Objectives:

To help students:

- Recognize that a large part of the earth's surface is water (Activity 1).
- Discover that ocean water is salty (Activity 2).
- Learn that tides operate "on a clock" (Activity 3).
- Tell how sand and rocks can be moved by ocean waves (Activity 5).
- Finger paint the power of an ocean storm (Activity 5).
- Make model boats similar to ocean craft (Activity 6).
- Learn about people who make a living from the sea (Activity 7).
- Taste a variety of seafoods (Activity 8).
- Recognize through a trip to the seashore, and through pictures and poems that the ocean is beautiful and deserving of respect.
The Ocean: Clockwise from upper left: Killer whale, silver salmon, rockfish, plankton, squid, barnacles, starfish, haliotis, crab, sperm whale.
The sea is an integral part of Alaskan life. We turn to it for food, for transportation, for recreation, for inspiration. Every stream eventually meets the sea. And each year salmon follow the rivers inland.

"The sea covers 71 percent of the earth's surface. It was the cradle of life, and it still nurtures life. Every tear we shed is a reminder of our origin; indeed a coincidental 71 percent of the human body consists of salty fluids. Eight percent of the world's animals and 50 to 80 percent of the earth's plant growth come from the oceans. Its green one-celled plants--phytoplankton--supply more than half of the atmospheric oxygen that sustains life."


The sea is more than just interesting; we depend on it for life. And it depends on us for life; for while the oceans are the earth's most vast resource, they are also a fragile resource. Children who learn to appreciate and respect the oceans today will be the adults responsible for keeping the oceans safe and productive tomorrow.

Activity 1
Sea Size

Vocabulary:
- shore
- ocean
- sea
- shoreline
- coast
- seacoast
- beach
- seashore

Materials:
- crayons
- globes or wall maps of the world
- Sea Week Activity Book (Page 107)
- worksheet:
  ...Bottom of the Ocean (1-A)

Procedure:

1. Introduce students to the idea that the globe represents what our world looks like and that it is divided into land and water. It may help to point out to children the area which is the "lower 48." Also point out Alaska.

2. Turning attention to the oceans, have students (One globe per four youngsters works best.) trace with their
fingers the edges of the ocean so that they have a good idea of which area is ocean and of how large it is.

3. Still using the globes or maps, ask the children:

Is there more land or more water?
(The sea covers 71 percent of the earth’s surface and that figure doesn't include lakes and rivers.)

What else would you like to learn about the ocean?
(Take notes or make a list on the board to help guide your study in the rest of the unit.)

Where do the land and water touch?
(The word "shore" means the edge of the sea. The word "shoreline" describes the long line of the shore. Other possible words to use are beach, seashore and seacoast. If the children are unfamiliar with these terms, introduce them gradually. Perhaps start a list of vocabulary words. See if the children can say "she sells seashells down by the seashore" slowly at first, then rapidly.)

What do you think is under the oceans?
(The "ocean floor" is the name for the bottom of the ocean.)

What do you think it looks like on the ocean floor?
(There are many features on the ocean floor similar to those on land—mountains, valleys, plains—but the kinds of plants and animals are all different.)

Do you think it is light or dark at the bottom of the ocean?
(In the depths, it is very dark and cold. Sunlight can penetration only short distances. Light disappears not all at once, but gradually, color by color. First to go is the red light, at about 60 feet. By 1,000 feet all that is left is some weak blue light. Below 1,700 feet the water is pitch black, at least to human eyes. Some fish have huge eyes to detect the faintest glimmer of light. Other fish, and some shrimp are blind, while still other fish carry their own flashlights.)

4. Tell the children that they will have a chance to make a Sea Week Activity Book as a record of their ocean studies. Have them color the Sea Week Activity Book cover. They might want to write a class fantasy story about the boy and octopus on the cover. Ask them to compare the boy riding the octopus to their own ocean adventures.
Remind them that real adventures sometimes can be more exciting than make believe.

5. Have students color the Bottom of the Ocean worksheet. Explain that they may want to color their picture black at the bottom since it's so dark down there. The ocean in some places goes much deeper than the tallest mountains rise high. Would they like to add some additional fish?

Additional Activities:

1. Art: Have students draw or paint their own versions of what they think it's like at the bottom of the sea.

2. Language Arts: Make a "story chart" based on the children's drawings of the bottom of the sea - each picture being an episode.

