars worldwide.

Reproduction: Most species of starfish expel enormous numbers of eggs and sperm into the ocean; fertilization is external. After fertilization, the tiny, transparent, bilaterally-symmetrical larvae (baby sea stars) travel many miles as they are swept along by ocean currents for about two months. As they develop, the tiny larvae swim in the sea, eat phytoplankton, and are a component of zooplankton.

Diet: Sea stars are carnivores (meat-eaters). They eat clams, oysters, coral, fish, and other animals. They push their stomach out through their mouth (located on the underside of the sea star) and digest the prey.

Anatomy: Most sea stars have five arms (or a multiple of five) that radiate from a central disk. Sea stars do not have a brain; they have a simple ring of nerve cells that moves information around the body. Eyespots (primitive light sensors) are at the tip of each arm. If a sea star's arm is cut off, it will regenerate (regrow).

Classification: Kingdom Animalia (animals), Phylum Echinodermata (echinoderms), Class Asteroidea (sea stars), about 2,000 species.



Name: _____ Homeroom: _____

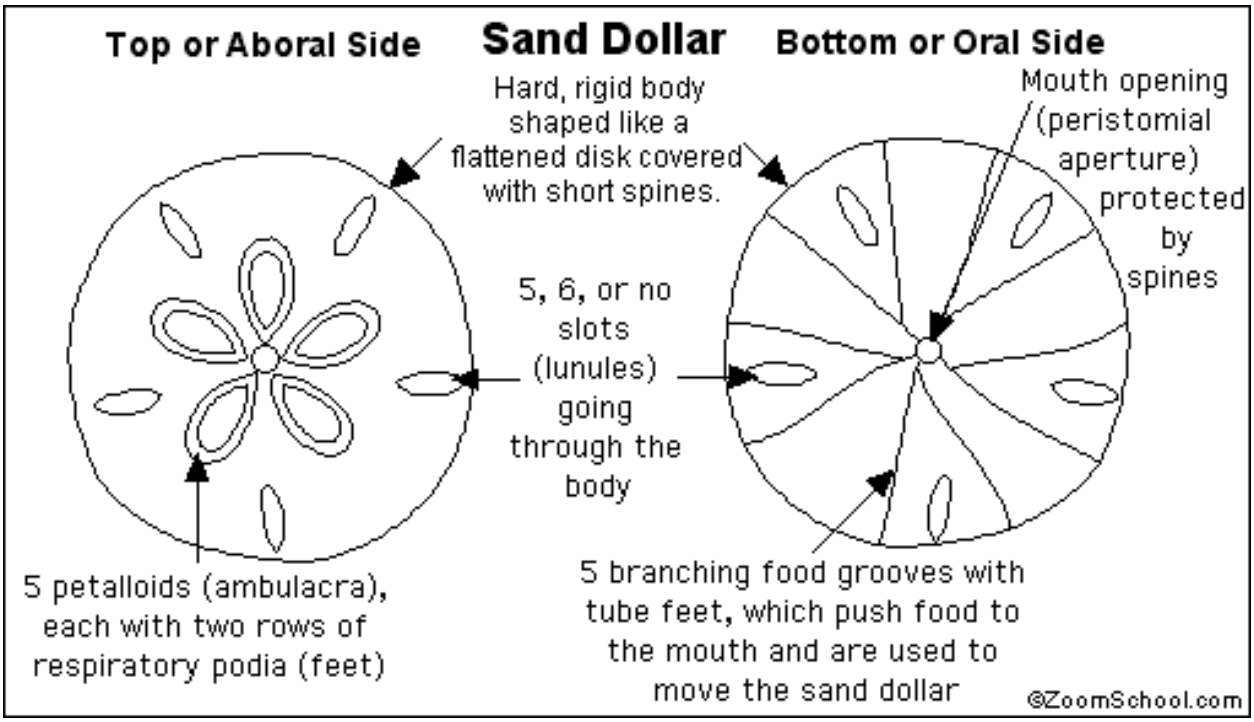
Intro to Sand Dollars

Background: The Sand Dollar is a spiny, hard-skinned animal that is shaped like a coin (a flattened disk). There are many different species of sand dollars. They live on the sandy sea floor, from the intertidal zone (the area between high tide and low tide) down to the subtidal zone (the area below low tide). Most sand dollars are found at depths of 30 to 40 feet (9-12 m). Sand dollars partly bury themselves under the sand, with an edge poking up out of the sand. You can often find the dead "shell" of a sand dollar (called a "test") washed up on sandy beaches. If you break open a test, there are many hard, loose, white pieces; these were the teeth of the Sand Dollar. Sand Dollars are echinoderms (which means "spiny skin") and are related to sea urchins and sea stars. Their tiny larvae (baby Sand Dollars) travel many miles as they are swept along by ocean currents.

Anatomy: Sand Dollars have 5-part radial symmetry. These invertebrates have a hard skin made of calcium carbonate plates. The bottom surface contains the mouth, many black spines (which trap food), and the cilia (small hairs) that help direct food into the mouth. Sand Dollars have tiny tube feet that are used as gills. The holes on the top surface are where the eggs and sperm are released.

Diet: Sand Dollars eat tiny particles of food that float in the water.

Predators: Sand Dollars are eaten by sea stars (also known as starfish), snails, and skates.



Name: _____ Homeroom: _____

1. What type of symmetry does a sand dollar have? _____

_____

2. What is the purpose of the holes on top of the sand dollars? _____

_____

3. What do sand dollars eat and what eats sand dollars? _____

_____

4. Does a sea star have the same or a different type of symmetry of a sand dollar? _____

_____

5. Is a sea star a herbivore (plant eater) or a carnivore (animal eater)? _____

_____

6. Describe the location of the mouth of the starfish. _____

_____

7. Describe how a sea star eats. _____

_____

8. At the very end of each sea star's arm there is an eyespot which is a concentration of cells surrounded by spines. What do you think the function of the eyespot is? _____

_____

9. Describe how a sea star reproduces. _____

_____

10. What part of their body do sea stars use to move around? _____

_____