Consult 4 Kids Lesson Plans

Component	Science - Month 7
Grade Level	K-5
Lesson Title	Benjamin Franklin – Make a Thermometer
Focus	Inventors and Inventions

Materials: Tap water, rubbing alcohol (Don't taste or drink this), a clear, narrow-necked plastic bottle, food coloring, clear plastic straw, and modeling clay

Opening

State the Objective

The objective of this activity is to show that when the alcohol in the mixture heats up, it starts to expand and has nowhere to go but up inside the straw.

Gain prior knowledge by asking students, "What do you know about Benjamin Franklin?"

Our inventor for today is Benjamin Franklin. Ben was born in 1706 into a large family. He was 15th of seventeen children. He had only two years of formal education but taught himself foreign languages, grammar, science and math. As a young man, Ben ran away to Philadelphia, Pennsylvania. He started his own successful printing business, published a newspaper, started the first library in America, created the first volunteer fire department and built the first hospital in Pennsylvania. He created a postal system, and became the Postmaster. Along the way, he invented bifocal glasses, the lightning rod, and the Franklin stove. He proved that lightning and electricity are the same thing using a kite, string, and key in a thunderstorm. He helped write the Declaration of Independence and the Constitution of the United States of America. Benjamin Franklin has been an important role model for all of us. Because of him, our country is a much better place.

One of his inventions was the thermometer. A thermometer is a special instrument that is able to measure heat in the air. To be your own weatherperson, you're going to need a thermometer. So, let's make one!

Content (the "Meat")

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

1. Model this activity for the whole class.
2. **CAUTION:** Warn students that even though rubbing alcohol looks like water, it can be harmful if swallowed.
3. **Follow the directions that you will give to the students—**have them predict what will happen. Ask them for their thinking on why this happens.

Students Practice ("You Do")

1. Divide students into groups. Provide materials.
2. Pour equal parts of tap water and rubbing alcohol into the bottle, filing it about 1/8 of the way up.
3. Add a few drops of food coloring to the mixture and stir or swirl the bottle to mix.

Activity → Teachable Moment(s) *throughout

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

- Student: "Is there rubbing alcohol inside a thermometer that I put in my mouth?" (No)
- Teacher: "How does

4. Place a straw in the bottle, but don't let it touch the bottom of the bottle. 5. Seal the neck of the bottle with modeling clay so that the straw stands upright. 6. Hold your hands on the bottle, and watch what happens to the liquid inside the straw. 7. The mixture should go up the straw. If you hold the bottle long enough, it may come out the very top of the straw. This means that the alcohol has expanded more than the bottle and straw can handle, thus causing the overflow.	a digital thermometer work?" (They use the concept of electrical resistance)

Closing

Review

1. First we put water and alcohol in a bottle.
2. Then we placed a straw in the bottle without touching the bottom of the bottle.
3. Next we sealed the straw to the bottle opening with modeling clay.
4. Finally, we held our hands on the bottle and watch the liquid move up the straw.

Debrief

What's Important About That?

This strategy allows for the debriefing to take a single student's learning and thinking deeper. Begin by asking a student, "What was so important about making a thermometer?" The student might respond, "A thermometer is important so you can take your temperature." Teacher, "What's so important about taking your temperature?" Student, "Maybe I am sick." Teacher, "What's so important about being sick?" Teacher, "Then what I heard you say is that the importance of this activity that we just finished is _____ because , , , "

Reflection (Confirm, Tweak, Aha!)

Sample Reflection: "I think digital thermometers are safer than thermometers made with mercury or other toxic substances. Also, we tried pouring more water and alcohol in the bottle to see what would happen. It took longer to heat the liquid."

Your Reflection:

Modification of Lesson:

1. Although this experiment is fun, you should be careful. For younger children, have a volunteer pour the alcohol in the bottle.
2. Make sure you follow basic safety rules.

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Chicken Sounds From a Cup!
Focus	Inventors and Inventions

Materials: Plastic drinking cups, yarn or cotton string, paper clips, paper towels, a nail, scissors, and water.

Opening

State the Objective

The objective of this lesson is to learn how a sounding board works.

Gain prior knowledge by asking students, "What do you know about Alexander Graham Bell?"

The inventor of the day is Alexander Graham Bell (1847–1922). He invented the telephone with Thomas Watson in 1876, the wireless phone with Sumner Tainter, and new techniques for teaching the deaf to speak. Bell, Gardiner Hubbard and others founded the National Geographic Society in 1888.