Activity 2
Salt

Vocabulary:

- salt water
- fresh water
- sea water

(Note: These are noun forms. When written as adjectives, the words are joined: saltwater, freshwater, seawater.)

Materials:

- sea water (or salted water) -- boiled the day before for ten minutes as a health precaution
- tap water
- two small containers per group of four children
- two shallow pans

Procedure:

1. Before setting out the containers of tap and sea water, ask the children to predict whether or not they will find a difference between the two kinds of water. If they are not sure that there will be any difference, encourage them to think about experiences they have had with fresh water (baths, drinking fountains, streams) and with
sea water, and see if such remembrances bring to mind any differences.

2. Divide the class into small groups of four and give each group one container with tap water and a second container with sea water. The containers should be marked with masking tape so that only the teacher can tell by the marks which is which.

In the following order, have students look at, feel, smell and taste the two samples. As they do, ask the following questions about each one:

Can you tell by looking at the water which is sea water and which is from the tap?

Can you feel a difference in the two? How does each one feel?

Can you tell by smelling which is which?

Can you tell by tasting which is which?

3. After all the children have used their senses to examine the samples, tell them that sea water is also called salt water. Can they tell you why? Make a chart with the children about the differences in how salt water and fresh water can be used. Label one half fresh water and label the other half salt water. Brainstorm and list all the differing uses they can think of. (Land plants and animals—including man—must have fresh water in order to thrive and survive, but fresh water may be lethal to sea plants and animals that require a salt water environment!)

4. Now pour tap water in one shallow pan and an equal quantity of sea water in another. Over a three-day period, observe what happens. Each day have students look at what is left in each pan. On the third day have them taste what is left in the pan containing sea water. Explain that when water evaporates from the ocean, the salt is left behind.
Activity 3
Tides

Background:
The best way for students to understand tide is to observe it at the beach. Tides also can be shown in the classroom on a beach mural or imaginary "wall ocean."

Tides are the regular rhythmic rise and fall of great bodies of water. They are caused by the gravitational pull of the sun and moon. The moon is much closer, so its pull is about twice as strong as that of the sun. Oceans facing the moon bulge toward the moon, and the oceans on the other side of the earth bulge toward the sun.

Thus there are two regions of high tide at the same time - but the one on the moon side is the highest. Between high tides are the oceans from which the water is drawn to make them, creating low tides in those areas. Southeast and South-central Alaska have two low tides per day. Western Alaska has one low tide a day. And in Northern Alaska, tides are barely noticeable at all!

Vocabulary:
- tide

Materials:
- stake or stick
- masking tape
- felt tip marker
- beach mural
- tide table as a teacher reference
- worksheet
  ...Tide (1-B)

Procedure:
1. Take a trip to the beach, using the following Field Trip Activity Card:

Tide

Leader: Observe the level of the water when the group arrives. Push a stake or stick into the beach at the water's edge. Check it every hour to observe what has happened to the water level. Ask the children if the tide is coming in or going out. Encourage them to imagine what will take place:
- Will their toes get wet?
- Will they have to swim for higher ground?
- If the tide is going out, how far out do the children think they'll be able to walk? What will they be able to see that can't be seen now?
2. Back in the classroom, put a six-foot strip of wide masking tape vertical on a wall. Mark it at one foot, two feet, and so on. Use a tide table (available from banks all over the state) to portray the hourly rising and falling of the tide. The children might have to learn to swim quickly!

3. Use the Tide worksheet to talk about the effects of the tide on life along the coast. If possible, take some pictures of local landmarks at low tide and high tide to show the children.

Activity 4
Waves

Background:

The water at the top of the ocean is called the surface. Wind blowing against the surface causes waves. Large waves can cause great damage and change the appearance of beaches. Even small waves are capable of exerting great force. If your beach is quite calm, you might be on the lookout for a passing boat that will create waves to show the children.

Vocabulary:

- waves
- wind
- storm
- calm

Materials:

- large basin
- sand
- water
- sandpaper
- small rocks or pebbles
- magnifying lens

Procedure:

1. Place the sand and some of the pebbles or small rocks in the bottom of the basin. Add the water. Now have the students make their own waves. Do the "waves" change the appearance of the
ocean bottom? (Beaches are steeper in the winter due to the constant waves and storms. The beach slope evens out in summer when the waves are smaller.) Are the pebbles round or sharp? Smoothness means that the water has rounded the edges. How much work would it be for one of us to smooth or round a rock? Would the children like to try to wear an edge smooth with sandpaper?

