

## Consult 4 Kids Lesson Plans

<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Learn About a Habitat
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Habitat printouts, globe or world map, writing paper, drawing paper, butcher paper, markers, crayons

### Opening

#### State the Objective

The objective of this lesson is to create awareness about habitats: physical description, location, and plants and animals live in the habitat.

**Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”**

Ask students, “What is a healthy ecosystem? (The water, water temperature, plants, animals, air, light and soil all work together.) What is an unhealthy ecosystem? (natural disasters, human destruction, disease, loss of a healthy component)

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)

1. Talk about each of these habitats: Grasslands, Temperate Forest, Tropical Rain Forest, Desert, Arctic Polar Ice, Antarctica Polar Ice and Tide Pools.
2. Ask students what connections they have to one or more of the habitats. For example, “My family loves the temperate forest because we go camping there every summer.”
3. Brainstorm other habitats not on the list: swamp, freshwater marsh, city, tundra, and pond.

#### Students Practice (“You Do”)

1. Divide students into small groups.
2. Provide each group with large pieces of butcher paper, markers, and crayons.
3. Students choose a habitat.
4. Provide each group with printout information on their habitat.
5. Students draw pictures and write information to show the Physical Description, Location, and Plants and Animals of their habitat.
6. Outline all drawings in black so they are visible from a distance...
7. Students should answer the Connection Question at the end of the information.
8. Share butcher paper “murals” with classmates.

#### \*Activity → Teachable Moment(s) *throughout*

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “What website can I use to learn more about ecosystems?”
- **Leader:** “Just Google “ecosystems” or” habitats.”

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### Closing

#### Review

**Sample Review:** "We learned about a habitat, which is also called an ecosystem."

**Review:**

#### Debrief

##### Three Questions

Ask the following three questions:

1. How would you explain where animals in the Temperate Forest get their food? (Berries, fish, other animals, plants)
2. Which one of the habitats would you like to visit?
3. How can you use what you learned in your real life?

##### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** "I would tweak this lesson to review synonyms for the word habitat. (System, environment, home, surroundings, bionetwork, and ecosystem)"

**Your Reflection:**

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### Grasslands

**Physical Description:** Grasslands are basically flat with rolling hills. There are few bushes, scrubs and trees. The soil is too thin and dry to maintain the root system of trees. Grasslands get a moderate amount of rain, but sometimes lack enough rainfall to sustain life and the grass begins to dry. Severe thunderstorms, tornados, dust storms, heat, wind and fire sometimes cause problems in the region.

**Location:** In the United States, the Great Plains stretch from south Texas to Canada. This includes Oklahoma, Nebraska, Kansas, Colorado, Montana, New Mexico Wyoming, North Dakota and South Dakota. Much of central and south Africa is grassland. Australia has large areas of grassland.

**Plants and Animals:** Grasslands are full of life. Deer, mice, rabbits and birds of prey (raptors) are plentiful. Foxes, coyotes, weasels, and snakes live in grasslands. Smaller creatures such as ants, lady bugs, dragonflies, grasshoppers, insects and earthworms live most everywhere. In Africa, cheetahs roam the grasslands.

**Connection Question:** What sport would cheetahs excel in?

### Temperate Forest

**Physical Description:** Temperate forests have four seasons – winter, spring, summer and fall. Most of the climates are mild. Many forests are covered with snow in winter. Water comes from rain and snow. In summer, food is plentiful. Temperate forests are home to many plants and animals. There are many trees in the forest – maple, chestnut, elms, pines, firs and cedars are just a few. Clean air and clean water are plentiful in forests.

**Location:** There are temperate forests in Australia, Europe, Russia, Canada, the United States and Russia. Many of our forests are within National Parks. Some of the forests have been cut down to be used as farmland.

**Plants and Animals:** In Australia, koalas, possums, wallabies, wombats, and kookaburras live in forests. In European forests you will find boars, badgers, squirrels and songbirds. In Canada and the United States we have deer, bears, mountain lions, foxes, marmots, bobcats, rabbits and woodpeckers. In China, you will find the giant pandas and red pandas. Many animals camouflage themselves to blend in with the trees and foliage, so they are difficult to see.