In this experiment, the vibrations from the string would be almost silent without the cup, but when you add the cup, it spreads the vibrations and amplifies them (makes them louder.) Pianos and music boxes use wood to act as a sounding board to make the instrument louder.

Content (the "Meat")

Instruction / Demonstration ("I do" – "We do")	***Activity → Teachable Moment(s) *throughout***
1. Model the lesson for students. 2. Cut a piece of yarn about 20 inches long. 3. Using the nail, pre-punch a hole in the bottom of each plastic cup. 4. Tie one end of the yarn to the middle of the paper clip. Push the other end of the yarn through the hole in the cup and pull it through the hole in the cup. 5. Get a piece of paper towel about the size of a dollar bill. Fold it once and get it damp in the water. 6. Now it's time to make some noise! Hold the cup firmly in one hand, and wrap the damp paper towel around the string near the cup. While you squeeze the string, pull down in short jerks so that the paper towel tightly slides along the string. If all goes well – you hear a chicken!	Tip: Teachers, listen for questions that begin with "what" or "how." • Student: "How would this experiment work with a paper cup?" • "Teacher: "What is your prediction about the paper cup?
Students Practice ("You Do")	
1. Divide students into partner-pairs. Provide materials. 2. Provide alternate materials – different types of string or yarn; different sizes of cups.	

3. Does the type of string or yarn make a difference in the volume of sound? 4. Does the size of the cup affect the volume of the sound? 5. Students create their own sounding boards. 6. Share with classmates.	

Closing
Review **Sample Review**: "We followed directions. There were a lot of chickens squawking in the room!" **Review:**
Debrief **Like Best, Next Time (LBNT):** 1. Have students share what they enjoyed most about the activity. 2. What else would they have liked to have done? 3. What would they have liked to have spent more time on?

Reflection (Confirm, Tweak, Aha!)

Sample Reflection: "What does this experiment have to do with Alexander Graham Bell?"

Your Reflection:

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Ice Cream in a Bag
Focus	Inventors and Inventions

Materials: ¼ cup sugar, ½ teaspoon vanilla extract, 1 cup milk, 1 cup whipping cream or half & half, crushed ice (1 bag of ice will freeze 3 bags of ice cream), 1 cup rock salt (8 cups per 5 pounds), 1 quart and 1 gallon size Ziploc Freezer bags, duct tape, bath towel, cups, spoons. This recipe will serve 4 students. You will need 5 recipes to serve a class of 20 students.

Opening

State the Objective

The objective of this activity is to use bags to make a dairy treat.

Gain prior knowledge by asking students, "What do you know about ice cream?"

The invention of ice cream is basically unknown, but most historians give credit to the Chinese. From 960 – 1279 during the Age of Yingzong during the Song Dynasty, it is said that the Chinese poured a syrup over a mixture of ice treated with salt to create a frozen treat. The ice was hauled down from the mountains and stored in cool places. Then in the 18th Century, in England, the first recipe for ice cream was written on paper. This recipe was brought to America. Early colonists such as George Washington, Thomas Jefferson and Benjamin Franklin served "iced cream" or ice cream to their guests.

Ice cream freezes at -6 degrees C (21 degrees F). The freezing point of water is actually lowered by adding salt to the ice between the bag walls. Heat energy is transferred from the milk through the plastic bag to the salty ice water causing the ice to melt. As it does so, the water in the milk freezes, resulting in ice cream.

Content (the "Meat")

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

1. Model this activity for the whole class.
2. Put the milk, whipping cream, sugar and vanilla in a 1 quart freezer bag and seal. Fold a piece of duct tape over the seal.
3. Pace the bag with the ingredients inside a gallon freezer bag.
4. Pack the larger bag with crushed ice around the smaller bag. Pour ¾ to 1 cup of salt evenly over the ice.
5. Wrap in a bath towel and shake for 10 minutes. Open the outer bag and remove the inner bag with the ingredients. Wipe off the bag to be sure salt water doesn't get into the ice cream.
6. Cut the top off and spoon into cups.
7. Makes about 3 cups. (1 bag will serve 4 students)
8. Serve plain or top with coconut or fruit. Enjoy!

Activity → Teachable Moment(s) *throughout

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

- Student: "What is the point of using rock salt instead of table salt?"
- "Teacher: "Rock salt costs less than table salt."

Consult 4 Kids Lesson Plans

Students Practice ("You Do")	
1. Divide students into groups. Provide materials. 2. Students work together to add ingredients and make their on Ice Cream in a Bag. 3. Make sure students have clean hands and keep washing them as they proceed.	

