

Investigating Animals in Water

National Science Education Standards

- * Standard C: *Life Science*— Structure and function in living systems.
- * Standard C: *Life Science*— Reproduction and heredity
- * Standard C: *Life Science* — Diversity and adaptations of organisms.



OVERVIEW

In this activity students will “stake out” a study plot outdoors and record observations of small animal activity. Students will rotate roles including: Mapmaker, Recorder, Classifier, Counter/Estimator. They will also collect samples for close investigation back in the classroom

OBJECTIVES

Students will:

1. Recognize and identify some local water animals.
2. Predict and describe the habitats where water animals can be found.

SUBJECTS

Science, Language Arts, Art

VOCABULARY

Adaptations, domesticated, habitat, insects, larvae, mammals

TIME

90 minutes

MATERIALS

For each group: underwater viewer, kick sampler, sweep net (illustration following), copies of “Water Animals Data Sheets I and II”

ACTIVITY

1. *IN CLASS:* review the five kingdoms. Remind students there are many members of the animal kingdom that are very small and seldom seen by humans. Challenge the class to list some tiny animals that (*mice, minnows, insects, snails, spiders, worms, etc.*)

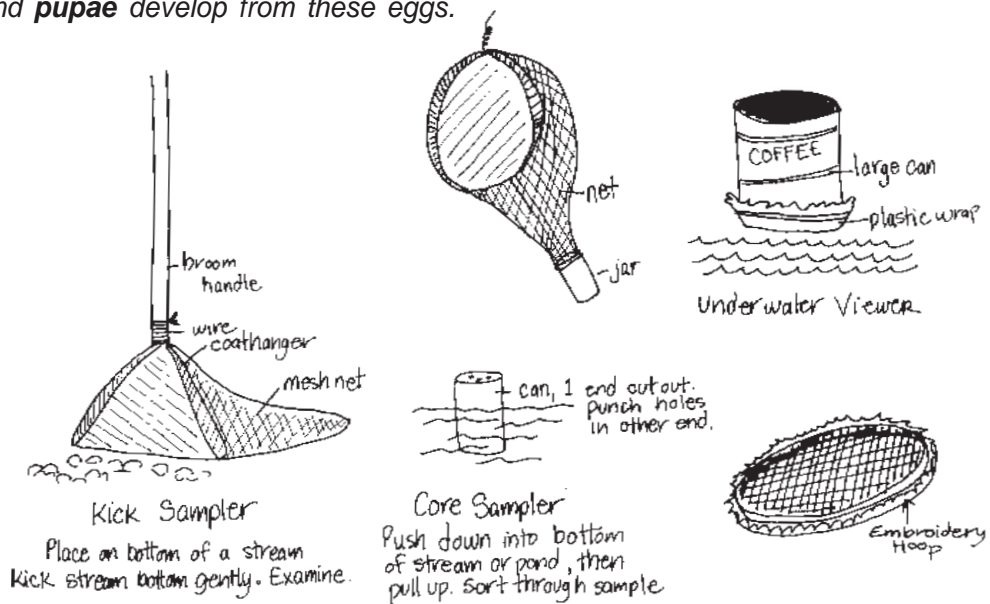
2. Discuss what kind of habitat or environment would be safe for very small animals. Lead the discussion toward life in ponds, streams, **wetlands**. *Each wet area in Alaska erupts with young invertebrates (animals such as worms and insects that have no backbone) each spring as ice thaws. These invertebrates are food for fish. Who eats fish?*

3. Explain the students will become scientists, looking for animals in the water. *Many of the easily recognizable flying insects in Alaska such as mosquitoes and dragonflies lay their eggs in water. Larvae and pupae develop from these eggs.*

4. *OUTDOORS:* in groups, students place the underwater viewer on the water surface and look for fish, insect larvae, worms, or other creatures. Record the invertebrates that they see on the "Water Animals Data Sheet I" under the column "Surface Sample."

5. Students pick up rocks both at the water's edge and in the water and look on the underside of them. *Remind students to put the rocks back in the same place so the animals that live there will still have their home.* Record any evidence of water animals on the "Water Animals Data Sheet I" under the column "Bottom Sample."

6. One student from each group places the kick sampler at the bottom of a stream with the open end facing the current. Another student "kicks" or disturbs the rocks upstream from the sampler.



ACTIVITY (continued)

7. Take the sampler out of the water and check for invertebrates. Students describe and record the invertebrates on the "Water Animals Data Sheet I" under "Kick Sample." *Be sure to treat the creatures gently and to return them to their homes after examining them.* Check field guides to help identify insect larvae and other invertebrates.

8. Use the "core sampler" to examine animals that live in **sediments**. Each group pushes the can into the bottom of a stream or pond and then pulls it up. Sort through the sample for invertebrates. Describe and record creatures on the "Water Animals Data Sheet I" under the column "Core Sample."

9. When all groups are together, discuss any similarities they found among their water critters. Identify any features that have helped water critters to adapt to their environment.

10. Discuss the habitat of these small animals, focusing on elements critical to their survival. How might human activity affect this environment?

EXTENSION

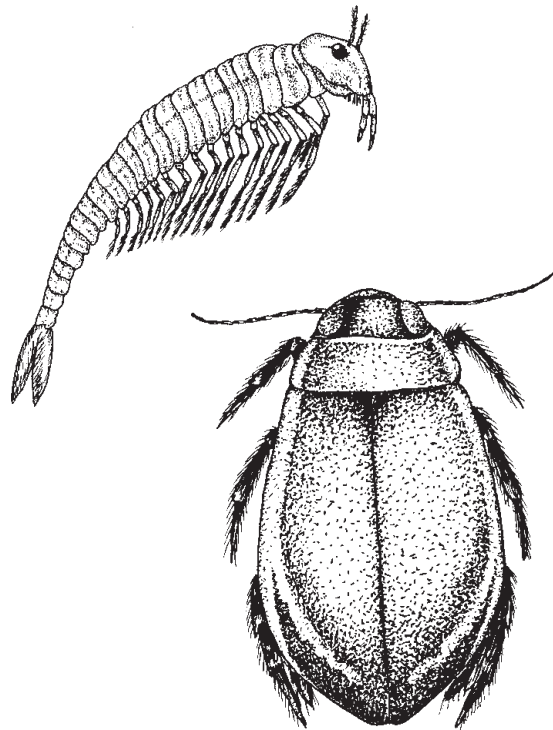
Predict and calculate density. Predict the number of animals in the water by estimation. Students measure the volume of water or sediment that they collected in a measuring beaker or a graduated cylinder. Count the number of organisms found in that sample. Students might also count the number of organisms found per rock examined. Record the number of organisms located per unit area.

ASSESSMENT

1. Complete the "Water Animals Data Sheet I and EE" and describe where water animals can be found in the local environment.
2. Identify some local water animals and describe their role in your ecosystem.

CREDITS

This activity is adapted with permission from Alaska Wildlife Curriculum. AWC is a program of the Alaska Department of Fish and Game, go to www.wildlife.alaska.gov for more information about this environmental education curriculum.





Student Page

Water Animals Data Sheet II

ANIMAL DRAWINGS

Animal # _____ Name _____

Animal # _____ Name _____

Animal # _____ Name _____

Animal # _____ Name _____

Animal # _____ Name _____

Animal # _____ Name _____

Investigating Animals in Water?

America's Rain Forests