2. Field Trip Activity Cards:

Sand

At the beach, watch the waves coming in. Ask the children:

- How many are there?
- How big are they? What do they do as they come in? (They roll over.)
- Can you do that too?

Let the children jump in the waves or run back and forth as the waves go in and out. Examine any stones and boulders on the shore and note how smooth they are.

- What might have made them so smooth? (Water rubs them against the sand.)

Have each child pick up a handful of sand and let it run through their fingers. Ask what they think sand is and where it came from. Tell them that sand is created by the constant force of the sea grinding up shell and rock. Take a small sample back to look at with a magnifying glass or under the binocular scope.
Mud

Have the children pick up some mud. Rub it back and forth. Ask them:

- What does it feel like?
- Where did this come from? There must be a river near by that the mud particles (silt) floated down as it came off (eroded) from the river banks and hills. Then that mud in the water (silt) settled out right here. What stories do you think it would tell if it could?

Waves

Bundle the class up in lots of warm clothes and rain gear and take them to the shore on a stormy day to observe the power and excitement of the waves first hand. Waves are capable of tossing great logs and other debris into the air, so although the sea is impressive under storm conditions, keep students well away from the water itself. Ask the children:

- How high are the waves?
- Do you see anything floating in the water?
- Which way is the wind blowing?
- How is today different from your last trip to the beach?
- Do you like it better? Why?

Additional Activities:

3. Art: Try to capture the force of the storm with finger painting.
4. Language Arts: Write a class story or poem on the chalkboard about a beach-storm and its wind, waves, sand and rocks. Then act it out.
Activity 5
Travel

Vocabulary:
- ferry
- kayak
- canoe
- skiff
- raft
- umiak
- barge
- tanker
- port
- starboard
- bow
- stern

Materials:
- globe or wall map
- driftwood, sticks, wood scraps, and toy boats
- large basin of water
- paper
- scissors
- string
- knives (for adults)
- glue
- worksheet:
  ...The Song, "Barges" (1-C)

Procedure:
1. Help children understand the importance of ocean travel by discussing some of the following ideas:

   Early people living in Alaska traveled by boat. Why? (It was easier and faster than walking. Have you ever tried walking with a pack through thick bushes?) Would you rather carry a load or put it in a boat? What kinds of boats might early Alaskans have used? (Examples: canoes, rafts, kayaks, umiaks.)

   What kinds of boats do we use in Alaska today for travel? (Examples: ferries, barges, canoes, skiffs, fishing boats, kayaks, umiaks.) Can you name any of the state ferries or riverboats?

2. Make some boats out of wood, bark, paper with the help of parents or older students. Test them in the basin. Simulate waves and wind. Compare the way sticks and driftwood move through the water. Load the boats with "food, fuel and supplies" for the trip to Alaska.

3. Write a class story about the trip over water to your community. Use the globe or wall map to show the children the routes the boats would
travel. Maybe the next time the children go to a beach, pond or river, they can launch their boats!

4. Learn some nautical terms: part, starboard, bow, stern. Play a version of "Simon says" using the terms.

Additional Activities:

1. Social Studies: Arrange for the class to go aboard one of the state ferries, riverboats or barges when they are docked in your community. Ask someone to show your students around the ship. Work with them ahead of time if possible so students can be prepared and looking for the wheelhouse, engine room, cooking and passenger areas.

2. Language Arts: Do a language experience chart on your trip to the ferry: what you saw, what you did and how you felt.

3. Art: Have children draw or paint a picture of a way of their favorite kind of ocean travel or create a class mural on ocean voyages.

4. Collect boating magazines and have the children cut out pictures of the different boats. Then discuss their present and past uses.

5. Music: Learn the song, "Barges," or other sea songs.

Activity 6
Lifestyles

Vocabulary:

- fisherman
- scientist
- diver
- crew
- harbor master
- Coast Guard Officer
- sailor
- marine supplier

Materials:

- pictures of people who make a living from the sea
- construction paper
- felt tip markers

Procedure:

1. With the help of the class, make a list on differently colored word cards of kinds of people who make a living from the sea: fishermen and women, scientists, divers, sailors, harbor masters, crew members - even grocery store owners in fishing towns.

2. Talk about what each of these about any who are represented specifically in your
community. Encourage children to talk about their parents or people they know whose jobs are tied to the sea.