Closing
Review **Sample Review**: "We followed all the directions. Everyone had fun!" **Review:**
Debrief **Three Whats** 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: "Ice cream in a bag is good, but it doesn't taste like store-bought ice cream."

Your Reflection:

Modification of Lesson

Have adequate adult supervision during this activity. Since it might be a messy lesson, consider doing the activity outside on a grassy area.

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Learn About a Habitat
Focus	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."

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:

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Leonardo da Vinci (1452 – 1519) Parachutes
Focus	Inventors and Inventions

Materials: A plastic bag or light material (handkerchief), scissors, string or fishing line, a small object to act as the weight-cork, bottle cap, small action figure.

Opening

State the Objective

Today we are going to make a parachute and see how air collects inside the chute and causes it to float.

Gain prior knowledge by asking students, "What do you know about Leonardo da Vinci?"

Our inventor for today is Leonardo da Vinci (1452-1519). Leonardo wrote about the parachute. However, it was Louis-Sebastien Lenormand in 1783 of France who tried the theory and jumped from a tall tree carrying two umbrellas. A few years later, some people jumped from hot-air balloons using designs of early parachutes. The first person to jump from a flying airplane and survive the fall was Captain Albert Berry, who jumped from a U.S. Army plane in 1912. Parachutes were first used in war towards the end of World War I.

A parachute is a device for slowing down one's descent while falling to the ground. Parachutes are used to skydive from airplanes, jump from high places, and to help slow down the descent of spacecraft. They are also used to slow down some race cars. Modern day parachutes are made of nylon fabric.

Air resistance happens when you open up the parachute and a large area of material uses air resistance to show it down. The larger the surface area, the more air resistance and the slower the parachute will drop.

Content (the "Meat")

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

1. Model this activity for the whole class.
2. Cut a large square from your plastic bag or material.
3. Trim the edges so it looks like an octagon (8 equal sides).
4. Cut a small hole near the edge of each side (8).
5. Cut 8 equal pieces of string or fish line. Tie the string to each of the holes.
6. Attach 8 pieces of string or fish line to the object you are using as a weight.
7. With supervision, use a chair or find a high spot to drop your parachute.
8. Test how well it worked. Remember you want it to drop as slowly as possible.
9. Cutting a small hole in the middle of the parachute will allow air to slowly pass through it rather than spilling out over one side. This should help the parachute fall straighter.

Activity → Teachable Moment(s) *throughout

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

- Student: "Our parachute is crashing to the floor! What is wrong with it?"
- Teacher: "Have you cut a hole in the middle?"

Consult 4 Kids Lesson Plans

Students Practice ("You Do")	
1. Divide students into groups. Provide materials. 2. Students work together to design a parachute that falls slowly to the ground. 3. Students share their parachutes with classmates.	

Closing
Review Sample Review: We made our parachute just like the leader showed us. It fell too quickly to the floor, so we cut a small hole in the center. Then it descended more slowly. When I get home I am going to make a parachute. We have an extra plastic bag in the garage."
Debrief **Three Whats** 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: "This activity was fun. Our first plastic bag ripped when we tied the string through the holes. We had cut the holes too close to the edge. The second bag worked better.

Your Reflection:

Modification of Lesson:
Use adult supervision if students stand on a chair. Never stand on a folding chair.

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Light
Focus	Inventors and Inventions

Materials: Different kinds of paper (writing, tissue, wax, grocery bags), different kinds of fabric, (sheer, woven, knit), colored cellophane, aluminum foil, window screen, other transparent or translucent objects.

Opening

State the Objective

The objective of this lesson is to learn that light is all around us.

Gain prior knowledge by asking students, "What do you know about Thomas Edison?"

The inventor of the day is Thomas Alva Edison (1847-1931). He was an American inventor whose many inventions changed the world. His work includes the electric light bulb, the phonograph, and the motion picture projector.

Edison experimented with thousand of different light bulb filaments to find just the right materials to glow well, be long-lasting, and inexpensive. He finally discovered that a carbon filament in an oxygen-free bulb glowed but did not burn up for quite a while. We are forever grateful to Thomas Edison.

Content (the "Meat")

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

1. Talk about some natural sources of light (sun, firefly, spark, fire).
2. Now think of some manmade sources of light (TV, light bulb, flashlight, and candle.)
3. Ask students, "Can you see in the dark? What animals can see in the dark? (Nocturnal animals – owls and cats. They have large eyes which glow in the dark.)
4. How do you think light helps us see? (Light lets more images into our eyes.)

