



Our Classroom Estuary

Classroom Activity



Ecosystems are everywhere in nature. It is a place where living things, such as plants and animals, and nonliving things, like the sun and water, interact. Ecosystems can be any size. Upper Newport Bay is an ecosystem known as an estuary, a place where freshwater and salt water meet and mix together.

SYNOPSIS

Using illustrations, index cards and butcher paper, students will create a model estuary.

OBJECTIVES

Students will:

- begin to familiarize themselves with the diverse living and nonliving components of an estuary.
- work in groups to create a visual classroom representation of the locations of these components in the Upper Newport Bay estuary.

VOCABULARY

- estuary
- ecosystem
- food chain

MATERIALS

- glue
- scissors
- index cards
- butcher paper 5' x 5'
- crayons or markers
- Map (on following pages)
- Estuary Illustrations (on following pages)
- Venn Diagram (on following pages or in student notebook)
- Optional: tagboard, blocks

NOTE: It is recommended that you familiarize yourself with the background information in this section before proceeding.

PROCEDURE

1. Give each student a copy of the Venn Diagram. Have them complete a comparison of saltwater and freshwater ecosystems.
2. Have the students cut out Estuary Illustrations and the left over index cards into 1/2" x 4" strips. These will be used as the base or "stand" for each index card. (If you have a set of wood blocks, you may tape the index card to the block instead of using a paper stand.)
3. Place Estuary Illustrations in a bag to be used later.
4. Begin the lesson by explaining to students that they will create an estuary; a particular type of ecosystem. Define estuary and have the students name some characteristics of an estuary.



Our Classroom Estuary

Classroom Activity (cont.)



PROCEDURE (continued)

5. Have students randomly select Estuary Illustrations from the bag. Allow them to color the illustration and glue it to an index card.
6. Help the students make a small cut in the index card and insert a 1/2" x 4" strip as a base.



7. Have students work in groups to draw an estuary outline on the butcher paper, using markers or crayons (Variation: teacher or student volunteers prepare the map in advance.)
8. Have students work in groups to place their estuary pieces on the butcher paper. Each student should be able to offer an explanation as to why he or she is placing the item in a particular place. Allow students to discuss as a group (i.e., is it close to a food or water source?). The map can be posted for students' reference.

