

# ALASKA OIL SPILL CURRICULUM

## Table of Contents

K-3

<b>INVESTIGATING OIL SPILLS .....</b>	<b>3-4</b>
<b>THE WEB OF LIFE.....</b>	<b>5-6</b>
<b>MICRO HIKE.....</b>	<b>7-8</b>
<b>ECOSYSTEM CHORUS.....</b>	<b>9-10</b>
<b>HABITAT MODELS.....</b>	<b>11-12</b>
<b>Habitat Registration Form.....</b>	<b>13</b>
<b>HABITAT CONCENTRATION.....</b>	<b>15-16</b>
<b>OIL EXPLORATION.....</b>	<b>17-18</b>
<b>OIL SPILL CLEANUP.....</b>	<b>19-20</b>
<b>OIL SCAVENGER HUNT.....</b>	<b>21-22</b>
<b>CAN DO!.....</b>	<b>23-24</b>

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# INVESTIGATING OIL SPILLS

**DEVELOPED BY:** Belle Mickelson

**EXTENSIONS:** Geography & Language Arts

**DURATION:** Three 30 minute periods

**OBJECTIVES:** Students will discuss the Exxon Valdez oil spill and other spills. Students will begin student or class journals as they plan for a visit (imaginary in most cases) to south-coastal Alaska. Students will collect articles and pictures about oil spills and other energy issues.

**BACKGROUND:** Good Friday, March 24, 1989, the tanker Exxon Valdez hit the rocks of Bligh Reef spilling 11 million gallons of oil on the waters of Prince William Sound. The oil continued on down the coast eventually touching over 1,000 miles of beaches including those of the Alaska Peninsula and Kodiak Island. Exactly what happened varies with the news source. In this activity students will begin individual or class journals reflecting on their feelings about the oil spill - and their hopes for the future. Younger students may want to draw a series of pictures for their journal, written on the board or on posterboard by the teacher, then copied onto regular paper. The class text can be xeroxed and stapled onto their pictures.

## PROCEDURE:

1. **Warm-up:** Ask the students if they have ever heard about the Exxon Valdez oil spill. Show students the Alaska Fish and Game "Special Oil Spill Issue" if available, or a sample of magazine pictures, articles or books about oil spills (see appendices at end of curriculum). Note differences in the reports of what actually happened.

2. Announce a "trip" to Prince William Sound to see what is going on this year. Read the



## MATERIALS:

- News clippings
- Magazine articles
- Videos on the Exxon Valdez oil spill
- Other materials available in your local library, museum, or news service.
- Paper and covers or notebooks to make journals.
- Markers and/or colored pencils
- Map of Alaska
- Blackboard
- Bulletin board
- Alaska Fish & Game "Special Oil Spill Issue"
- "Adventures of Ranger Rick," Ranger Rick March 1990, pg. 29-32

# INVESTIGATING OIL SPILLS

Ranger Rick article about Rick and the gang's visit to Alaska one year after the big oil spill. Then begin student or class journals about the trip. Have students draw or write their first impressions of the spill.

3. Introduce the video Voices of the Sound made by Mike Lewis and David Grimes shortly after the spill happened. Footage by Joel Bennett at the beginning shows the beauty of Prince William Sound and its wildlife. The film was made for adults - but has been shown very successfully in elementary classrooms. Terms to mention beforehand include CDFU (Cordova District Fishermen United) whose role in the spill is described in an article in the back of the curriculum. Have the students point on the map to the Prince William Sound communities. Cordova is a fishing community; Valdez has oil and tourism industries in addition to fishing; Whittier has tourism and fishing; Chenega and Tatitlek are Native fishing communities which depend upon subsistence hunting and fishing. Outside the Sound, impacted communities include Kodiak, the country's largest fishing port, Seward, Homer, Seldovia, Port Graham, and English Bay on the Kenai Peninsula, and other small villages along the Alaska Peninsula. Ask the students how they would feel if their beaches (ocean, rivers, lakes) were oiled?

4. Then show Voices of the Sound to see how the Cordova fishermen and women felt. Have students write or draw their impressions in their journals.

5. **Wrap-up:** Encourage students to clip current event pictures/articles about oil spills in their state and in other countries around the world for a class bulletin board.

## EXTENSION:

1. Geography/language arts: Write letters to foreign newspapers asking for articles about the Exxon Valdez oil spill — and oil spills in their country. Research in your library/museum for articles about spills around the world.