3. Make a bulletin board with all the pictures and word cards for the different jobs. Have the children draw their own pictures, or use pictures from magazines or Polaroid photos.

Additional Activities:

1. **Social Studies**: Invite one of these people to come to your class and show some of their gear, clothes, and equipment. Have them tell the children about some of their adventures. Have the children pretend that they have an ocean-related job (such as your speaker's). What would they do each day?

2. **Social Studies, Science**: Take a field trip to:

   - a fishing vessel to see the gear and the fish hold, to learn how the fishing is done and what it is like to be a fisherman.

   - a state or federal laboratory facility to find out what kind of research is conducted in relation to the sea.

   - a state ferry to find out how the crew members live, when they work, and what their jobs are.

   - a marine supply store to discover what is sold and how the items are used.

   - a marine or a boat harbor to talk to the owner or the harbor master about the problems of taking care of so many boats.

3. **Art, Language Arts**: Make a mural or individual books based on what the class has learned about lives that are related to the sea. Make pictures of such activities as people fishing or a ferryboat loading.
Activity 7
Food

Vocabulary:

- seafood

Materials:

- foods from the sea
- community and parent assistance

Dear Parents:
We will be having a seafood potluck April 25th from 12-1 p.m. Please come and bring a seafood dish for students to try.

Procedure:

1. Arrange to have an assortment of foods from the sea brought to school for the children to taste. Involve students in the preparation, perhaps even in the gathering, of the food. Encourage community members to share their knowledge with your class. Perhaps the tasting party could be an event to which parents are invited. Try to provide a variety fish, clams, crab, shrimp, mussels, and seaweed, and encourage the children to sample everything.

[NOTE: Paralytic shellfish poisoning (PSP) is a dangerous toxin sometimes present in Alaskan shellfish. It is recommended that any shellfish on the menu be purchased at a legitimate seafood outlet or obtained from a certified beach (Check with the Alaska Department of Fish and Game for a list of certified locations.). It's further recommended that you as teacher personally provide the shellfish for the menu, to insure the safety of the source.]

2. If possible, also bring in samples of seafoods purchased in the supermarket such as salmon, halibut, oysters, seaweed crackers. The tasting party could be based entirely upon materials from a store. The important experience is the tasting itself.
Activity 8
Beauty

Materials:

- pictures of beaches and the open sea
- poems about the ocean

Procedure:

1. At the beach, help children experience the beauty of the sea. During your visit, have them close their eyes and listen for the sounds of water, birds and wind. Have them smell the sea and feel the breeze. Have them sit quietly and observe and think about what they see. Perhaps later, in the classroom, you will want them to try to put their experiences into words or pictures.

2. Show beach and ocean pictures to the class. Write three descriptive words under each picture to tell how the class feels about the scenes.

3. Share one or more of the following poems with the children. Have the children dictate their own sea stories about the beauty of the sea and then illustrate them.

Until I Saw The Sea

Until I saw the sea
I did not know
that wind
could wrinkle water so.

I never knew
that sun
could splinter a whole sea of blue.

Nor did I know before,
a sea breathes in and out
upon a shore.

- Lilian Moore
An Ocean Lullaby

Our ship is a cradle on ocean's blue pillow;
Rest, little spirit, your head on your pillow!
Dream of the dolphin that leaps from the water,
Dream of the flying-fish, dear little daughter;
Dream of the tropic-bird lone in his flight, -
Where is he sleeping, I wonder, tonight?
Dark is the water with white crests of foam;
Sleep, little mermaid, the sea is your home!

Stars in the heavens are twinkling past number;
Waters are whispering slumber, love, slumber;
Waves are a-murmuring sleep, dearest, sleep!
And the little one slumbers in peace on the deep.
Sing away wavelets and sigh away low,
Winds of the tropics about us may blow;
Baby is sleeping and mother is singing
And the peace of the evening about us is winging.
Sleep, little mermaid, as onward we roam,
The ship is your cradle, the sea is your home.

- Charles Keeler
Ocean Bibliography

Children's Literature:


A book for beginning readers about what the ocean is, what's in it and how it affects us. Includes such topics as the ocean floor, surface, shore, tides, currents, ocean plants, animals, and ways the ocean helps humankind. Indicates vocabulary words in capital letters.


Explains what sand is, and how it can be used. Attractive illustrations.


Discusses salt, its sources and uses. Illustrated by photos and drawings.


Describes prehistoric animals of the sea. Color illustrations.