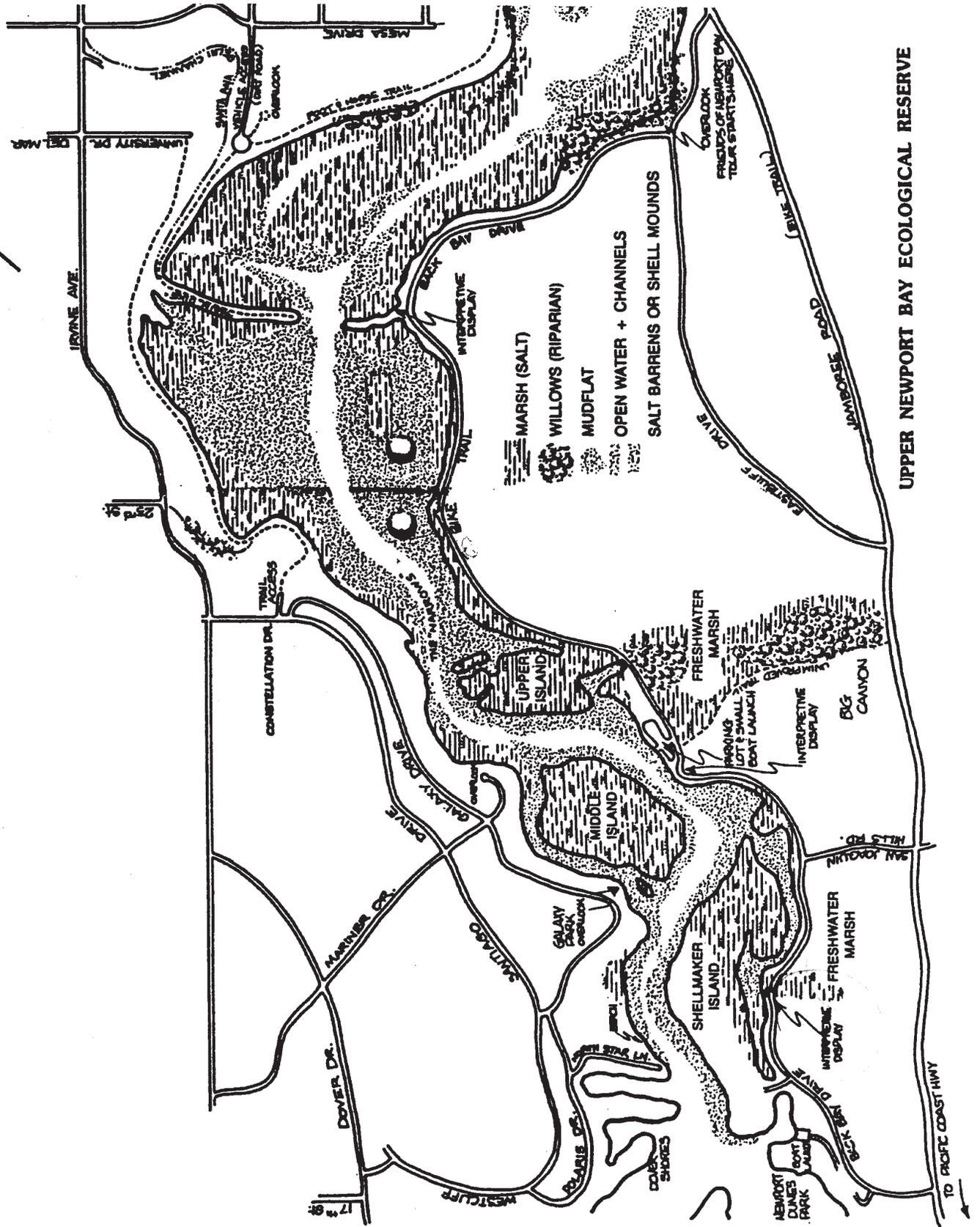
CHECK FOR UNDERSTANDING

Generate a class discussion about the project. The following questions from the may be used to initiate the discussion:

- What have we just created?
- What is an ecosystem and how do organisms interact in ecosystems?
- How do ecosystems change?
- What if we removed an item from our estuary? (Choose at least one nonliving and one living item to remove.) How would this affect the ecosystem?

EXTENSIONS

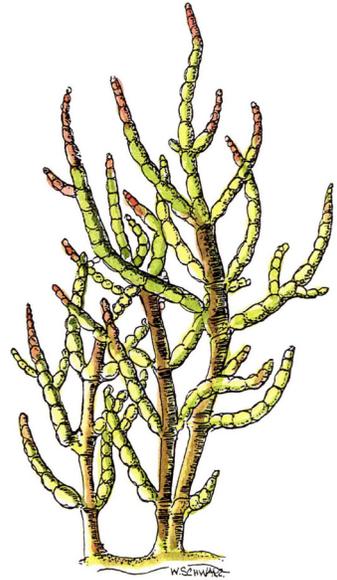
- Display the project on a bulletin board. Staple or pin the index cards to the butcher paper and add a creative title. This may be displayed at Open House.
- Have the students research other plants and animals to add to their estuary.