Students Practice ("You Do")

1. Divide students into partner-pairs. Provide materials.
2. Have students make predictions about what things light can go through.
3. Students experiment with the paper, fabric, and other materials to determine if light can go through them.
4. Share with classmates.

Activity → Teachable Moment(s) *throughout

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

- Student: "What does the word transparent mean?"
- Teacher: "Transparent means that a lot of light goes through an object. Glass is transparent."

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Closing
Review **Sample Review**: "We learned that light can go through some things and not through others." **Review:**
Debrief **WHI?** Ask the following three questions: 1. What were some of the questions that came up in your group? 2. How did you go about including everyone? 3. If you were to try this again, what might you do differently?

Reflection (Confirm, Tweak, Aha!) **Sample Reflection**: "We should have talked about the words transparent and translucent at the beginning of the lesson." **Your Reflection**:

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Sir Isaac Newton – Opposite Colors
Focus	Inventors and Inventions

Materials: Plastic cups, white paper, crayons, paper, water, a sunny day.

Opening

State the Objective

In this activity, students will discover the close relationship between color and light. They will learn that colors have opposites.

All colors can be found in light. We know this for sure when we see a rainbow in the sky after a rainfall. There are seven colors in the rainbow: red, orange, yellow, green, blue, indigo, and violet. Black and white are both colors but do not appear in a rainbow.

Gain prior knowledge by asking students, "What do you know about _____?"

The law relating to the refraction of light was discovered by a Dutchman, Willibrord Snellius in 1621. The law is now called Snell's law. Rainbows form in the sky when sunlight refracts (bends) as it passes through raindrops. It will act the same way when it passes through a cup of water. Rainbows can form in other situations.

Content (the "Meat")

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

1. Some colors are warm: red, yellow and orange. Some colors are cool: blue, green and purple.
2. Why do you think those colors were designated as either warm or cool?
3. What are some things that you know about that are warm colors? Do you feel warm when you are around those colors?
4. What are some things that you know about cool colors? Do you feel cool when you are around those colors?
5. Together we are going to draw a sunburst flower. I will demonstrate and then you will have your turn.
6. Draw a sunburst flower using red, yellow and orange; or blue, green and purple. Make a black dot in the center of the paper. Then using strokes like the rays of the sun make lines coming out from the center of the flower. Use multiple layers of color until you have reached the edge of the paper.

Students Practice ("You Do")

First Activity. Do the activity with the whole group:

Activity → Teachable Moment(s) *throughout

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

- Student: "How do you use secondary colors in real life?"
- Teacher: "In what jobs would you use secondary colors?" (Painters, artists, fashion designers, product design)

1. Provide students with a blank color wheel. 2. Fill in the primary colors. Red at 12:00, yellow at 4:00, and blue at 8:00. 3. Fill in the secondary colors. Orange at 2:00, green at 6:00, and violet at 10:00. 4. Find the opposite of red (green). Draw a straight line to connect. Find the opposite of yellow (violet), blue (orange). Connect the opposites. **Second Activity:** 1. Using a blank sheet of white paper, place a red colored dot on the paper. Stare at the dot for 30 seconds. Now stare at the white paper. You should see the complimentary or opposite color (green) on the white paper next to the red dot. 2. Continue to find the opposite of blue and red.	

Closing
Review **Sample Review**: "First we filled in the primary colors on the color wheel. Next we filled in the secondary colors. Then we drew lines to connect the opposite colors. Finally we stared at a red dot for 30 seconds, looked at the white paper and saw a green dot. We did the same thing with the blue dot, and saw an orange dot." **Review:**
Debrief **What's Important About That?** This strategy allows for the debriefing to take a single student's learning and thinking deeper. First, ask a question of the whole class, "What's important about . . . (relating to the activity)" When one student responds, "It's important to . . ." Listen for what the student says is important about the activity. Building on that statement, the question again is, "What is important about that?" (Whatever was stated by the student). Go with the process up to five times, each time taking the child's understanding of what is important to a deeper level. When finished state, "Then what I heard you say is that the importance of this activity is . . . "

Reflection (Confirm, Tweak, Aha!)

Sample Reflection: "I think I would find out about people who are color blind. Will they still see green after staring at a red dot?."

Your Reflection:

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Two Paper Clip Experiments
Focus	Inventors and Inventions

Materials:

Magical Paper Clip - String, magnet, scissors, paper clip, scotch tape, glue (optional), clean glass jar with a metal lid.
Magnetic Paper Clip Experiment – Magnets, paper clips

Opening

State the Objective

Magical Paper Clip: The objective of this activity is to show that the string is preventing the paper clip from being pulled flat to the magnet. It appears that the paper clip is suspended in the air.