2. Language Arts: Invite a reporter into class to describe investigative journalism/reporting. Ideally, interview a reporter who worked on the spill or watch video footage made by a news team such as America's Biggest Oil Spill (see appendices).

# THE WEB OF LIFE

**Adapted from:** 4-H Earth Connections, by permission of the University of Maine Extension Services.

**EXTENSIONS:** Writing & Social Studies

**DURATION:** 15-20 minutes

**OBJECTIVE:** Students will participate in a game that shows how parts of natural communities and ecosystems are interdependent.

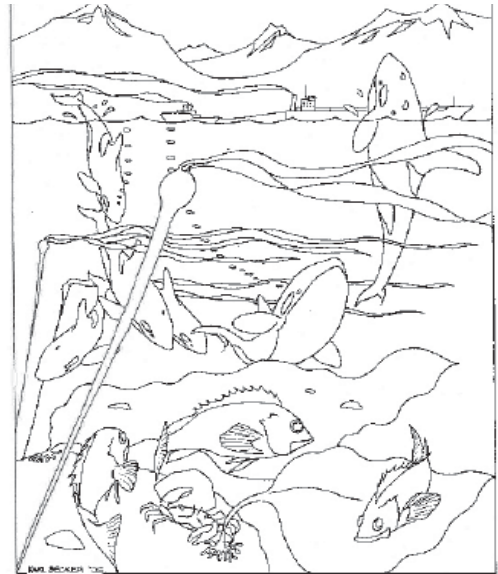
**BACKGROUND:** The Exxon Valdez oil spill destroyed many marine habitats and ecosystems found in Prince William Sound and southcoastal Alaska. Many animals, birds and marine life were affected. This activity will help students to understand how important habitat is to wildlife, and how ecosystems depend upon all components for their survival.

## PROCEDURE:

1. **Warm-up:** Have the children discuss people in their community. Who are they? What role do they play? How does their work help others in the community? After you have compiled a thorough list, examine the interdependence among them. Discuss the implications if people do not fulfill their roles (i.e. grocers shutting their stores = harder to acquire food).

2. Have the children stand in a large circle. Explain that the game they are going to play shows how parts of natural communities and ecosystems depend upon each other.

Ask: "What's the source of all energy on earth?" (The sun). Have a child be the sun and hand her/him the ball of yarn. Then ask: "What depends upon the sun to make food?" (plants). "Can anyone name a plant?" Have the sun toss the ball of yarn to the plant-child, while holding onto one end. Then ask who is dependent on this plant (for food, shelter, warmth, building material, protection, etc.). When a child answers, have them explain their connection. Continue connecting the children with the yarn as their interdependence and relationships emerge. Have ecosystem parts in the web (soil, water, air, decomposers, animals, people, etc.).



## MATERIALS:

- Ball of yarn
- Laminated photographs or drawings of sun, soil, plants, animals, water, decomposers, etc.

# THE WEB OF LIFE

3. Have the children pull up the slack and raise the web above their heads and look through it. Bring the web back down, warning them to hold on tightly to their yarn.

4. **Wrap-up:** Pluck on the yarn and note how strongly connected everyone is. Then introduce a threat to the web (such as an oil spill). Have the affected individuals drop the yarn. Has anyone else's yarn become loose? If so, have them let go also. Continue the process until everyone is unconnected.

## EXTENSIONS:

1. **Writing:** Have students make journal entries following this activity.

2. **Social Studies:** Repeat activity for "Web of Life" at home, at school, and in your town.

# MICRO HIKE

**Adapted from:** 4-H Earth Connections, by permission of the University of Maine Extension Services

**DURATION:** 45-60 minutes

**OBJECTIVES:** Students will build a miniature nature trail. Students will understand that shelter, space, air and water are essential ingredients for large (trees, moose) as well as small (worms, mites) organisms.

**BACKGROUND:** This activity is meant to encourage students to look closely at the environment around them, increasing their awareness and perception of the space around them. Tell students that the small organisms and creatures are usually the ones that get overlooked when we think about impacted animals and the environment, yet they are essential to the larger organisms, as well as smaller ones. Right now scientists in Alaska are getting down on their hands and knees - just like students will be in this activity. Scientists are using hand lenses and microscopes to study the effects of the oil spill. Encourage students to be scientific observers of their own micro habitats.

**PREPARATION:** When looking for a suitable site, choose one with a diversity of ground cover, but avoid one with thick vegetation. Prepare sets of 20-foot sections of yarn and popsicle sticks for every two students.