Introduces the geography of the underwater world with its cliffs, canyons, mountain ranges and coral reefs in clear language with vocabulary words in capital print.


Children's classic story of the work of a tug boat.


A little girl's wish to sail for a day on a boat named for her "with someone nice for company" comes true.


Overviews many aspects of the ocean including living things, transportation. A good book to share or read slowly with children.

Two young boys set off to hunt for sea serpents but are foiled by thick fog.


Schultz's characters in a fun little book about different kinds of boats.


Simple text and photographs following a young boy to sea.


This delightful tale explores the relationships between boats, ships, darkness, storms, and lighthouses.


Using only 10 words, this book conveys the idea of the food chain in the ocean with man the ultimate user. Attractive color illustration. Highly recommended.


Colorful pictures with simple language about life under the sea.

Teacher's Reference:


Large picture format coverage of seashore animals and plants, shallow seas, coral reefs, open seas, deep seas. Many color photographs.
Objectives:

To help students:

- Understand that wetlands are homes for young fish, birds and other animals (Activities 1 and 2).
- Realize by squeezing wetland soil or sphagnum moss that wetlands hold a lot of water (Activities 1 and 2).
- Look for signs of wetland animals (Activity 2).
- Experience and appreciate a wetland (Activity 2).
- Touch wetland plants (Activity 2).
- Learn that some wetland plants are poisonous (Activity 2).
- Count wetland birds and fish (Activity 2).
- Listen to wetland sounds (Activities 2 and 3).
- Watch wetland insects (Activities 2 and 3).
- Make a freshwater aquarium for the classroom (Activity 3).
- Finger paint wetland beauty (Activity 3).
- Listen to wetland legends (Activity 3).
- Write a class story about local wetlands (Activity 3).
- Think about ways to help protect local wetlands and their plants and animals (Activity 3).
Activity 1
Wetland Homes

Background:

Wetlands are places where the ground is soggy at least part of the year. Wetland plants and animals have adapted to soil that is saturated with water. Here in Alaska, just about the whole state consists of wetlands— with the exceptions of mountains and glaciers. Wetland areas include fresh and saltwater marshes, estuaries (where rivers meet the sea), tidelands, muskeg, bogs, tundra, and swamps. Wetlands play important roles in the water systems that flow to the sea. They are critical for fish and wildlife survival, and they provide recreation as well as water and food for humankind. Wetlands act as natural storm buffers and help prevent flooding by soaking up heavy rains. Wetlands also filter out pollution, and are abundant sources of such edibles as fish, birds, crabs, shrimp, clams, moose, caribou, and berries and other plants.

Wetlands often are more productive than the best agricultural areas. In Alaska, wetlands produce incredible numbers of moose, caribou, birds and fish. Decaying vegetation from the wetlands contributes nutrients to the water, which eventually finds its way to sloughs or streams. These nutrients are used by algae and tiny floating plants and animals (plankton) which in turn are eaten by insects and fish—and eventually by bigger fish, birds and mammals. The entire Alaskan salmon industry depends on the preservation of streams and surrounding wetlands where salmon breed!

Vocabulary:

• wetland
• plant
• soil
• animal
• sun
• water
• air

Materials:

• wet sphagnum moss or other spongy, damp, wetland plant
• crayons
• worksheets:
  ...Wetland Marsh (2-A)
  ...Wetland Tundra (2-B)

Procedure:

1. Bring to class some wet sphagnum moss or substitute for the children to touch and squeeze. (Almost any undeveloped low-lying land will have ample supply. Moss can be dried and kept from year to year; just soak it before use. Peat moss from some of your potted plants will do in a pinch if the ground outside is too frozen for collections. Explain that the moss or mud
is from a wetland. Mention nearby examples, noting that many birds, fish and animals like wetlands for their homes.

Here are some tips to weave into your fantasy:

2. Tell the children that you would like them to tell you about wetlands. Pass out the Wetland Marsh or Wetland Tundra worksheets, noting that many of the worksheet animals are found in both habitats. Ask the children:

- What animals do you see?
- What plants do you see?
- What do the plants need to grow? (Soil, sun, water, air.)
- What do the animals need to grow? (Soil, sun, water, food, air.)

Have the children color the worksheets.

3. Turn your classroom into a wetland. You'll need imaginary water, soil, plants, animals and sun. Roleplay the different plants and animals in their wetland homes. Clear away desks and chairs so the children can imitate the animals growing, eating, drinking and hiding.