Magnetic Paper Clip Experiment: See how many paper clips you can pick up with just one magnet.

Gain prior knowledge by asking students, "What do you know about paper clips?"

The paper clip was invented in 1899 or 1890 by a Norwegian patent clerk called Johann Vaaler. His original paper clip was a thin spring-steel wire with triangular or square ends and two "tongues." The modern shaped paper clip was patented in 1899 by William Middlebrook of Waterbury, Connecticut.

Content (the "Meat")

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

1. Magical Paper Clip: Model this activity for the whole class.
2. Cut the string about the length of the jar from top to bottom.
3. Tie the paper clip to one end of the string.
4. Tape the other end of the string to the bottom (inside of the jar).
5. Show students the jar with the paper clip lying at the bottom of the jar.
6. Pace the lid on the jar. Turn it upside down so the paper clip hands from the string.
7. Carefully turn the jar right side up so that the paper clip is being pulled by the magnet.

Students Practice ("You Do")

1. Divide students into groups. Provide materials.
2. Hang one paper clip from a magnet.
3. Use the hanging clip to pick up other paper clips.
4. See how many paper clips you can pick up using only one magnet.
5. Try this with plastic coated paper clips and different sized paper clips.

Activity → Teachable Moment(s) *throughout

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

- Student: "How will this experiment work with a plastic jar?"
- "Teacher: "Let's try it and see."

Consult 4 Kids Lesson Plans

Closing
Review **Sample Review**: "We watched the leader do the magic trip with the glass jar. We worked together to see how many paper clips would hang from one magnet." **Review:**
Debrief **Like Best, Next Time (LBNT):** 1. Have students share what they enjoyed most about the activity. 2. What else would they have liked to have done? 3. What would they have liked to have spent more time on?

Reflection (Confirm, Tweak, Aha!)

Sample Reflection: "I wanted to do the glass jar experiment in our group. We liked making a chain of paper clips."

Your Reflection:

Modification of Lesson

Have adult supervision when using a glass jar.

Consult 4 Kids Lesson Plans

Component	Science
Grade Level	K-5
Lesson Title	Willibrord Snellius - Make Your Own Rainbow
Focus	Inventors and Inventions

Materials: Plastic cups, white paper, crayons, paper, water, a sunny day.

Opening

State the Objective

The objective of this lesson is to learn that light can appear to bend in a cup of water.

Gain prior knowledge by asking students, "What do you know about rainbows?"

The law relating to the refraction of light was discovered by a Dutchman, Willibrord Snellius in 1621. The law is now called Snell's law. Rainbows form in the sky when sunlight refracts (bends) as it passes through raindrops. It will act the same way when it passes through a cup of water. Rainbows can form in other situations.

Content (the "Meat")

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

1. Say, "Let's learn a silly poem."

<u>Roy G. Biv</u>
Roy G. Biv is an odd name for a fellow
But what his name means is
Red – Orange – Yellow
The G is for Green which as you may know,
Comes right in the middle of every rainbow.
Next, Blue and Indigo, more pale than dark.
Then V for Violet – And that completes the arc!

2. Using crayons and paper draw a rainbow arc using the colors in order, beginning with red at the top.

Students Practice ("You Do")

1. Review directions for the activity.
2. Provide students with supplies to conduct the experiment in partner-pairs.
3. Fill a plastic cup ¾ full of water.
4. Take the cup and white paper to a sunny window or outside.
5. Hold the cup of water above the paper. Watch the sunlight pass through the water.
6. The sunlight refracts (bends) and forms a rainbow of colors on the white paper.
7. Try holding the cup of water at different heights and angles to see the effect.

Activity → Teachable Moment(s) *throughout

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

- Student: "How do the colors of the rainbow know to be in that order?"
- Teacher: "I don't know the answer to that question. How can we find out?"

Consult 4 Kids Lesson Plans

Closing
Review **Sample Review**: "First we put water in a plastic cup. Then we found a sunny location. Next we held the cup above the white paper. Finally we watched sunlight pass through the water to form a rainbow on the paper." **Review:**
Debrief **WHI?** Ask the following three questions: 1. What were some of the questions that came up in your group? 2. How did you go about including everyone? 3. If you were to try this again, what might you do differently?

Reflection (Confirm, Tweak, Aha!)

Sample Reflection: "Whenever I see water and light, I am going to look for a rainbow."

Your Reflection: