**Tidal Tag Game**

**Question**  What are the challenges for the intertidal world, and how do organisms survive?

**Materials**

6 cones or other boundary markers for the play field

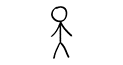
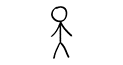
Large outdoor space

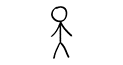
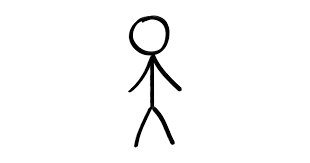
3 Pennies or flags to identify who the predators are

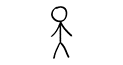
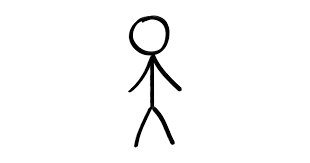
**Set-up**

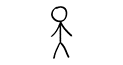
Set one cone at each of the 4 corners delineating boundaries for play.

Set a cone on either side of the field at the midpoint between the corner cones to delineate a center line where the predators will stand before the chase.



Select 3 students to be predators (students choose what species, based on chapter 4 learning so far)

Have all other students select an intertidal organism to become, but tell them to keep their identities a secret. They should know some characteristics and adaptations their organism has for avoiding predators. These include:

* Burrower (clams, worms, mud, ghost, or shrimp)
* Swimmer (fish, jellies, scallops, octopus, squid)
* Shell bearers (barnacles, most molluscs, arthropods)
* Suction foot creeper (sea stars, sand dollars, sea cucumbers, sea anemones)
* Scramblers (crabs, shrimp, hermit crabs)

Some organisms will have more than one of these characteristics

**How to play**

1. Have all organisms line up on one side of the field with the 3 predators in the middle

2. Call out “**low tide”** or “**high tide**.”

* low tide = harder for predators to reach prey. Predators will hop on one foot to symbolize this
* high tide = harder for critters to escape/easier for predators to reach them. Predators can run after the prey

3. Have predators call out characteristics/adaptations (burrowers, swimmers, shell-bearers, suction foot creepers, scramblers, or more than one)

4. Those organisms run across, while predators try to tag them, hopping or running, depending on the tide. If prey makes it across the end line, they are safe until the next round.

5. If tagged, the prey’s remains decompose, becoming detritus. They will then lay down until tagged by another critter, at which time they will turn into eelgrass or kelp (their nutrients supported new plant growth!) and become a hiding place for other critters. Prey organisms may stand near eelgrass and kelp to rest. Predators may not tag a critter who is taking refuge in the eelgrass or kelp!

6. Stop play if all prey is tagged and on the ground, or at your discretion after several rounds. Change out predators at your discretion as well.

7. Gather together to discuss the game and what students experienced as predators and prey.

\*Modify as much as you’d like to address concepts of interest. Maybe your sessile animals really do sit in one spot and predators have to crack them open somehow.

NGSS Links:

**Science and Engineering Practices:** 2. Developing and using models

**Disciplinary Core Ideas**: LS2: Ecosystems Interactions, Energy and Dynamics

LS4: Biological Evolution: unity and Diversity

**Crosscutting Concepts**: 2. Cause and effect 4. Systems and system models

6. Structure and function 7. Stability and change