- Moose have long legs for striding through water, and for escaping from bears, wolves and people. Moose eat pondweeds and willow bushes.
- Caribou also have long legs for stepping through the watery tundra and for escaping from predators. Caribou eat lichens and plants.
- Geese eat grasses and bugs. They nest among grasses or on little islands to hide from foxes, people and gulls (which eat their eggs).

- Fish swim in the abundant water. They eat bugs and other fish. When they're young, they hide among pondweeds.

- Grasses grow with the help of the sun. Grasses have four parts: roots, stems, leaves and flowers. Grasses make their own food, and serve as food for many animals. At first thought it doesn't seem that grasses move; but often when we look at wetlands, the only movement we see is the swaying of the grasses and other plants in the breeze.

- Snails eat plants and leftovers from the meals of other animals. They hide by moving so slowly that they are hardly noticeable.

- Insects eat plants, or other insects, or decaying fish and other animals. Most insects are fast-moving - whether they live in the water or in the air - so they can escape from the many animals that like to eat them.
Pondweed makes its own food under water with the help of the sun. It is eaten by many animals. Pondweed has flexible stems and leaves that sway with the water currents.

Ducks eat pondweed and insects. They rest in grasses or on little islands, where they can hide from predators.

Sandhill Cranes are long-legged so they can wade through water and tall grasses as they hunt for plants, insects, fish, voles, and even snowshoe hares. Sandhill cranes escape from enemies by running or flying.

Red Foxes run swiftly through the grasses to catch voles, mice, lemmings and snowshoe hares. These animals aren’t their only foods, though. Foxes also like bird eggs, insects, and even berries.

Snowy Owls perch on the little wetland islands called hummocks, watching for the voles, mice and lemmings that they like to eat.

Gulls nest in grasses, from which they flap into the sky, screaming loudly, when their nests are approached by
people, foxes or other predators. Gulls eat fish, snails, decaying animals, bird eggs and insects.

- Frogs eat insects, and sometimes are eaten by cranes and other birds and animals. Frogs try to escape their enemies by hopping or by swimming. Frogs have smooth skin and spend most of their lives in the water.

- Toads look a lot like frogs, and like frogs they eat insects. But toads have bumpy skin that tastes terrible to other animals, so they are seldom eaten themselves. Most toads can't hop as far as frogs; and unlike frogs, the toads spend most of their lives on land.

For a finale, have small groups of students imitate all the animals in their wetland home at once!

Activity 2
Experiencing a Wetland

Background:

Wetlands are among the most fun places for children to explore because they have an abundance of childhood favorites: water and animals. Experiencing a wetland firsthand is an excellent opportunity for students to learn through touching, listening, smelling, seeing and tasting.

Materials:

- plastic bags for litter
- kitchen strainers
- buckets
- field trip task cards
- wetland marsh checklist
- wetland tundra checklist
- pencils

Procedure:

1. Select a local wetland for a field trip. Try a slough, pond or bog near your school if one is available, or go to a nearby marsh. If a wetland is within walking distance, try consider planning several
short trips rather than one long one.

2. Involve parents, your school’s bilingual staff, and other community resource people in planning and leading your field trip.

3. Prepare your students ahead of time. You might want to go over some of the activities in this volume’s bird unit to familiarize yourself with wetland birds before going into the field. It also helps to work with student observation skills: Bring a live animal or plant into class and let them practice: How many parts does the plant have? What does the plant or animal feel like? Smell like? What else can they tell you about it?

4. Ask the children to make up some rules about protecting their plant and animal friends in the wetlands. How can they keep from disturbing wetland homes? Remind the children that they’re much bigger than most wetland plants and animals, and that they need to be gentle and step softly. You might also want to use the litterbug activity in the seashore unit.

5. Review safety with the children. Here are a few suggestions:

- Stay together. Have a buddy. If you become lost, stay right where you are and call out periodically.
- Dress warmly and keep dry.
- Stay a safe distance from the water. In wetlands, because the ground is so mushy, sometimes you can get stuck. So step carefully.
- Don’t taste anything without adult supervision. The wetlands contain many poisonous plants, and some people are allergic to plants that normally are harmless.
- Carry a first aid kit.