## PROCEDURE:

1. **Warm-up:** Have the children sit near the micro-hike site and imagine what the world would look like if they were only an inch tall. Have them think about how huge their school, house and parents would be.



## MATERIALS:

- One 20-ft length of string or yarn for every two students
- 8 popsicle sticks for every two students
- Scratch paper
- 1 Bug cube or magnifying glass (optional)
- "Magic Dust" pouch

# MICRO HIKE

2. Explain that there are many creatures and plants that are only an inch tall. Ask the children to find one where they are sitting. Share some of the findings. Explain that they will discover and explore the miniature, natural world.
3. Using guided imagery or a short fantasy trip, bring the children into the miniature world. Bring out your special "Magic Dust" pouch and explain that the magical dust will make them all small. Quietly tell the children to lie back and close their eyes. (The dust will not work if they peek). As you spread the dust on them, speak quietly and slowly. Explain that they are getting smaller and smaller (use your creativity to set the scene).
4. Have them open their eyes slowly and examine the ground. What kinds of plants and animals can they see now? Slowly crawl to the micro-hike site, preparing the children for observing closely.
5. Ask the children if they've ever been on a nature trail. What did it look like? (A trail with markers). Explain that they are going to build a nature trail, only with very small things. Provide a few examples (broken egg shell, ants, beetles, colored sand grains, etc.).
6. Divide the naturalists into pairs and give each the string (for the nature path) and popsicle sticks (for trail markers). Set a 40-yard radius boundary and send each group out (on hands and knees) to create their trail. Encourage them to think of a catchy title for their micro-trail (i.e. The Great Ant Parade). Note: With older children, you can have them write out a brief trail guide. Give them 15 minutes for trail making, reminding them they are only an inch tall. Supervise their work on hands and knees, making sure they understand the micro-nature trail concept.
7. Have each pair lead the group down their trail on hands and knees, interpreting points of interest. (Note: Magnifying glasses or bug boxes will help the children appreciate the uniqueness of each find. See Richard Headstrom's, Adventures With A Hand Lens).
- 8 **Wrap-up:** Tell the students that at the snap your fingers they will suddenly be full size. Briefly review the discoveries of the micro-nature trails. Ask: "What do these plants and animals need to live?" (Food, water, air, shelter, living space). How do they get these things? Did you like being small? What did you learn? Point out that small creatures meet their survival needs the same way large ones do. What might happen if oil were spilled on you and your home? What would happen if hundreds of people suddenly came and walked all over your home? What if they sprayed water all over your backyard? This is what the oil spill clean-up workers did to the beaches of southcoastal Alaska when they used hot and cold water clean-up techniques. If possible, take a trip to the beach and do a micro-hike so you can see how the intertidal life can be affected by spills and excess foot traffic. Imagine the effects of the oil spill and the effects of the clean-up workers on the beach animals.

# ECOSYSTEM CHORUS

**Adapted from:** 4-H Earth Connections, by permission of the University of Maine Extension Services.

**EXTENSIONS:** Science & Social Studies

**DURATION:** 20-30 minutes

**OBJECTIVE:** Children will learn the four components of an ecosystem by participating in a choral activity.

**BACKGROUND:** Ecosystem Chorus is a good lead-in activity for studying any ecosystem in-depth because it introduces key living and non-living components. Number of Participants: minimum 20, maximum 50.

## PROCEDURE:

**Warm-up:** Lead a song familiar to all (i.e. Old MacDonald). Define chorus (group of singers). Sing the song again and take away a few boy singers. What happens? Ask students to think about this when they do their activity. Ask them which parts are more important than others? Try to get them to understand that all parts are equally important. Tell them to keep these thoughts in the back of their mind as they do the activity.

2. Ask: "Can someone name something that is not alive today, has never been alive and will not be alive in the future?" Have the child who answers first go to the middle of the circle. Ask for another non-living element and continue to ask until water, air, soil and sunlight have been identified. Have these children stand together. Explain that these non-living factors are the foundation and pulse of the ecosystem. Have the children begin humming quietly.

3. Ask the remaining children: "What's green, moves very, very slowly, eats up all the sunlight it can get, and makes food?" (plants). Continue to ask for types of plants (producers) until a sizable number of children are chosen. The largest group of living factors should be plants, since they produce the food and support the animals. Have the plants form a circle around the non-living factors, which they depend on for their survival. Explain that plants use the non-living factors to produce sugars (food) and grow. Quietly have the "plant-children" practice their part in the chorus "Grow, grow, grow."



