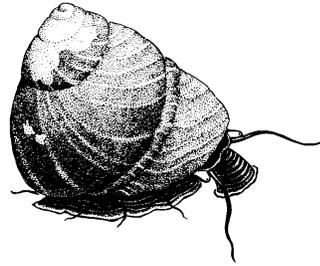


Bubble Observations



Topics

Adaptations, Habitat

Grades

PreK-5

Site

Indoors, Outdoors,
Aquarium

Duration: 30 minutes

Materials

Per student:

- "Bubble Pack" (one zipper lock bag with three different-colored paper bubbles and pencil)
- Nonfiction resource materials
- Watercolors, crayons, colored pencils or markers
- Scissors
- Glue
- Writing paper (optional)

Vocabulary

adaptations

National Science Education Standards

Science as Inquiry (K-4) (5-8)

Abilities necessary to do scientific inquiry

Life Science (K-4)

Characteristics of organisms
Organisms and environments

Life Science (5-8)

Diversity and adaptations of organisms

Overview

What physical structures and behaviors do marine animals have to survive in their habitat? Students make observations of animals using nonfiction resources or when visiting an aquarium. They select one animal, learn about its habitat and physical structures and write their observations on paper "bubbles." Students then create language arts projects with their "bubble observations."

Objectives

Students will be able to:

- Make and record observations about plants and animals.
- Identify various physical structures and behaviors that plants and animals have to help them survive in their habitat.
- Create various language arts projects using science content vocabulary words.

Background

An animal's habitat is made up of living and nonliving things. Nonliving things include rocks, water, sand, soil and sunlight. Living things include plants and animals.

Plants and animals have physical structures that improve their chance for survival. Plants have leaves, stems and roots that transport water and minerals. Animals have body parts, such as paws, fur or claws, that help them move, keep warm or eat. Camouflage helps an animal blend in with its surroundings.

Animals have behaviors that may help them find food (swimming, digging) or avoid predators (hiding, holding still). Physical structures and behaviors that help an organism survive are called **adaptations**.



VOCABULARY

Adaptations: an organism's physical structures or behaviors that aid its survival



ELL TIPS

Provide visual scaffolding for English Language Learners to develop new vocabulary.

Post new vocabulary on a classroom word wall and be sure to include images with the new words.

Teacher Preparation

1. Gather materials to construct one "Bubble Pack" per student. Trace the bottom of a cup or other circular object on colored poster board or construction paper. Cut out the paper "bubbles." Make enough for each student to have three bubbles, each a different color. One color will represent an animal's habitat, one will represent its physical structures (e.g., body parts, camouflage) and the third color will represent an animal's behaviors.
2. Place bubbles and a pencil into a zipper lock bag to make individual "Bubble Packs."

Procedure

1. **STUDENTS EACH CHOOSE AN OCEAN ANIMAL TO RESEARCH OR OBSERVE.**
Provide nonfiction resources about ocean habitats and animals to students or take them on a field trip to an Aquarium. Have each student select a habitat and one animal that lives there to observe and investigate. (Younger students may choose one animal to study together as a class.)
2. **STUDENTS RECORD FACTS ON THEIR BUBBLES.**
Pass out "Bubble Packs" to each student. Have students write information about their animal's habitat, physical structures and behaviors on the appropriately-colored bubble (e.g., describe the habitat on the red bubble, the physical structures on the yellow bubble and the behaviors on the blue bubble). Decide if you want them to write one or a few words (examples: spines; sticky tube feet) or a complete sentence (example: The sea urchin uses its long and sharp spines for protection.). For younger children, you or a parent may want to write the words for the students.
3. **VISIT AN AQUARIUM.**
If possible, visit an aquarium to observe the selected animals. After observing the animals for 5-10 minutes, give each student a "Bubble Pack." Have the students write additional observations on bubbles or in their science notebooks. Collect the packs before leaving exhibit areas.
4. **STUDENTS USE BUBBLE OBSERVATIONS IN A LANGUAGE ARTS PROJECT.**
Students can use their observations to do a language arts project.
 - **K:** Use letters and phonetically spelled words to write about their animals and habitats. Discuss fantasy versus realistic text. Words may be added to a Word Wall or an ocean mural.
 - **1st:** Use descriptive words to write a brief expository description of a real object (animal) and place (habitat), using sensory details. Make a bubble mobile for their animals.
 - **2nd:** Write a friendly letter about their animal and its habitat complete with the date, salutation, body, closing and signature. Invite the letter recipient to ask the student writer questions about the animal.
 - **3rd:** Write a single paragraph about their animal and its habitat. Write a personal invitation to a relative or friend, inviting them to visit their animal at the aquarium or read about it in a book.

- **4th:** Use bubble topics to create an outline for their animals to use in writing a multiple-paragraph composition on an “Ocean Survivor” or use bubble facts to make an ocean animal poster.
- **5th:** Write research reports, persuasive letters or compositions. For example, based on their observations, students choose one physical structure or behavior they would want as an ocean animal. Students then write a persuasive composition, using their “bubble observations” as reasons for their choice.

5. STUDENTS SHARE THEIR PROJECTS WITH THE CLASS.

Have students present their projects in groups or as a class.

Extensions

- Have students make collages by using pictures of animals from old calendars or drawing their animal on poster paper and hanging their bubbles from the pictures or drawings. Then hang completed collages in the classroom. You may also have them each create a mobile using the bubbles and a picture of the animal.
- Do a “Bubble Observation” investigation of your schoolyard, local park, zoo or nature center.
- Give each student an index card and have them draw their animal on it or write its name. Next have students write a physical structure or behavior on an index card that describes their animal. Use the index cards to play variations of the game “Memory” or “Concentration.” Students have to match the animal to its physical structure or behavior.
- Pass out sentence strips. Have students draw their animal on one side and write a sentence describing the animal on the other side. Display the sentence side and have students guess which animal the sentence describes.

Resources

Website

Monterey Bay Aquarium. www.montereybayaquarium.org

Visit the Monterey Bay Aquarium website for information about animal habitats, physical structures, behaviors, diets, ranges and other cool facts.

Books

A Field Guide to the Monterey Bay Aquarium. Monterey Bay Aquarium, 1997.

A Natural History of the Monterey Bay National Marine Sanctuary. Monterey Bay Aquarium, 1999

Sea Searcher's Handbook. Monterey Bay Aquarium, 1996.

Young Explorer's Guide to Undersea Life. Armstrong, Pam. Robert Rinehart Publishers, 1996.



CONSERVATION TIPS

Add a fourth bubble for collecting conservation information about their chosen animal. What human-introduced challenges might the animal be facing?

**THE MISSION OF THE
MONTEREY BAY
AQUARIUM
IS TO INSPIRE
CONSERVATION OF THE
OCEANS.**

Standards

California Science Standards

Kindergarten: 2a, b, c; 4a, b, e

Grade 1: 2a, b, c, d; 4a, b, e

Grade 2: 2a, b, c, d; 4d

Grade 3: 3a, b, c, d; 5b, e

Grade 4: 2a, b; 3a, b; 6a

Grade 5: 2f, 3a; 6a, g, h, i

California Language Arts Standards

Reading

Writing

Written and Oral English Language Conventions

Listening and Speaking

Head Start Framework

- Understands an increasingly complex and varied vocabulary.
- Develops increasing abilities to understand and use language to communicate information, experiences, ideas, feelings, opinions, needs, questions and for other varied purposes.
- Observe, describe and discuss natural world, materials, living things, natural processes.
- Collect, describe and record information through discussion, drawings, maps, charts.