6. Develop an outline for the field trip. For your first trip, you might want to spend the entire time simply discovering rather than in organized activities. Eventually, though, you’ll want to plan some structured activities, games, snacktimes, litter pickup, and a review of the day’s events. This unit’s task cards can be used for group activities or can be given to volunteer leaders for small group exploration. The checklist can be used by each child or each group leader. Limit collecting activity to minimize your class’s impact on the wetlands.

You might want to collect materials for specific art projects, or a bucketful of pond water along with pond-weeds and aquatic insects with which to make a classroom aquarium. Most fish require a constant oxygen supply; so arrange for an aquarium pump, aerator and filter if you plan to keep fish.

Enjoy the field trip with your students. It should be one of the highlights of your school years!
Field Trip Task Cards

Spagnum Moss

Leader:

- Find some spagnum moss (or any spongy and damp plant growth) and have the children squeeze it as they did earlier in the classroom.

Ask the children:

- How much water is in this wetland? (Lots!)
- What happens if it's sunny for a long time? (The wetland will slowly put its water into nearby streams so they won't be so dry.)
- What happens if it rains for a long time? (The wetland will soak up water--so nearby towns won't flood.)
- What life needs water in the wetlands? (Plants, fish, water insects, birds, mammals.)

Wetland Plants

Leader:

- Have everybody reach down and touch a different plant (don't pick it).
- Describe it to your group. How could it be found again?

<table>
<thead>
<tr>
<th>Color</th>
<th>(as tall as my knee, over my head)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>(smooth, sticky)</td>
</tr>
<tr>
<td>Feel</td>
<td>(big, small, tiny)</td>
</tr>
<tr>
<td>Leaf size</td>
<td>(color, shape: looks like a __________)</td>
</tr>
<tr>
<td>Flower</td>
<td>(in or near water, on a little hummock)</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
</tbody>
</table>

Tell the children:

- Look at it one more time. Close your eyes. Let someone spin you around. Walk 10 feet away. Now open your eyes and try and find your plant!
- Try this again with pondweeds.
- Pretend you're a water plant. Put on a pond dance--first in the wind, then the rain, snow and sunshine.
Wetland Birds

Leader: Ask the children:

- What birds do you see?
- What are they doing?
- Why do you think birds like it here?
- Count how many birds you can see.
- Where would you hide if you were a bird and heard a fox sneaking up?
- Pretend you are a bird living on this wetland. Show your friends how you would act—and see if they can guess what kind of bird you are!

Wetland Sounds

Leader: Say to the children:

- Close your eyes and listen.
- What do you hear? Imitate the sounds.
- Try listening again for a little longer.
- What did you hear this time?
- Try to remember these sounds so we can have a wetlands concert when we get back to school.

Wetland Animals

Leader: Say to the children:

- What animals live here?
- What signs do animals leave (tracks, dens, droppings, gnawed twigs)?
- Check muddy places (like the edge of a pond) for signs.
- Who came down to drink most recently?
- Walk through the mud yourself and see what tracks you leave. Can you tell your tracks from those of your friends?
- Close your eyes. Have one person make tracks for a few minutes. Then open your eyes and see if you can tell where they went!
- If you find animal tracks—follow them!
Poisonous Plants

Leader:

Look for poison water hemlock, a wetland plant commonly found in Alaska. Explain that if a child ate even one bit, it would be fatal. Slip open the root so the children can see the chambers inside and sniff the plant's acrid smell. Tell them that there are many other poisonous plants, including some berries and mushrooms. If a child is lost and hungry, it would be better to eat insects rather than plants. All those insects, including mosquitoes, are edible!

Wetland Insects

Leader: Look for insects with children. Carefully look under plant leaves, driftwood and rocks, remembering to put everything back where you found it. Let the insects crawl on the children's hands.

Have the children count the insect legs. There should be six. See if they can see the tiny head with eyes and antennae, the body (thorax), the stomach (abdomen) and the wings. Release the insects and see where they hide.

Use kitchen strainers to catch water insects. Put them in a plastic bag full of water so the children can watch them swim. Have them count the legs again. Release the insects, explaining that they provide food for many animals. Birds and fish eat hundreds every day!
Wetland Fish

Wetlands are nurseries for many fish species. The shallow water contains many tiny insects and other organisms that are just the right size (baby food) for the fish to eat until they grow larger. If you can spot any small fish in the shallow water, ask the children:

- How many fish are there?
- Where do they hide?
- How do they swim?
- How do they eat?
- What eats them?
- Do you like to eat fish?

Toads and Frogs

**Leader:**

- Have the children try to find a toad or frog.