**Connection Question:** What sport would giant pandas excel in?

### Tropical Rain Forest

**Physical Description:** Tropical Rain Forests are warm and wet with tall trees, warm climate and a lot of rain. There are several layers in the forest:

- Emergent: Giant trees much higher than the average canopy. Many birds and insects live here.
- Canopy: Upper part of the trees. Full of life – insects, birds, reptiles and mammals
- Understory: Dark cool environment under the leaves, but over the ground
- Forest Floor: Home to many insects. Largest animals of the rain forest usually live here.

**Location:** Many rain forests are located in South America, Africa, and Southeast Asia. They form a green belt near the Equator.

**Plants and Animals:** Over 170,000 of the world's known 200,000 plants are found in the rain forests. There are many species of plants and animals found in no other region on Earth. Why? Tropical Rain Forests receive a lot of sunshine. The sunshine produces energy. Energy is stored in plants. The plants are eaten by animals. The Temperate Rain Forest ecosystem is very important to all of us. They . . .

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- help stabilize the Earth's climate
- are home to thousands of plants and animals
- help maintain the water cycle
- are a source of medicines and foods
- support tribal people

**Connection Question:** Many rain forests are in danger because they are needed for products we use. What is your plan for saving rain forests?

### Desert

**Physical Description:** Deserts are a harsh environment. They get very little rainfall. Some deserts have extreme temperatures. They are very hot in the day and cold at night. Some deserts are always cold such as the Gobi Desert in Asia and Antarctica.

**Location:** Here are a few of the larger deserts: Sahara desert in North Africa, Mojave and Sonoran deserts in the southwestern U.S., Atacama Desert in northern Chile, South America, Lut Desert in eastern Iran, Arabian Desert in the Arabian Peninsula, Gobi Desert in China, Mongolia

**Plants and Animals:** Plants and animals have adapted to the lack of water, extreme temperatures, and shortage of food. Many animals are nocturnal. They sleep during the day and come out at night. Some burrow beneath the surface; others hide in the shade of rocks. Here are a few animals: rattlesnakes, coyotes, desert tortoise, jack rabbits, lizards, hawks, tarantulas, antelopes and bighorn sheep.

**Connection Question:** Humans have adapted to living in the desert. What adaptations have they made?

### Arctic Polar Ice

**Physical Description:** This is a cold, windy region near the North Pole. It is frozen ice with no land underneath. Land within the Arctic Circle is called tundra. There are long periods of darkness in winter and long periods of light in summer.

**Location:** The Arctic region is located on or near the North Pole.

**Plants and Animals:** Despite the cold extreme temperature there are many kinds of animals that call this region their home: arctic fox, ermine, arctic terns, beluga whales, harp seals, moose, reindeer, snowy owls, wolves and snow geese.

**Connection Question:** How is it possible that animals can survive on ice instead of land? What would happen to this ecosystem should the ice melt?

### Antarctic Polar Ice

**Physical Description:** Antarctica is the coldest, windiest place on Earth. It is a frozen continent, with land underneath the ice. It gets very little rainfall. Therefore, Antarctica is considered a desert! An amazing fact is that it contains 70% of the world's fresh water, frozen solid.

**Location:** Antarctica is located at and near the South Pole.

**Plants and Animals:** Antarctica doesn't support many life forms. Those life forms that do exist have adapted to the harsh environment. Animals have short compact bodies, thick skin and a layer of fat to help keep them warm. Birds have a layer

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### Guess the Habitat

1. In this habitat you will find animals that can run at great speeds when they try to escape from their enemies. What is the habitat? *Grasslands*
2. In this habitat, there are animals that live on different levels: canopy, understory, and floor. What is the habitat? *Tropical Rain Forest*
3. In this habitat, you are near a rocky pond by the ocean. You might see a starfish on a rock. What is the habitat? *Tide pool*
4. This habitat is very hot in the summer. You might find snakes, tortoises, and cactus here. What is my habitat? *Desert*
5. In this habitat, there are many animals: bears, deer, and birds. What is the habitat? *Temperate Forest*
6. In this habitat, you will need very warm clothing. You might take a photo of someone fishing through the ice. A whale might pop up to catch a breath of air. What is the habitat? *Polar Ice*

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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Animal Habitats Around the World
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Guess the Habitat printout, white boards, markers, erasing cloth (socks)

### Opening

#### State the Objective

The objective of this lesson is to learn that animals live everywhere on earth – in every kind of land and every kind of climate. Students will become aware of different habitats and some of the animals that live there.

#### Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”

Ask students, “What are some habitats for animals? What does it mean to migrate (to move from one habitat to another in response to seasonal changes or variations in food supply) from one habitat to another?”

Ask, “How do scientists know where and when the animals migrate?” (GPS sensors, observation)

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)

- Write these habitats on the white board: Grasslands, tropical rain forest, tide pool, desert, temperate forest (Temperate forests have four seasons and are found in the Northern and Southern Hemispheres), and polar ice.
- Ask students to name animals that live in these habitats:
  - Grasslands - zebra, African elephant, Asian elephant, lion, hippo, yak
  - Tropical rain forest - sloth, python, leopard, macaw, orangutan
  - Tide pool – starfish, mussels, sea urchins, green algae, crabs, abalone
  - Desert - rattlesnake, scorpion, Gila monster, tortoise, trap-door spider
  - Temperate forest – black bear, lynx, koala, giant panda, great horned owl
  - Polar ice – caribou, polar bear, penguin
- Guess the Habitat  
See attached sheet. Have a student read the question. Classmates guess the habitat.

#### \*Activity → Teachable Moment(s) *throughout*

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “How far can an animal migrate?”
- **Leader:** “The arctic tern (a bird the size of a robin), migrates from the North Pole to the South Pole, about 20,000 miles round trip!”

#### Students Practice (“You Do”)

- Students discuss various animals.
- With their partner, make a prediction of where the animal migrates to and from.

Western Monarch Butterfly

North America to Mexico

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<p>Humpback Whale Salmon Sea Turtle Arctic Tern</p>	<p>Alaska to Hawaii Fresh water streams to ocean Ocean to the coast Arctic to Antarctica</p>	
<p>3. If possible, use the internet to research these animals. 4. Using their white boards, draw pictures of one or more of these animals migrating.</p>		

### Closing

#### Review

**Sample Review:** "We learned that some animals migrate."

**Review:**

#### Debrief

##### Three What's

Ask the following three "what" questions:

1. What did you enjoy most about this activity?
2. What was the biggest challenge with this activity?
3. What did you learn from the group?

##### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** "My Aha! moment was when I learned the Arctic tern travels 20,000 miles round trip when migrating"

**Your Reflection:**



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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Basic Needs of Animals and Humans
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Large pieces of butcher paper (one sheet for every 3 students), markers, and/or crayons; white boards, erasing cloths

### Opening

#### State the Objective

The objective of this lesson is to learn that all animals and humans have basic needs: food, water and shelter.

**Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”**

Ask students, “What are three basic needs that humans and animals need in order to survive? (food, water and shelter) What are secondary needs? (Clothing, tools, education, recreation, hobbies, etc.)”

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)

First Activity:

1. On the white board, the leader will write the title, BASIC NEEDS. Under the title, make three columns: Food, Water and Shelter. Ask students to give examples of these three headings.
2. For example, Food - fruit, vegetables, meat and milk; Water - ice, rivers, lakes, ocean; Shelter - tent, hut, cabin, cave, house, trailer, apartment, car.

Second Activity:

1. Ahead of time, write one of the titles on each sheet of butcher paper: Food, Water or Shelter.
2. Provide students with butcher paper, markers and crayons. Ask them to make large drawings of many items that tell about their subject.
3. Ask them to outline all drawings in black. Write the names of the drawings underneath them.

#### \*Activity → Teachable Moment(s) *throughout*

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “How is clothing a secondary need?”
- **Leader:** “We can live without clothing, but clothing makes life much more comfortable!”

