



## SeaWorld/Busch Gardens Invertebrates K-3 Classroom Activities

# Invertebrate "Heads-up 7-up"

### OBJECTIVE

The student will identify biographical information about the following tidepool animals.

### ACTION

1. Explain that the following day's activity will involve these words and write them on the board or on an overhead transparency: mollusc, echinoderm, tide pool, radial symmetry, cnidarian, nematocysts, osculum, sessile, arthropod, gastropod, and bivalve. Instruct the students to define the words for homework.
2. The following day, select nine students to come to the front of the class. Explain to these students that each one will represent a tidepool animal. Give each of these students a different tidepool necklace to wear.
3. Instruct the rest of the class to place their heads down on their desk with one thumb up in clear view (heads-down, thumbs-up). Explain that each of the nine students will be quietly going around the classroom to press down someone's thumb (no peeking!). If a student's thumb is pressed down, they must keep their head and thumb down until the teacher instructs the students to raise their heads up (heads-up, 7-up). The teacher will instruct the students to raise their heads up when all nine of the students representing tidepool animals have pressed down someone's thumb and have returned to the front of the class.
4. Instruct the students whom had their thumbs pressed down to stand up and make a guess at who pressed their thumb down. If the student guesses the correct "tidepool animal", then he or she will replace the student wearing the tidal pool necklace for the next round of play and the other student will have a seat.
5. All of the students that guessed incorrectly will be asked a question from the Teacher's Guide concerning the nine tidepool animals in an attempt to win another guess. The students will all be asked the same question and will have to write down their answer(s) privately on a sheet of paper. The students that answer the question correctly will have another opportunity to make a guess at who pressed down their thumb. If they answer the question incorrectly, they will be told who picked them but will remain one of the seated students for the next round of play.

6. For students that guess correctly the second time: Replace the student wearing the tidal pool necklace for the next round of play and the other student will have a seat.

Students that guess incorrectly the second time: Told who picked them but will remain one of the seated students for the next round of play.

7. Inform the tidepool representatives before the second round of play begins to select another classmate than the person that chose them. For example, if Jane pressed down Mary's thumb during the first round and Mary guessed Jane, Mary cannot press down Jane's thumb during the second round. Another student must be selected.

### QUESTIONS FOR STUDENTS

1. What animals are mobile?
2. What animals are sessile?
3. What animals are molluscs?
4. What animal is a bivalve?
5. What animal is a echinoderm?
6. What animals have radial symmetry?
7. What animals have nematocysts?
8. What animals are arthropods?
9. What animal is a gastropod?
10. What animal has an osculum for water flowing out of its body?

### MATERIALS

#### For nine students:

#### Tidepool Animal Necklaces

- yarn
- copy of the photo pages 17-19
- cardboard squares
- glue
- hole punch

Cut the photo pages in thirds along the dotted lines. Fold strip in half so that one side has a photo and the other an illustration. Glue cardboard in center. Punch a hole at the top and thread a piece of yarn through the hole. Tie ends.

### ANSWERS

1. What animals are mobile? *Snail, shrimp, crab, and seastar.*
2. What animals are sessile? *Barnacle, oyster, coral, sea anemone, and sponge.*
3. What animals are molluscs? *Snail and oyster*
4. What animal is a bivalve? *Oyster*
5. What animal is a echinoderm? *Seastar*
6. What animals have radial symmetry? *Coral, seastar (as an adult), and sea anemone.*
7. What animals have nematocysts? *Coral and sea anemone.*
8. What animals are arthropods? *Crab, barnacle and shrimp*
9. What animal is a gastropod? *Snail*
10. What animal has an osculum for water flowing out of its body? *Sponge*

# Definitions

**Arthropod:** An invertebrate that has jointed limbs, a segmented body, and an exoskeleton composed of chitin.

**Bivalve:** A class of mollusks that has two shells (valves) hinged together. Muscles and ligaments keep the shell closed while they are attached to rocks or buried in the sand. Their diet consists of filtered particles from seawater.

**Cnidarian:** Invertebrates that are radial in symmetry, have saclike bodies, and have only one opening. Their tentacles contain stinging structures called nematocysts. Most often cnidarians occur in two forms: polyp (ex: coral) and medusa (jellyfish).

**Echinoderm:** A marine invertebrate that has tube feet, a calcite covered body, and is pentamerous-symmetrical (5-part radially symmetrical body).

**Gastropod:** A class of mollusks that usually has a coiled shell, a flattened muscular foot, and stalked eyes on the head.

**Mollusc:** An invertebrate that has a soft un-segmented body, a muscular foot, a mantle, and usually a hard shell.

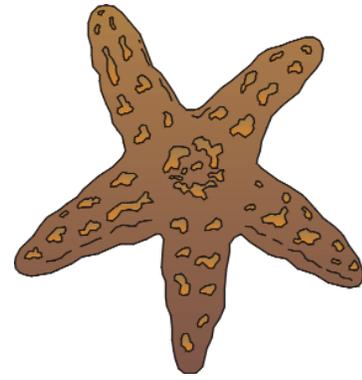
**Nematocyst:** A stinging cell that delivers venom when wielded into attackers and prey.

**Osculum:** Large openings in a sponge that function as water excreting portals.

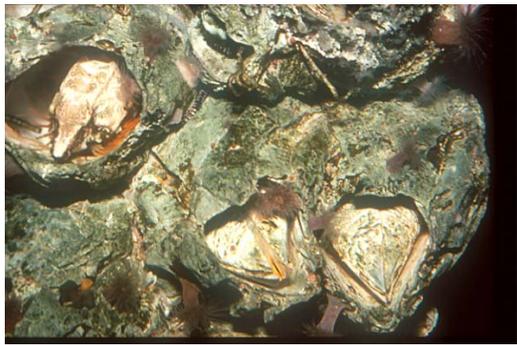
**Radial Symmetry:** The body is symmetrical in shape, size, and position of corresponding parts around a central axis.

**Sessile:** Permanently attached to a substrate such as rocks. Unable to move about freely.

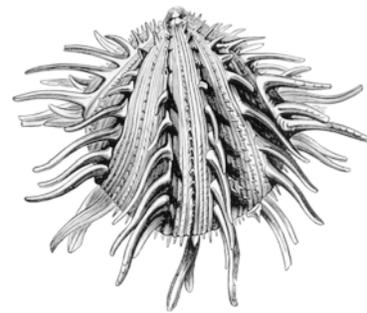
**Tide Pool:** A pool of water that is formed when salt water is trapped within rocky hollows as the tide recedes.



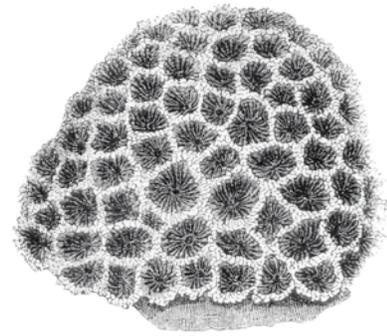
Seastar



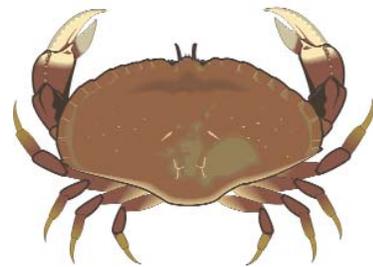
Barnacle



Oyster



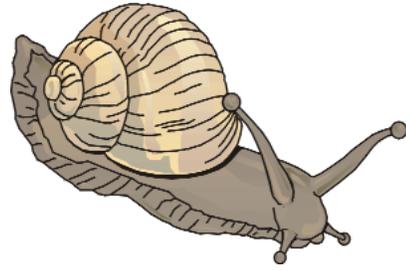
Coral



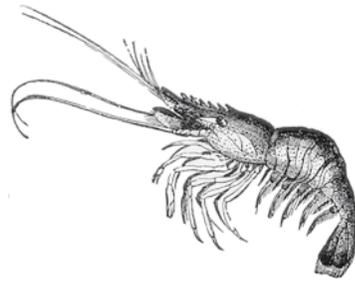
Crab



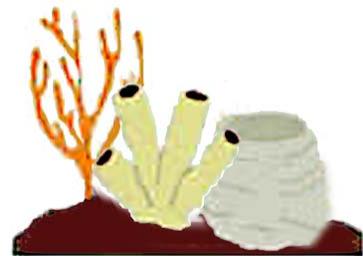
Sea Anemone



Snail



Shrimp



Sponge