## **MATERIALS:**

- Old blanket(s)

# ECOSYSTEM CHORUS

4. Ask the remaining children to describe or name some creature that consumes plants, animals or both (animals). Have these children form a loose circle around the producers. Animals eat plants and other animals, and they do it noisily. Have the "animal-children" practice their part loudly in the chorus: "Crunch, munch, crunch, munch."

5. Ask the children whether plants and animals live forever. "What happens to them, do they just keep piling up and up?" Be creative - describe a world without decomposers (nature's garbage cleaners and recyclers). Have the remaining children become decomposers by having them name a few (mushrooms, fungi, slime molds, bacteria). Have the decomposers form a circle around all the other ecosystem components and practice their part in the chorus: "Rot, rot, rot."

6. Have all the children practice their parts in the following order: Non-living factors (air, water, sunlight, soil/rock) = "HMMMMMMMMMM." Living factors (producers) = "Grow, grow, grow." Consumers = "Crunch, munch, crunch, munch." Decomposers = "Rot, rot, rot." Keep the chorus going by directing all the parts to get louder and louder, then softer and softer.

7. Introduce a pollutant, oil, to the ecosystem chorus. Use an old blanket(s) to represent oil. Explain that when oil first gushed out of the tanker Exxon Valdez, it was like many blankets on the water. The oil covered rocks, animals, plants, decomposers. Cover victims with blankets.

After awhile the oil broke up into tar balls (roll up blanket) and mousse (blow air into blanket so it expands).

Have students try to continue chanting the chorus while some "victims" are covered with the blanket(s). Does it sound the same?

8. **Wrap-up:** Ask: How did the chorus sound before a pollutant was added? Explain that, like a chorus, an ecosystem may appear to have no order and make little sense. Only after examining nature closely does order emerge. Further explain the same non-living and living factors can be found in any ecosystem. However, they have unique forms and play different roles in sustaining the ecosystem.

## EXTENSIONS:

1. Social studies: Role play people coming to clean up the ecosystem.

2. Science: Introduce other pollutants (i.e. garbage, plastic bags, etc.) How does its' presence affect the living parts of the ecosystem? How do we resolve the problems pollutants cause?

**VOCABULARY:** Chorus, ecosystem, producers, consumers, tarballs, mousse, and decomposers.

# HABITAT MODELS

**BY:** Bonnie Jason

**EXTENSIONS:** Sharing, Math, Language Arts, Art & Science

**DURATION:** 3 hours, can be divided into short sessions

**OBJECTIVES:** Students will construct a habitat model for a chosen animal habitat and its habitat requirements. Students will be introduced to the concept of habitat and habitat requirements. Students will consider the effects of oil on their habitat.

**BACKGROUND:** This is an activity designed to introduce the concepts of habitat and habitat requirements. The construction of models is merely a way of helping to make these concepts more concrete. The materials listed are suggestions. Feel free to have the children use whatever you have available or, if you are feeling courageous, have them use clay or paper mache. Use the [Alaska Fish and Game "Special Oil Spill Issue"](#) to provide background on the effects of oil on habitats.

## PROCEDURE:

- Warm-up:** Begin the lesson with a whole group brainstorming session. Choose an animal that the children know very well, for example, an eagle. Write this on the board or easel. Ask the children what an eagle needs to stay alive. Feel free to prod them with questions such as: what does an eagle do if it gets thirsty? or, where have you seen eagles? As they call out their ideas write them down in the following categories: food, shelter, water.
- After a list has been developed ask the children what similarities they see in the items within each group. Introduce the terms food, shelter and water as requirements for all animals. Through leading questions or discussion, help them to understand that these habitat requirements must be in the proper arrangement to be useful to the animal.



## MATERIALS:

- Drawing paper
- Pencils/pens/markers
- Large pieces of corrugated cardboard (for models foundation)
- Miscellaneous construction items such as:
  - Popsicle sticks
  - Pipe cleaners
  - Construction paper
  - Cardboard scraps
  - Tissue paper
  - Egg carton
  - Wood scraps
  - Felt pieces
  - Yarn
  - Glue/tape
- Worksheet: Habitat Registration Form

# HABITAT MODELS

3. Break the class into small groups. Instruct each group to choose an animal. It must be one with which they are very familiar, preferably one found locally. Tell the groups that they are going to construct a model of their animal's habitat. They must be certain that the habitat includes all of the requirements needed. First they should sketch a draft of their habitat on drawing paper. Have resources available so that children can research their animal to get more information.
4. Once they have completed this drafting process they may use the materials you have provided to construct their model.
5. Answer questions from the Habitat Registration Form to see if they meet the habitat requirements. Tour other group's habitats.
6. **Wrap-up:** Ask what happens when oil is introduced to an animal's habitat. Have some students introduce oil to their habitat model using black paint or construction paper. How does this affect the habitat? Does it look pretty anymore? What about the animals and plants in the habitat? What will happen to them? Answer these questions in the class journal or make up a poem to display with the models.

## EXTENSIONS:

1. **Sharing:** Have the children display their models in a highly visible area such as the library, cafeteria, or foyer. Invite other classes to visit your habitats and station your children beside their work to provide expertise. Have each group make up a play, puppet show, poem or song in which they describe the habitat. Make up games to be played with the models and toy animals.
2. **Math:** Have the children work on large graph paper as they draft their work. Use these to discuss proportion and area. Have the children attempt to shrink or enlarge sections of their drawings.
3. **Language arts:** Use the models as inspiration for writing stories, poems, plays, etc. Include animal names, habitat and habitat requirements as part of your spelling or vocabulary lessons. Have the children write a caption to go with their model. Ask them to read books about animals and habitats, such as Charlotte's Web, Abel's Island, or Fantastic Mr. Fox, or read them aloud.
4. **Art:** Design a habitat bulletin board. Make masks of the animals the children studied. Make puppets.
5. **Science:** Take a field trip to observe various habitats. Visit a museum or aquarium. Let them know that you have been studying habitats and the effects of oil on these habitats.

# Habitat Registration Form

Before your habitat (home site) can be approved by the Housing Commission, you must answer the following questions. Please return to your habitat site and fill out this application. Thank you.

1. Your animal name \_\_\_\_\_

2. Location of your home site \_\_\_\_\_

3. Materials needed for construction or repair of your home: \_\_\_\_\_

\_\_\_\_\_

4. How are you protected from weather, wind, rain, snow, etc.? \_\_\_\_\_

5. Where do you get your food? \_\_\_\_\_

6. Where do you store your food? \_\_\_\_\_

7. Where is your water supply? How far is it from your home? \_\_\_\_\_

8. What do you do with your waste? \_\_\_\_\_

9. Would your children be safe in your home if you left them alone? \_\_\_\_\_

10. How do you improve your community? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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# HABITAT CONCENTRATION

BY Bonnie Jason

**EXTENSIONS:** Math, Social Studies & Science

**DURATION:** Two 30 minute periods

**OBJECTIVES:** Students will be able to identify some southcoastal Alaskan animal habitats and practice matching animals to appropriate habitats. Students will practice cooperation and consideration as they play a card game.

**BACKGROUND:** Children without any knowledge of animals and habitats will have some difficulty with this activity unless plenty of materials are made available. Perhaps this activity would be best following introductory studies of habitats, or if used as an introductory activity, be prepared to lend a lot of support. This activity could be adapted for younger children by using picture cut-outs instead of drawings. Use the [Alaska Fish & Game "Special Oil Spill Issue,"](#) Alaska Dept. of Fish & Game's [Wildlife Notebook Series](#) and the [Alaska Sea Week Curriculum Series](#) for information on Alaskan animals and habitats.



## MATERIALS:

- Construction paper, cut into card size pieces (two for each student)
- Crayons
- Markers
- Pencils
- Resources about animals and habitats

## PROCEDURE:

1. **Warm-up:** Review definition of habitat. Play animal charades, with or without sound effects. After guessing the animal, talk about that particular animal's habitat.
2. Ask each child to choose a habitat and an animal that lives therein. You may need to provide resources to help students identify the specific habitat. The more specific the children can be in identifying a habitat, the better the chances will be of having a successful game (intertidal zone rather than ocean, evergreen rather than tree).
- 3 Have the children then draw a picture of the animal on one card and a picture of the habitat on the other. If appropriate, have children write the name of the animal and habitat on the cards.
4. Laminate the cards if possible. The cards can then be compiled into a single deck .
5. The game of concentration is played by any number of children, the smaller the group the better. The object of the game is to find matching cards, in this case, matching

# HABITAT CONCENTRATION

an animal to its appropriate habitat. The cards are placed face down on the floor or on a desk top, usually arranged in a rectangular fashion, so that all cards are visible. Upon his turn, a player turns over two cards. If they match the player keeps them, if not, returns them, face down, to the same spots. The winner is the one who, after all the cards have been taken, has the most cards.