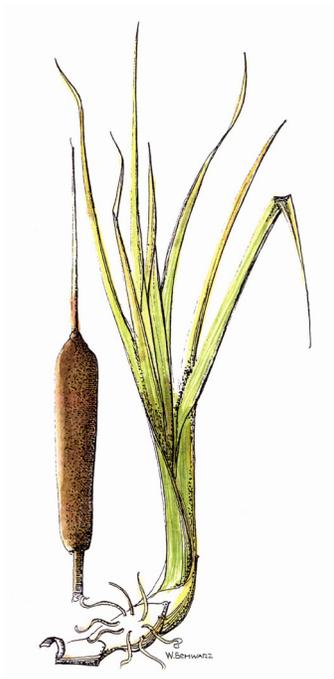
UPPER NEWPORT BAY ECOLOGICAL RESERVE



salt grass



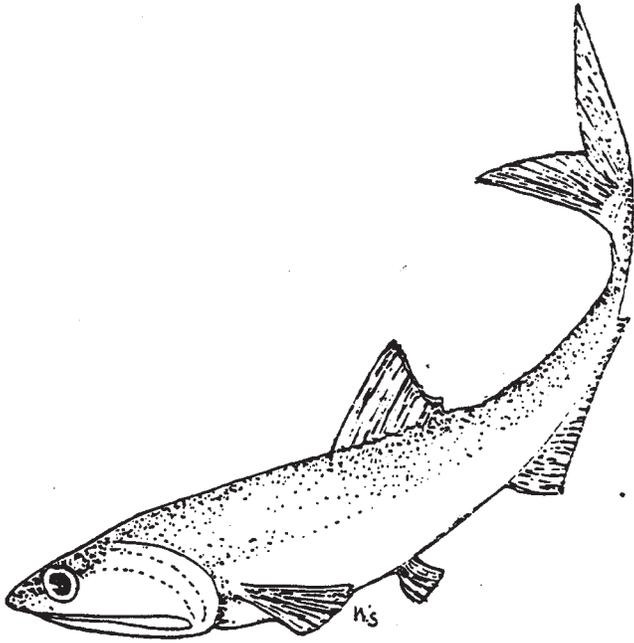
pickleweed



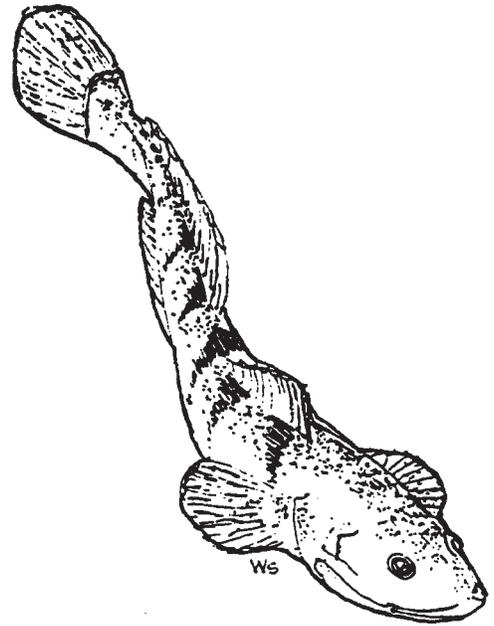
cattail



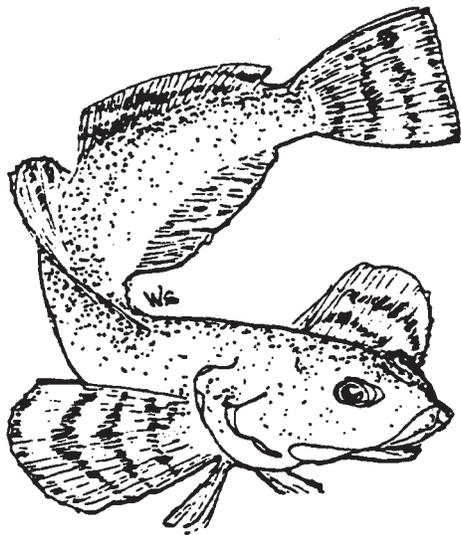
cord grass



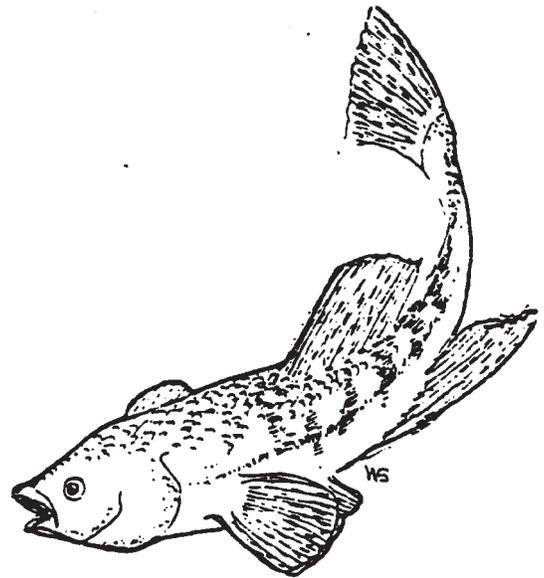
anchovy



**long-jawed
mudsucker**



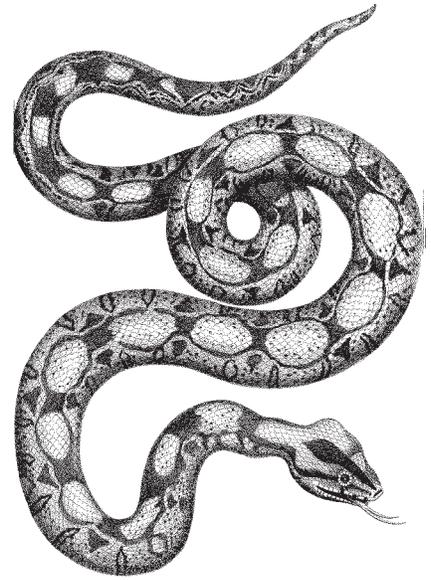
sculpin



killifish