#### Students Practice (“You Do”)

Third Activity:

1. Divide students into small groups.
2. Ask students to think of a pet or an animal they know.
3. Ask students to use white boards to show how the basic needs of their animal or pet are met: food, water and shelter.
4. Ask, “If the water is turned off at a school site, why do they send students home for the day?” (Water is a basic need. Kids need it to survive!)



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### Closing

#### Review

**Sample Review:** “We learned about basic and secondary needs for humans and animals.”

**Review:**

#### Debrief

##### Four Step Debrief (DIGA)

Step 1: Describe what they did during the activity.

Step 2: Interpret: Students answer one, some or all of the following questions:

- What were your key learning’s when you participated in this activity?
- What skills did you need to participate in this activity?
- How did you feel when participating in this activity?

Step 3: Generalize: How can you use the skills or your key learning in your life?

Step 4: Apply: How can you use the skills when you become an adult?

##### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** “How do people survive without having all their basic needs each day?”

**Your Reflection:**

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of down under their feathers to help insulate their bodies. Here are a few common animals: Emperor penguins, blue whales, fur seals, squid, octopus, dolphins, porpoises, crabs, shrimp, and krill.

**Connection Question:** Do you think polar ice caps are melting? What effect might melting ice caps have on the rest of the world?

### Tide Pool

**Physical Description:** Tide pools can be small shallow puddles found high on the shore or huge deep holes nearer to the sea. Tide pools form when the ocean covers the beach two times each day. The ocean brings fresh oxygen and food. Between the tides, some small pools begin to dry up. Many creatures hide under cool damp rocks and moist seaweed so their bodies do not dry out.

**Location:** Tide pools are found in the intertidal zone where the ocean meets the land. These are rocky areas by the ocean filled with sea water.

**Plants and Animals:** Plants and animals in tide pools are able to survive in both wet and dry conditions. Algae are the most abundant plant found in tide pools. It can make its own food and is food to many sea animals. Other animals are crabs, sea urchins, star fish, sea anemones, and limpets.

**Connection Question:** Can you touch sea life you find in a tide pool? A tide pool animal might be in danger from . . . ?

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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Herbivores, Carnivores and Omnivores
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Habitat Race Questions

### Opening

#### State the Objective

The objective of this lesson is to create awareness about animals that are herbivores (plant eaters), carnivores (meat eaters) and omnivores (both plant and meat eaters), and how they are part of the ecosystem of their environments.

**Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”**

Ask students, “What is a synonym for “cover?” (shelter) What are covers for animals in the temperate forest? (underground burrows, under bushes, caves, under rocks, hollow trees)”

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)

1. Ask students to make a list of things that herbivores eat. (Nuts, berries, leaves, and twigs.
2. Ask students to name animals that eat other animals. (Bobcats, hawks, owls, lions, cats, snakes)
3. Play the Habitat Race Game. Divide students into two teams. Have a scorekeeper. When a question is asked, if anyone on Team 1 can answer it correctly, the team gets a point. If they miss the answer, the question goes to Team 2.

#### \*Activity → Teachable Moment(s) throughout

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “What are people called that are herbivores?”
- **Leader:** “People that eat just plants are called vegetarians.”

#### Students Practice (“You Do”)

1. Students discuss various animals.
2. With their partner, make a prediction of where the animal migrates to and from.

Western Monarch Butterfly  
Humpback Whale  
Salmon  
Sea Turtle  
Arctic Tern

North America to Mexico  
Alaska to Hawaii  
Fresh water streams to ocean  
Ocean to the coast  
Arctic to Antarctica

3. If possible, use the internet to research these animals.
4. Using their white boards, draw pictures of one or more of these animals migrating.

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### Closing

#### Review

**Sample Review:** "We learned that some animals migrate."

**Review:**

#### Debrief

##### Three What's

Ask the following three "what" questions:

1. What did you enjoy most about this activity?
2. What was the biggest challenge with this activity?
3. What did you learn from the group?

#### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** "My Aha! moment was when I learned the Arctic tern travels 20,000 miles round trip when migrating"

**Your Reflection:**

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### Habitat Race Questions

**Note:** Accept all reasonable answers.

1. Name one thing that is essential for all wildlife to survive. (Food, water, a safe home or cover)
2. Name a plant that herbivores eat. (Nuts, berries, leaves and twigs)
3. Some animals need to roam and wander. Name an animal that may wander several miles in search of food. (Black bear, cats, wolves)
4. Water is essential for survival. Name a source of water for animals. (Puddles, springs, streams, dew, rivers, garden hose and ponds)
5. Name an animal that eats both plants and animals. (Raccoons, possums)
6. Name an animal that eats other animals. (Bobcats, hawks, and owls)
7. Name an animal that builds nests in hollow trees and eats nuts. (Squirrel)
8. Name the habitat of muskrats and many kinds of ducks. (Marsh)
9. Name a shelter for a rabbit. (Under bushes, underground burrows, hutch)
10. Fields, meadows, lakes, ponds, streams and rivers are all called \_\_\_\_\_. (Habitats)
11. Name an animal that eats only plants. (Deer and rabbits)
12. An omnivore eats both plants and animals. True or False? (True)
13. People are omnivores. True or False? (True)
14. There are animals that get all their water from food. True or False? (True)

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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Icebergs
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Iceberg Shapes Handout, drawing paper, crayons

### Opening

#### State the Objective

The objective of this lesson is to observe the different shapes of icebergs.

**Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”**

Ask students, “Why is it difficult to see icebergs when they are so large? (Most of the iceberg is under the water.) “Can you pull an iceberg out of the way?” (Yes, tug boats can secure a tow line around a berg. This is commonplace in the Arctic when bergs drift near oil rigs.)

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do

1. Form student groups to brainstorm factors that would cause icebergs to melt. (More of their surface in contact with water; higher water levels; higher temperatures; movement of the sea; iceberg turns over)
2. Provide students with the Shapes of Iceberg Handout.
3. Match the photo with the definition.
4. Using white boards, students draw each type of iceberg.
5. Discuss the Weird-Shaped Iceberg.

**\*Activity → Teachable Moment(s) throughout**

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:**  
“What makes icebergs white?”

- **Leader:**  
“Icebergs look white because they are full of tiny bubbles.”

#### Students Practice (“You Do”)

##### Iceberg Maze Activity

1. Have students create an Iceberg Maze on drawing paper.
2. Draw the ship and many icebergs in the water.
3. Partner-pairs try to find the safest pathway around the icebergs.

##### Colorful Bergs Activity

1. Provide students with drawing paper and crayons.
2. Ask students to draw icebergs from the following information:
  - a. Icebergs can be blue, green, brown or black.
  - b. In blue icebergs, crevasses have filled up with water. The water refreezes so fast that no bubbles form. Blue stripes appear.
  - c. In green icebergs, there is algae growing on the ice. When you see a green

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iceberg, you are actually seeing the underwater side of the iceberg. It has rolled over.

- d. Brown or black icebergs are just dirty. Dust, rocks, and dirt accumulate in the glacier. When an iceberg breaks off the glacier, it can have dirt layers deep within the ice.

### Closing

#### Review

**Sample Review:** "First we learned about the different iceberg shapes. Then we created an Iceberg Maze. Finally we drew pictures of different colored icebergs."

**Review:**

#### Debrief

#### Three Questions

Ask the following three questions:

1. What was a key learning from these activities?
2. What would you have liked to have spent more time on?
3. How can we make these activities better next time?

#### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** "I confirm that icebergs come in all sizes and shapes."

**Your Reflection:**



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### Iceberg Shapes



Following from the upper-left corner, here are various iceberg shape categories:

1. Tabular: Steep sides with a flat top like a huge table. These are very solid and often break away from ice sheets or ice shelves.
2. Dome: Rounded at the top, sort of.
3. Blocky: Flat-topped, block-shaped icebergs with steep vertical sides.
4. Wedge: Shaped like a wedge. The top narrows to a pyramid-like point.
5. Dry dock: An iceberg which is eroded to form a little U-shaped harbor-like enclosure.
6. Pinnacle: An iceberg with one or more spires.