6. **Wrap-up:** Play the game. Can animals share more than one habitat? How? Read about the effects of oil on the habitats of these animals in the Alaska Fish & Game "Special Oil Spill Issue," pg. 23-31.

## EXTENSIONS:

1. **Math:** Use the concentration game to reinforce counting, the concept of pairs, or fractions (half the deck, one quarter, one third, etc.).
2. **Language Arts:** Make up a poem, each child contributing a line using the animal and habitat they drew. Or do a nonsense poem by having the children randomly draw cards from the deck and use them to make up a line. Use the names of the animals and habitats for vocabulary or spelling. Use the cards for sentence making activities.
3. **Social studies:** Tape or pin an animal card to a child's back. Have the child show the card to group. Let the child question the group by asking yes or no questions. (i.e. Am I a mammal? Can I fly? Do I live in the water? etc.).

# OIL EXPLORATION

By: Bonnie Jason

**EXTENSIONS:** Math, Social Studies & Science

**DURATION:** 45 minutes

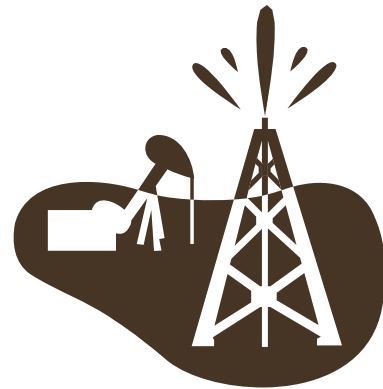
**OBJECTIVE:** Students will feel, observe and describe the effect of oil and water on a group of materials.

**BACKGROUND:** Without an understanding of the properties of oil and water it is difficult for children to understand why cleanup of an oil spill is such an overwhelming task. This activity will allow children an opportunity to feel, smell and see oil. Students may then discover the effects of oil on a variety of materials. Have an aide or parent assist each group. Do this activity outside if possible.

## PROCEDURE:

1. **Warm-up:** Have kids practice feeling, observing and describing something simple such as their desk top, their face, etc. Explain that they will feel, observe and describe oil and water and materials introduced to oil and water.

2. Use a tempera paint/oil mixture for this lesson so that children can explore safely. Mix black tempera paint or powder with vegetable oil and beat or blend to make pretend oil. Place 2 basins of water near each small group of children. Use floor protection (newspapers) if doing this inside. Give each group a container of pretend oil to spill into one tub. Explain to the children that their right hand will only go into the water basin and that their left hand will only go into the water and oil basin, or vice versa. It is imperative that the water basin remain oil free, so if children get oil on the water only hand, they must stop and wash with soap. Have children spill oil in the appropriate basin.



## MATERIALS:

- Sample of real oil
- Vegetable oil
- Black tempera paint
- Water
- Various containers or basins
- Food coloring (optional)
- Paper or cloth towels
- Fur scraps
- Feathers
- Sand
- Gravel or pebbles
- Shells
- Wood scraps
- Newspapers
- Aprons Clothes protection
- Old shirts

# OIL EXPLORATION

3. Ask each child to place one hand in each container, and swish around. As they do this ask them to describe how it feels. List all of their descriptive words on an easel or the board. Try to pull out interesting and exciting words. List these words under appropriate headings, oil and water or water.
4. Give each group some of the following items to submerge in each of their basins: shells, feathers, wood scraps, fur scraps, and containers of sand and gravel or pebbles. Allow children to investigate the changes that occur in the texture of these materials as they are submerged in the containers. Once again, ask the children to describe how they feel and write these words on the easel paper or board. Ask that the students compare and contrast how the items feel in the two containers.
5. Keep basins of oil and water for oil spill cleanup activity.
6. **Wrap-up:** Create a class journal based on observations.

## EXTENSIONS:

1. Language arts: Write a class poem or song (try to include descriptive words). Make up an oil rap using descriptive words. Try to move like oil around the classroom. Give a copy of the descriptive list to students to share with others. See if they can guess what is being described. Make a bulletin board of the descriptive words; use them for spelling or vocabulary.
2. Art: Design a bulletin board about the Exxon Valdez oil spill. Design a T-shirt about the oil spill; include a descriptive word.
3. Science: Do the cleanup activity that follows.

# OIL SPILL CLEAN-UP

**By:** Bonnie Jason

**DURATION:** At least one hour

**OBJECTIVE:** Students will experiment with ways to clean up an oil spill.

**BACKGROUND:** This activity is designed to follow the Oil Exploration activity. It may be helpful to share articles about the actual cleanup of the Exxon Valdez oil spill with the class before or after this activity. Have an aide or parent assist each group.