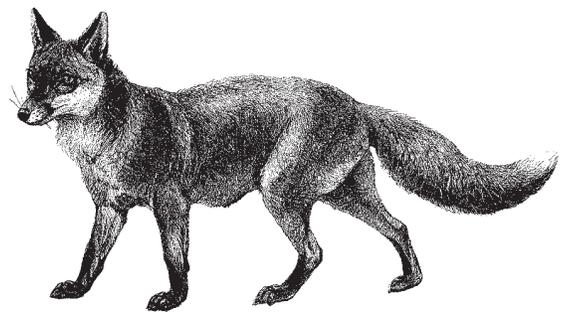
American Avocet



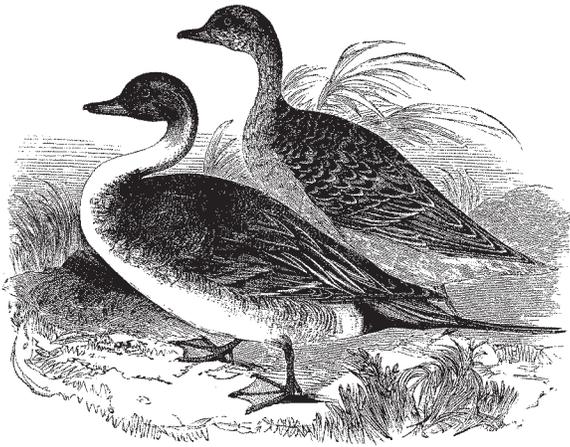
gopher snake



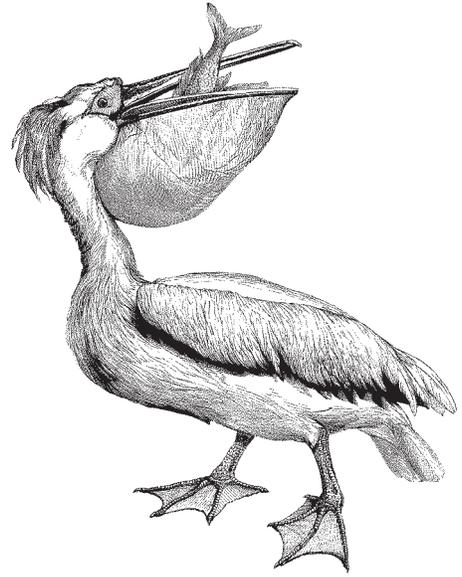
frog



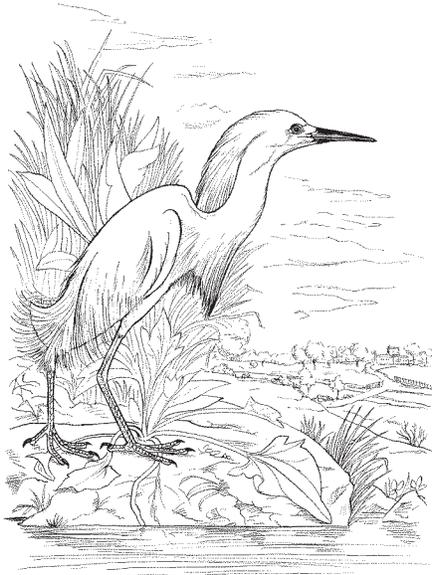
gray fox



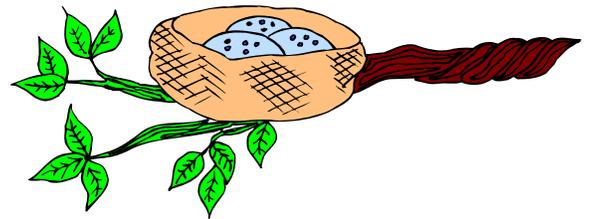
Pintail Duck



Pelican



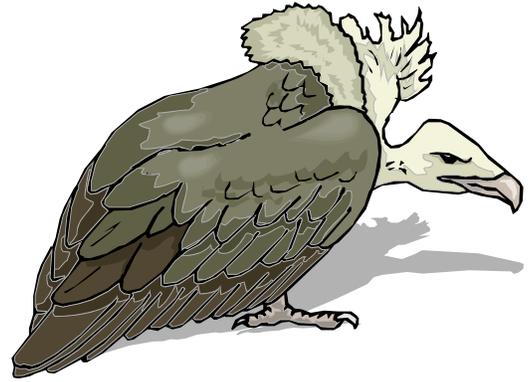
Snowy Egret



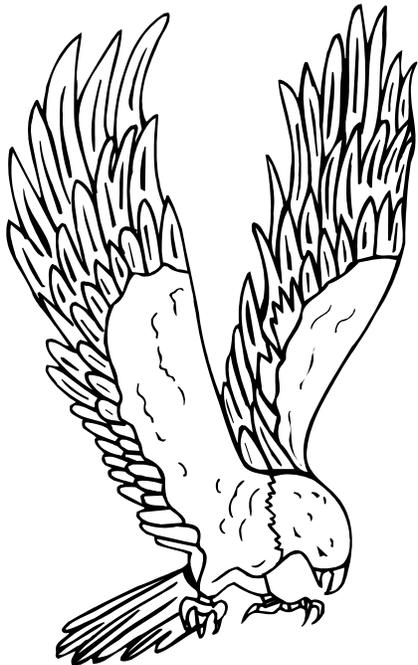
bird eggs



