



Invent an Invertebrate

Option 1: Make an invertebrate out of craft supplies

In this activity, students design and create an animal out of various items (including recycled or arts and crafts materials) that has special adaptations needed to survive the demands posed by its intertidal habitat. This activity has been adapted from New England Coastlines, New England Aquarium Education Department Curriculum Guide (1996).

Materials

- Miscellaneous art, craft or recycled materials, (i.e. pipe cleaners, toothpicks, foam packing, colored paper, cotton swabs, yarn, tubes, egg cartons etc).
- Invent an Invertebrate worksheet
- Markers and pencils

Methods

1. Have students brainstorm a list of the challenges an organism faces living in a coastal habitat. You may want to distinguish between challenges faced in any coastal habitat and challenges unique to specific habitats; for example: "avoiding being eaten — all habitats" vs. "avoiding being washed away by waves — rocky and sandy coast habitats."
2. Working with the materials provided, challenge students to design and construct a never-before-seen animal that is adapted to the conditions and challenges of a specific habitat.
3. Use the Invent an Invertebrate worksheet to describe the organism and its adaptations. Each student (or group) must tell the following things about their invented invertebrate:
 - Invertebrate name
 - Where it lives (upper or lower intertidal? Sandy, muddy or rocky beach?)
 - How it moves
 - What it eats and how it gets food
 - Who its predators are and how it avoids being eaten
 - How it stays moist when the tide is out
 - How it avoids being washed away by waves
 - How it reproduces

Discussion topics

- Why are adaptations important?
- How do animals use adaptations?
- What adaptations did you create for the new organism?
- How did you decide what to create?
- What factors did you consider?

Option 2: Act out an invertebrate using props

In this activity, students work in a team to act out an intertidal invertebrate. Students use their bodies and a variety of props and craft supplies to create an animal that has special adaptations needed to survive the demands posed by its intertidal habitat.

Materials

- Miscellaneous props or recycled materials, (i.e. ski poles, pots and pans, netting, cardboard, fabric, plastic tubing, or any items around the house).

Methods

1. Have students brainstorm a list of the challenges an organism faces living in a coastal habitat. You may want to distinguish between challenges faced in any coastal habitat and challenges unique to specific habitats; for example: "avoiding being eaten — all habitats" vs. "avoiding being washed away by waves — rocky and sandy coast habitats."
2. Working with the materials provided, challenge students to create a never-before-seen animal that is adapted to the conditions and challenges of an intertidal habitat.
3. Use props such as ski poles, fabric, netting, cardboard, metal pots, plastic tubing, or any items in your home, to turn one or more students in the group into an organism.
4. Groups of students present their organism and discuss the animal's adaptations to the intertidal zone.

Each group must tell the following things about their invented invertebrate:

- Invertebrate name
- Where it lives (upper or lower intertidal? Sandy, muddy or rocky beach?)
- How it moves
- What it eats and how it gets food
- Who its predators are and how it avoids being eaten
- How it stays moist when the tide is out
- How it avoids being washed away by waves
- How it reproduces

Discussion topics

- Why are adaptations important?
- How do animals use adaptations?
- What adaptations did you create for the new organism?
- How did you decide what to create?
- What factors did you consider?

Name _____

INVENT AN INVERTEBRATE

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I am called a: _____

My habitat is: _____

I was discovered by a scientist named:

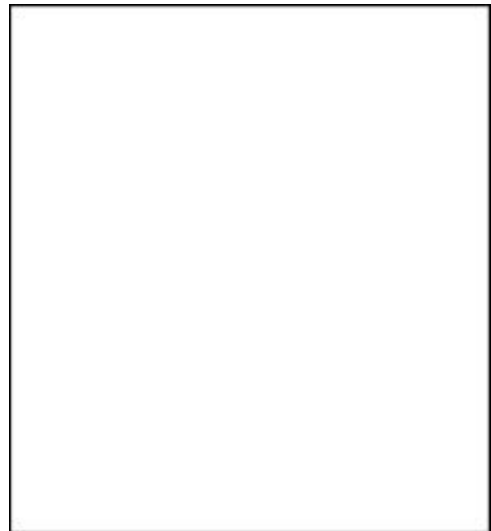
I get my food by: _____

Other adaptations I have are:

To avoid being eaten _____

To stay moist during low tide _____

To avoid being tossed by the waves _____



To move _____

Potential Stresses and Adaptations

Get Food	Avoid Predators	Water Turbulance	Change in Moisture
<ul style="list-style-type: none"> ● Graze ● Filter Feed ● Hunt ● Generalist ● Specialize ● Nematocyst (Stinging Cells) ● Pinchers ● Put out your stomach (like a star) ● Suspension feed 	<ul style="list-style-type: none"> ● Clump together ● Hide ● Hard Shell ● Dig ● Exoskeleton or shell ● Cling to rocks ● Defense chemicals ● Sting ● Run away ● Sacrifice and regenerate ● Camouflage 	<ul style="list-style-type: none"> ● Clump together ● Cling to rocks ● Dig ● Holdfast ● Byssal threads ● Complex life cycle ● Be flexible ● Thick shells ● Hydrodynamic shape ● Float 	<ul style="list-style-type: none"> ● Seal off ● Reduce surface area ● Move ● Find moist place ● Shut down body ● Mucus ● Clump up ● Dig
Temperature	Reproduction	Competition	Human Impacts
<ul style="list-style-type: none"> ● Clump ● Coloration (reflect or absorb heat) ● Seal off ● Special proteins ● Fats ● Surface area/volume ratio ● Dig 	<ul style="list-style-type: none"> ● Mass broadcast ● Budding ● Brood eggs ● Fragmentation 	<ul style="list-style-type: none"> ● Arms race ● Zonation ● Chemical signals ● Push others out of your area 	<ul style="list-style-type: none"> ● ?