## PROCEDURE:

1. Warm-up: Read the Ranger Rick story or articles from the oil spill clean up. Do this activity outside if possible; if indoors, use floor protection (newspapers.)

2. Place basins of oiled water and materials, as well as clean-up materials, beside each group. Explain to students that you would like them to get rid of the oil that has contaminated their water and materials therein. Before beginning the clean-up procedure, the children should plan carefully what materials to use and how to use them.

3. Give each member of the group a specific role: scribe, clean-up leader, leader's assistant, and observer. The scribe is to write down or draw each procedure attempted in the clean-up. The leader suggests the clean-up plan and organizes the team and procedure. The assistant helps the leader in gathering materials and procedure implementation. The observer watches and describes to the scribe what is happening to ensure well documented results. Allow students to switch roles so each child gets to play each role once during the activity.



## MATERIALS:

- Ranger Rick story
- Magazine and newspaper articles
- Containers of oiled water
- Materials left over from Oil Exploration Activity
- Newspapers
- Various brushes or other small cleaning tools
- Absorbant materials such as sponges
- Measuring cups
- Strainers
- Basters
- Extra water
- Paper and pencils
- Aprons or paint shirts

# OIL SPILL CLEAN-UP

4. As the children work, wander around and ask questions that will help children to clarify their goals and methods. Examples: "Can you describe to me what you are doing?" or, "Can you explain to me what you plan to do?" "Can you tell me about your picture?" or, "Can you rephrase what you have written down?" To help children evaluate the success of their procedures you might suggest that they make a pile of those items they have successfully cleaned and a pile of the items that remain soiled for each procedure. Ask the scribe to copy the list onto their paper or quickly sketch the items in appropriate categories.

5. After the children have all had an opportunity to develop and carry out a procedure, call the class together for a large group discussion. Have them share their experiences.

6. Wrap-up: To clean-up the mess in your classroom, try to set an example for the children by not simply throwing everything into the garbage. Recycle when possible.

## EXTENSIONS:

1. Language Arts: Have students record their feelings about the activity in their journals, have them draw a picture of their clean-up technique, and make a bulletin board.

2. Science: Have the children research the techniques used to clean up the Exxon Valdez spill. Compare and contrast these to the childrens' techniques. Ask children to come up with ways of combining their ideas to develop the ultimate clean-up technique. Using the knowledge that they have gained in this activity, ask the children to design a clean-up tool. This could lead to multiple lessons; brainstorming and sketching, drawing a blueprint, building the tool, putting the tool to use, evaluating its success and making changes, and displaying and writing about it.

3. Social Studies: Invite an oil clean-up person(s) to the classroom to share experiences.

# OIL SCAVENGER HUNT

By: Belle Mickelson

**DURATION:** 40 minutes

**OBJECTIVES:** Students predict what they will find on a nature hike. Students will find products that are made from oil - or require oil to produce. Students will pick up these products and sort, weigh, and recycle or throw them away. Students will visit the dump to see where their oily wastes return. Students will compare their oily waste pickup to that of oil spill workers.

**BACKGROUND:** Our society is permeated with oil products. What is not made of oil usually requires oil to produce. Once students start looking on a hike to the beach, pond, river, or just around the school — they will find plenty to collect. They may not find an oil spill — but by finding products that took oil to produce, the effect is similar. By picking up and recycling a pop can — they've saved one half of a can of gasoline. It takes the equivalent of that much gasoline to produce one aluminum pop can!

## **MATERIALS:**

- Work gloves
- Collecting bags
- Labels
- Scale
- Hiking spot (beach, river, park, school grounds)  
camera (optional)

## **PROCEDURE:**

1. **Warm-up:** Have students make three lists predicting products that they might find on a hike that are: 1) made of oil 2) take oil to produce (Hint: virtually everything is made with the help of oil. For example: wood products require oil/gas powered engines for cutting and shaping). 3) are recyclable.
2. Divide the class into teams of 3-5 students for the hike to a beach, river, natural area, or around the school. Hand out gloves and three bags labeled **OIL PRODUCTS** (plastics), **OIL MADE PRODUCTS** and **RECYCLABLES** (use symbols for beginning readers). Remind them to let only adults pick up sharp objects.
3. As you are picking up trash, have students enjoy the beauty of the area. Ask them how they feel to see trash in such a beautiful area. Tell them the oil spill workers in Alaska had many of those same feelings as they picked up black gooey rocks in the middle of gorgeous scenery — mountains, glaciers, green spruce trees, wildflowers, blue water and wildlife.