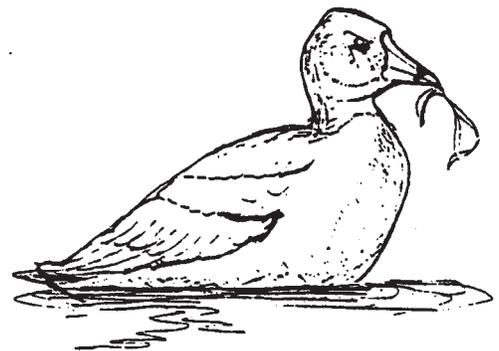
Great Blue Heron



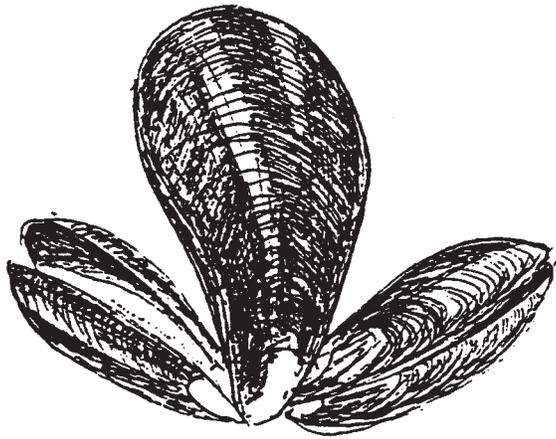
Turkey Vulture



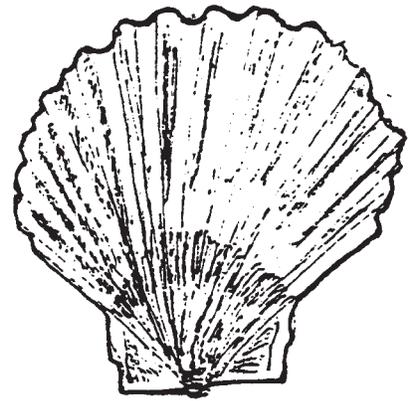
Red-tailed Hawk



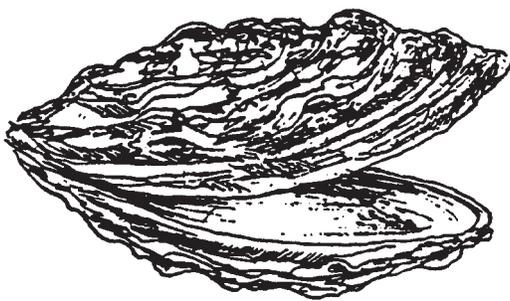
American Coot



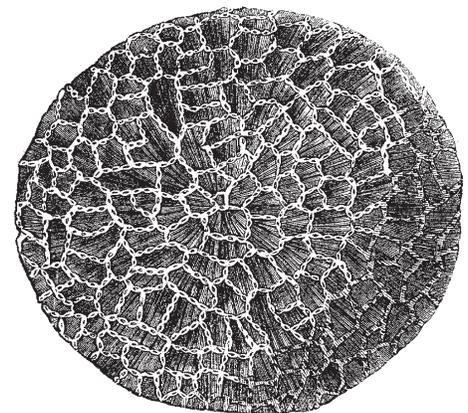
mussels



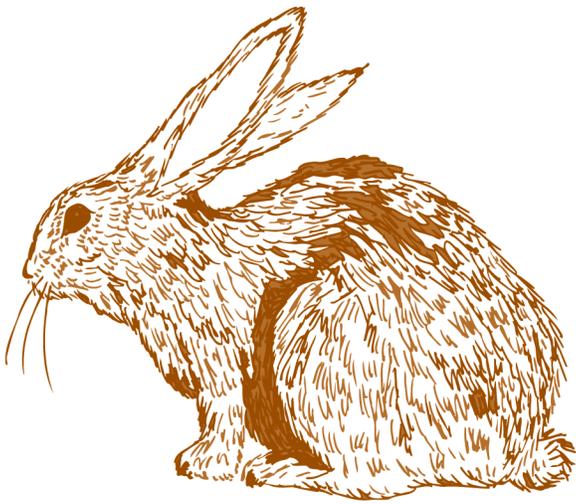
scallop



oyster



plankton



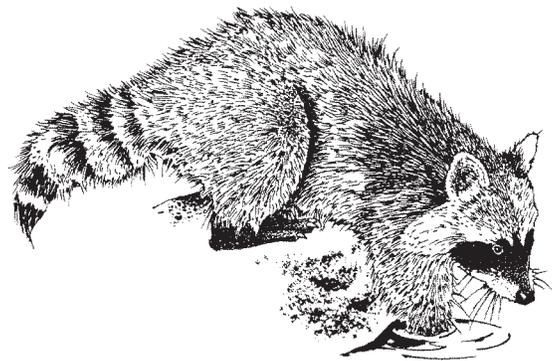