### Weird-Shaped Iceberg



Some icebergs are highly unstable. With uneven melting, icebergs may roll over in seconds without warning. They also make noises: creaking, groaning, banging sounds as the sun heats up the surface. What iceberg shape is this weird-shaped iceberg? Does its shape remind you of anything?

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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Melting Polar Ice Caps
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** One ice cube, a piece of fishing line with a weight (the heavier the better) tied to each end, a clear plastic container, some kind of tray to keep things from getting wet; 3 or 4 trays of ice cubes, large clear plastic cups (milkshake cup is perfect), enough water to fill the cup

### Opening

#### State the Objective

The objective of this lesson is to answer the question, "If the polar ice caps melted, would the sea level rise?"

#### Gain prior knowledge by asking students, "What do you know about \_\_\_\_\_?"

Ask students, "What do you know about the polar ice caps? Which of the ice caps has no land underneath the ice? (Arctic) Which of the ice caps is a continental land mass covered with ice? (Antarctica) Which polar ice cap contains 70% of the Earth's fresh water? (Antarctica)

### Content (the "Meat")

#### Instruction / Demonstration ("I do" – "We do")

1. Turn the container upside down and put it on the tray.
2. Place the ice cube on top of the upside down container.
3. Rest the fishing line over the ice cube so that the weights are left dangling over the sides of the container.
4. Watch it for around 5 minutes.
5. Ask students, "How is the fishing line similar to ice skating?" (The blades of a skater melt the ice directly underneath, allowing the skater to move smoothly on a thin layer of water.)

#### Students Practice ("You Do")

1. The ice in this experiment represents the polar ice caps.
2. Divide students into small groups.
3. Provide each group with a large clear plastic cup, ice cubes and water.
4. Fill the cup halfway with ice cubes.
5. Carefully fill the cup with water. Try to get the water level as close to the rim of the cup as possible without overflowing it. The water in this activity represents the oceans of the world.
6. Now, wait for the polar ice caps (the ice) to melt.
7. Ask students to predict what will happen.

#### \*Activity → Teachable Moment(s) throughout

Tip: Teachers, listen for questions that begin with "what" or "how."

- **Student:** "What caused the string to cut through the ice?"
- **Leader:** "The pressure from the two weights pulled the string through the ice cube by melting the ice directly under the fishing line."

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8. Do they think the water will rise and overflow, stay the same, or decrease?	
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### Closing

#### Review

**Sample Review:** “We cut an ice cube in half with fishing line and watched ice cubes melt in a cup filled with water. Now answer the question, “If the polar ice caps melted, would the sea level rise?”

**Review:**

#### Debrief

##### Liked Best, Next Time (LBNT)

In this simple debrief, students talk about the activity. They share what they enjoyed most and/or what else they would have liked to have done. They share what they would have liked to have spent more time on.

##### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** “Somewhere I learned that snow melting from mountain areas such as the Himalayas would contribute to the rising of the sea level.”

**Your Reflection:**

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<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Observing An Iceberg
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** 1 clear pitcher (or other container) that is at least twice as tall as the amount of ice, water to fill  $\frac{3}{4}$  of the container, ice, non-permanent marker, paper towels

### Opening

#### State the Objective

The objective of this lesson is to observe how ice floats above and below the water.

**Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_ ?”**

Ask students, “What are glaciers? (A moving river of ice formed over thousands of years, from falling snow)

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)

1. Fill the container nearly to the top with crushed ice.
2. Use the thermometer to measure the temperature of the crushed ice.
3. Record the current temperature for comparison later.
4. Add 5 spoons of salt and mix well.
5. Check and record the temperature of the ice mixture one time each minute. Use the stop watch.
6. Chart the results with a graph.
7. Have students draw a picture of the ice molecules and water molecules.
8. The molecules on the left are ice; those on the right are water.