# OIL SCAVENGER HUNT

4. Back at school weigh the three bags. Check the **OIL PRODUCTS** and **OIL MADE PRODUCTS** for additional materials that can be used again — maybe for an art project or sculpture. Take the **RECYCLABLES** to your local recycling center.
5. Plan a trip to the dump and to waste-oil collection sites in your community (harbor or gas station). Discuss with students the increasing problem of full landfills and having to haul trash to sites farther and farther away (which requires oil/gas for vehicles). Talk to students about where to dispose of oil and oily rags from cars and bikes. (Call city hall or the state environmental agency for more information).
6. **Wrap-up:** Ask the students to draw pictures showing ways they can reduce oily wastes and the amount of oil products in our garbage.

# CAN DO!

**Adapted from:** Project WILD

**DURATION:** three 45 minute periods

**OBJECTIVE:** Students devise a plan to improve their environment.

**BACKGROUND:** Each of us can make constructive contributions to improving the environment in which we live. Sometimes our actions can improve the environment for people, sometimes for wildlife, and sometimes for both. Sometimes our effectiveness can be improved if we work with other people - sharing ideas, information, and skills. Oil spills can kill many animals and affect their habitat, but there are things students can do to help wildlife. It is important for young people to learn that they "can do" for wildlife and the environment. The major purpose of this activity is to provide students an opportunity to take constructive actions to improve the environment for people and wildlife.

**PREPARATION:** Review the vocabulary words before beginning the lesson.

## PROCEDURE:

1. **Warm-up:** Ask the students to think of some ways in which they could improve areas of the school grounds as a home for wildlife. Ask them to think of examples they might see around their school that could have a negative impact on wildlife. The list might include: litter that poses a hazard for some kinds of wildlife, a muddy area that has been recommended for blacktopping to minimize dust and mud but is used by birds for water, a proposed pesticide spraying that will not only kill the "pest" but affect other plants and animals; removal of a tree that presently helps contribute to cleaning the air, producing oxygen, and serving as a food and shelter source for varying kinds of wildlife, a lack of food for wildlife that could be helped by planting trees and bushes or setting up a bird feeder.

2. Looking at the list of possible problems, create a list of suggestions for solving or helping with each of the problems. Ask the students to select one that they think they could do to improve the situation.



## MATERIALS:

- Writing materials
- Books on wildlife
- Wildlife biologist/observer

# CAN DO!

3. Once the project has been selected, ask the students to work alone or in small groups to begin generating ideas for possible solutions and their implementation. Use wildlife books for ideas. Ask the students to list local wildlife experts who might be able to help them with their research. Each individual or small group should come up with a plan, including a written description and/or sketch of how it will work, and how it can be accomplished.

4. Invite a wildlife biologist, birdwatcher, or wildlife observer to your class on the day the students make their presentations to the rest of the students. Once all the plans have been presented, ask the students to select the plan that seems most: a) constructive, b) realistic, c) helpful to wildlife, and d) apt to make a lasting contribution. Compile a class book of all the ideas. Ask the wildlife biologist, birdwatcher, or wildlife observer to add his/her input through a series of questions that will get the students thinking even more.

5. Once a plan has been selected, ask students to select a delegation to present their proposal to the school principal or whomever the appropriate authority would be. Remember janitors, groundskeepers, school board, etc. - anyone who would be physically and/or officially involved. A practice session before any interested parents or other groups of students would be helpful. At the practice session, the student delegation would role play their presentation to the principal, janitor, etc. - responding to any questions from their audience that might be raised.

6. The students should make an appointment to present their proposal, make the presentation, and report back to their classmates. If their plan is accepted, they should make sure they know who to contact next in order to successfully complete their project. Making sure they have all necessary permissions secured, the students should proceed to successfully accomplish their project.

7. **Wrap-up:** Once accomplished, ask the students to analyze their results. Did things work out like they wanted them to? Were there any surprises? Any unforeseen problems? How might they have been more effective?

## VOCABULARY:

**Problem:** a difficult situation to be improved, or an opportunity to make things better.

Problems cannot always be "solved," but situations can usually be improved.

**Authority:** an individual or group of people with the power to make changes.

**Compromise:** a way to settle a problem in which both "sides" usually give a little.