cottontail rabbit



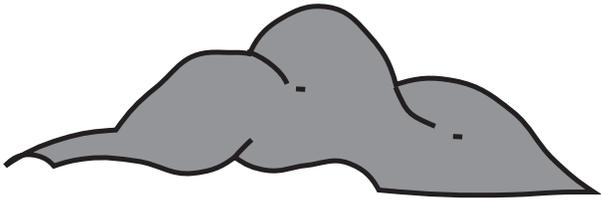
skunk



coyote



raccoon



soil



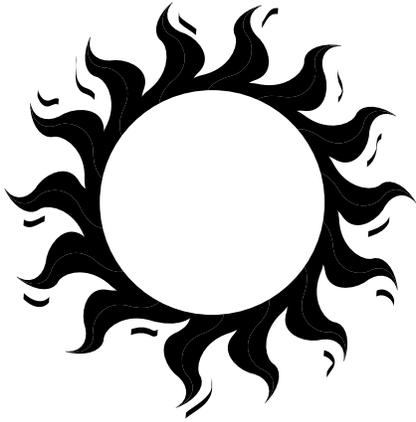
trash



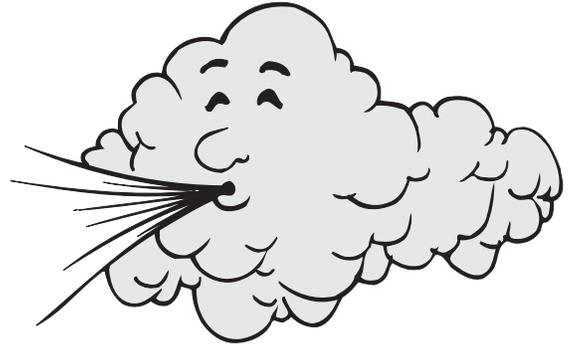
homes



motor oil



sun



air



freshwater



saltwater

What's in an Estuary?

SALTWATER
items found in an ocean

ESTUARY
items found in an estuary

FRESHWATER
items found in freshwater