#### \*Activity → Teachable Moment(s) throughout

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “In real life, when would you put salt on ice?”
- **Leader:** “You put ice on roads if you want the ice to melt because salt lowers the freezing point of water.”

#### Students Practice (“You Do”)

1. Ahead of time, fill clean milk cartons with water and allow them to freeze overnight into solid blocks of ice.
2. Ask students to remove the carton from the ice.

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| <ol style="list-style-type: none"> <li>3. Stand ice upright in a plastic container.</li> <li>4. Let students sprinkle rock salt on top of the ice.</li> <li>5. Let students choose different colors to squeeze onto the tops of their blocks of ice with the eye droppers.</li> <li>6. The food coloring will run through the cracks that the salt makes in the ice.</li> <li>7. Students will have created beautiful ice sculptures.</li> <li>8. Take photos of their sculptures before they melt away.</li> </ol> |  |
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### Closing

#### Review

**Sample Review:** “First we measured the temperature of crushed ice. Then we measured the temperature again after we added salt to the mixture. In the second activity, we made colorful ice sculptures by adding rock salt to a block of ice and dripped colors onto the ice.”

**Review:**

#### Debrief

##### Three What’s

Ask the following three “what” questions:

1. What did you enjoy most about these activities?
2. What was the biggest challenge with these activities?
3. What did you learn that you can use in real life?

##### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** “Are the polar ice caps made of salt water or fresh water?” (Fresh water)

**Your Reflection:**

## Consult 4 Kids Lesson Plans

<b>Component</b>	Science
<b>Grade Level</b>	K-5
<b>Lesson Title</b>	Tip of the Iceberg
<b>Focus</b>	Animal Habitats (Homes and Ecosystems)

**Materials:** Drawing paper, clear large plastic cups, water to fill  $\frac{3}{4}$  of the container, ice, non-permanent marker, paper towels

### Opening

#### State the Objective

The objective of this lesson is to observe how ice floats above and below the water.

#### Gain prior knowledge by asking students, “What do you know about \_\_\_\_\_?”

Ask students, “What are glaciers? (Moving rivers of ice formed over thousands of years, from falling snow) What are icebergs? (Large blocks of ice break away from glaciers in the Arctic and Antarctic to form icebergs.)

### Content (the “Meat”)

#### Instruction / Demonstration (“I do” – “We do”)



1. Ask students how much ice they see below the water of this iceberg.
2. Have students draw an iceberg. Include some or all of these animals in their pictures: ice worms, snow fleas, mites, sea nematodes, spiders, birds (Arctic terns), seals, polar bears (Arctic), and penguins (Antarctica).

#### \*Activity → Teachable Moment(s) throughout

Tip: Teachers, listen for questions that begin with “what” or “how.”

- **Student:** “What is the word to show an iceberg breaks from a glacier?”
- **Leader:** The word is calving. For example, “Look! The glacier is calving!”

#### Students Practice (“You Do”)

1. Provide students with containers of water and paper towels.
2. Have students mark the water level on their container.
3. Give students cups of ice.

## Consult 4 Kids Lesson Plans

<ol style="list-style-type: none"> <li>4. Carefully place their ice in their containers.</li> <li>5. What happened to the water level? What happens to the water level when students push down on the ice so that the top of the ice is just under the water level?</li> <li>6. Is the whole ice cube above the water? About how much of the ice is above the water line? (About 10% will be above the water line; 90% will be below the water line.)</li> <li>7. Have students tell their partner what they have just learned about icebergs and ice cubes in water.</li> </ol>	
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### Closing

**Review**

**Sample Review:** "First we drew a picture of an iceberg ecosystem. Then we made an iceberg out of an ice cube in a cup of water."

**Review:**

### Debrief

**Three Questions**

Ask the following three questions:

1. What makes an iceberg melt?
2. How would you describe the animals that live on an iceberg?
3. Where are icebergs found?

### Reflection (Confirm, Tweak, Aha!)

**Sample Reflection:** "Are the polar ice caps made of salt water or fresh water?" (Fresh water)

**Your Reflection:**