



# Activity 7: Zippy Zip-Loc Bag Aquarium

**Age:**

Grades 2 - 8

**Time:**

50 minutes

**Subject:**

Art, Life Science, Environmental Education.

**State Essential Learning Requirements**

Science: 1.2

Geography: 2.1, 2.2, 2.3

Arts: 1.1, 4.1

**Background:**

Estuaries are the keyhole through which all migrating salmon pass. Young salmon feed on crustaceans (shrimp) and plants which live around the eel grass beds near a shore. Most returning salmon feed on herring which spawn in kelp beds and stop eating once they reach the river.

**Procedure:**

First discuss what habitat aquatic animals must have in order to survive and thrive. Have each student think about the animal or animals they wish to design for their aquarium. Now have the students draw the substrate (sand, rocks, gravel, caves, etc. or some combination of these) on one side of the zip-loc bag. If they want to have animals which live below the substrate such as clams, they need to leave enough room at the bottom of the bag. On the other side of the bag have them draw their seaweeds, eel grass and other forms of cover (kelp). Use permanent marking pens!

Depending on the age of your students, you may want to do the next step beforehand. Trace and cut out an assortment of salmonids from the transparency film. Keep the animals small so they fit easily into the zip-loc bags. Have the older students design their own creatures. Before cutting them out (if possible) have the students color them with the permanent marking pens. Fine point pens work best. If you outline the animals in black, and then add color they will show up better in the aquariums.

Now fill the zip-loc bags to within about 1/2 inch of the top with the blue hair gel, about 3/4 to 1 inch thick\* so as to allow the illusion of depth. Now you have a miniature ocean! This will also separate the front habitat contour from the back and give a 3-D effect. Now have each student drop their animals into their tanks and seal.

The animals will drift around in the gel somewhat. If the Zippy Zip-Loc Bags are hung with clothes pins in front of a window and begin to warm, the animals will begin to move around in the gel and appear to be more actively swimming.

Use the completed aquariums as a lead-in to a discussion on conservation of habitat and how the students can become stewards of the marine realm.

**SUGGESTIONS:**

Include:

Kelp Beds: rocks for kelp to attach to

Herring

Eel grass beds: sand for eel grass to grow in, shrimp/crab

**NOTE:** \* The amount of hair gel you put in the bags can be cut down somewhat if the supply is limited. Students can make "low-tide" aquariums with about half the amount of gel it takes to really fill the bags.

**Overview:**

Students will design a mini aquarium of an estuary in a zip-loc bag. The design will include elements of the habitat, and the animals they choose to put in it.

**Objectives:**

- To construct a model aquarium demonstrating estuarine qualities that support salmon survival.
- To describe elements of estuarine habitat necessary for salmon survival.

**Critical Questions Addressed:**

1. Value of Salmon

**Materials:**

Sandwich sized zip-loc bags - 1 per student  
Permanent marking pens  
Write-On Transparency Film  
Blue Hairstyling Gel - About 7-8 oz. per student  
Pictures to trace or copy  
Scissors

**Resources:**

Wonders of Puget Sound (WDFW Resource Packet)

**Grade Level:**

This activity can be adapted to any grade level. Younger students may need help cutting out animals. With older students, the activity could be used to teach other ecological concepts such as the food web, or intertidal zonation.

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