**Say to the children:**

- Hippity hop--here they come!

Bumpy skin
Spends more time on land

TOAD

Smooth skin
Spends more time in water

FROG

- Hop around like they do! What do they eat? (Insects like mosquitoes!) Zip out your tongue real fast like they do and see if you can catch a bug! (Actually, insects aren't bad to eat--lots of protein.)
- Be a toad or frog in winter. (Curl up in a ball and hide underground to sleep.)
- In the spring, toads and frogs lay their eggs in the water.
- Now it's summer. Pretend you're a tadpole. First feel your tail growing. Now your legs and arms are growing. Soon your tail disappears. Now you're full grown. And ready to hop everywhere!
Activity 3
Remembering the Wetlands

Materials:
- paper
- finger paint
- older resident - storyteller
- aquarium or gallon glass jars

Procedure:
1. Make an aquarium using the animals and plants brought back from the field trip. Give everyone a chance to look closely and tell about what they see. Keep class records of daily changes.

2. Ask students what they remember most about their wetlands trip. Write a class story.

Additional Activities:
1. Art: Finger paint wetlands impressions. Play any records of wetland sounds (birds, frogs, waterfowl or owls calls) as a background.

   Make bookmarks or plant pictures with the pondweeds and wetlands plants. Lay them on heavy paper. Arrange carefully and cover with clear contact paper (or laminate).

   **Freddie The Frog** (green) or **Tommy The Toad** (brown)

   Paper bag

   Add bumps on the back for Mr. Toad

2. Art, Drama: Make wetlands puppets! Have the children imitate the animals, and maybe even put on a play! To make the puppets, you'll need glue, construction paper, crayons or tempera paint, scissors and paper bags.

3. Plan a wetlands dinner or snack. Canned salmon can be heated on a hot plate. Include rice - probably one of the most internationally famous wetland plants. (Other possibilities are fish, berries, edible plants, moose, caribou, duck, goose, clam chowder.)
4. Oral History: Invite an older resident familiar with your wetlands to come and tell the children stories and legends.

5. Language Arts: Read wetlands stories to the children.

6. Discussion: What will happen to your wetland in the future? What plans does your village, town, state or federal government have for the area? Discuss the good and bad parts of development. Is there anything your class can do to help protect wetland animals and plants? (One class we know of got their city to put up a sign on a nearby road.)

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**Wetland Bibliography**

**Children's Literature:**


A Let's Read and Find Out Science Book about a stream and how it cleans the water.


Full of observations and suggestions for activities showing children the various qualities of fresh water.


A Science I Can Read Book that includes information on toads, turtles, and salamanders.


A delightful book with animal sounds and illustrations.


Picture-story book following the journey of a raindrop to the sea.
Teacher's Reference:

Alaska Wildlife Notebook Series. Alaska Department of Fish and Game, P.O. Box 3-2000, Juneau 99802.

Excellent descriptions of Alaskan animals. Includes feeding habits, range, life histories - illustrated with line drawings.


Stresses ecological relationships with many color photos and fine line drawings. One of the Our Living World of Nature series developed in cooperation with The World Book Encyclopedia.


Excellent descriptions, pictures, and range maps of mammal species found north of Mexico. One of the Peterson Field Guide Series.


Descriptions of edible wetland foods illustrated with color photographs.


Natural history, descriptions, range maps, photos and drawings.


Describes various types of wetlands and their importance nationally. Many photos and drawings.


Technical descriptions of Alaskan plants. Fine line drawings and range maps make usable by non-scientists.


Describes wetland importance and losses nationwide. Color photographs.

Excellent descriptions and line drawings of a wide variety of wetland plants and animals.


Detailed descriptions of Alaskan freshwater fish.  Line drawings.  Also available is a shorter version by the same author:  Illustrated Keys to the Fresh-water Fishes of Alaska (78 p.).  Same publisher.


Describes tracks and other animal signs.  Many of the fascinating stories happen in Alaska.  Illustrated by line drawings.  One of the Peterson Field Guide Series.


Stresses ecological relationships.  Color photos and fine line drawings.  One of the Our Living World of Nature Series developed in cooperation with The World Book Encyclopedia.


Tells the past and present of east coast marshes in a novel-like style.  Good background on the importance of wetlands.

Records:


Voices of the forest, marsh, and lake through a summer's day from dawn to dusk in Algonquin Provincial Park, Ontario, Canada.


One croak after another.