

Age-Level Overview

	Open the Bible	Activate Faith
Lower Elementary		
<p>WORKSHOP FOCUS: Jesus is not afraid of anything.</p> <p>CLOUD CONTROL: Kids create clouds using water vapor and smoke in a bottle.</p>	<p>SPARK RESOURCES: Spark Story Bibles</p> <p>SUPPLIES: None</p>	<p>SPARK RESOURCES: None</p> <p>SUPPLIES: Clear plastic bottles with caps, hot water, small cups, matches, ceramic or metal container for used matches, towels, funnel (optional)</p>
Upper Elementary		
<p>WORKSHOP FOCUS: God's love is constant.</p> <p>WEATHER WATCH: Kids learn about air pressure and make simple barometers.</p>	<p>SPARK RESOURCES: Spark Bibles, Spark Bible Stickers</p> <p>SUPPLIES: None</p>	<p>SPARK RESOURCES: None</p> <p>SUPPLIES: Non-latex balloons, ruler, string, plastic jars, rubber bands, broom straws, tape, clay, thin cardboard, markers, scissors</p>
All Kids		
<p>WORKSHOP FOCUS: God's power gives me the chills.</p> <p>CAUGHT IN A STORM: Kids actively experience the effect of evaporation on windchill.</p>	<p>SPARK RESOURCES: Spark Story Bibles, Spark Bibles, Spark Bible Stickers</p> <p>SUPPLIES: None</p>	<p>SPARK RESOURCES: None</p> <p>SUPPLIES: Scissors, thin cardboard, hole punch, water, bowls, sponges or absorbent paper towels, fan, extension cord (if needed), thermometers, string, rubber bands, cotton gauze, twist ties (optional)</p>



Visit www.sparksundayschool.org for more Spark content. Watch a short Lesson Prep Video that will prepare you and give you confidence to explore this Bible story with the kids you are leading. You will also find a downloadable Family Page for this rotation's story filled with ideas for families to use to explore this story and live out their faith at home.

Workshop Focus: Jesus is not afraid of anything.

Keep these tips in mind as you welcome kids to the workshop and explore the story together.

- Each week, remember to welcome kids to the rotation. Keep in mind that for some kids it may be the first time they are visiting your workshop!
- If kids have heard the story several times during previous weeks, read it again! Kids learn through repetition, and every workshop will explore the Bible story in a slightly different way.
- Remember that the Shepherds are there to support you as they accompany kids each week.
- Be sure to visit www.sparksundayschool.org to download the Family Page for this story. Make copies of it and ask Shepherds to distribute it during the Wrap Up.

Open the Bible (10 minutes)

A Storm Storytelling

Welcome to Spark Science. I'm glad you're here. What is the weather like today?

Look out window if possible. Answers will vary. **Is the weather always like this?** (no) **Sometimes the weather can change very quickly, from sunny to stormy or stormy to sunny. Have you ever been caught in a storm? What kind of storm was it?** Let kids share their experiences. **How did you feel?**

We're going to read a Bible story today about a storm, and how people who were caught in the storm felt. Turn to page 286 in your Spark Story Bible, and let's see what happens.

Read the story out loud. **How did the disciples feel when they were caught in the storm?** (They were cold and afraid.) **How did Jesus feel during the storm?** (He was sleeping. He wasn't afraid at all.) **When you are afraid, does it help you feel better if you are with someone who is not afraid?** (yes) **Most people do feel better when they are with someone who is not afraid. Whenever you feel frightened or afraid, remember that Jesus is with you, and he is not afraid of anything!**

Spark Resources
Spark Story Bible

Supplies
None

Activate Faith (25 minutes)

Cloud Control

Activity Instructions

Were the disciples in today's story expecting a storm? (no) How do we usually know a storm is coming? (*We see clouds. It gets windy. The weatherman tells us a storm is coming.*)

One sign a storm is coming is when clouds fill the sky. Do you know what clouds are made of? (*cotton balls, the fluff inside of stuffed animals, snowflakes*) **Clouds are made of little tiny droplets of water called water vapor. Have you ever seen steam coming off a bowl of hot soup or a cup of hot coffee?** (*yes*) **That is one example of water vapor. Now put one hand in front of your mouth and breathe hard on it a few times. Feel that hand. Does it feel a little damp?** (*yes*) **That is because water vapor also gets into the air from our breathing. Can you think of other ways water gets into the air?** (*sweating, escaping from plants, evaporating from oceans, lakes, puddles*)

When there is a lot of water vapor in the air and the temperature gets cooler and there is something for the tiny water droplets to stick to, clouds are formed. We're going to make clouds in a bottle today.

1. Distribute capped bottles.
2. Peer intently at/into bottle. **Is there a cloud in your bottle right now?** (*no*) **What do we need to put in this bottle to make a cloud?** (*water/water vapor*)
3. Have the kids uncap their bottles. Give each kid a cup about one-half full of warm water, and a funnel if available. **Pour the water into your bottle until it covers the bottom. Then put your cap back on.**
4. **Do you see a cloud yet?** Depending upon the air temperature in your meeting area and the temperature of the water, it is possible for the inside of the bottle to appear cloudy immediately.
5. **We now have water vapor in the air in the bottle, but there are two other things that help clouds to form. Does anyone remember something else we need to make a cloud?**
6. **Water vapor sticks together when the temperature drops. If you squeeze your bottle really hard, the water molecules are squished together and get a bit warmer, just like we get warmer if we huddle close together.** Have kids huddle close to demonstrate. **When you release the bottle, the water molecules have more room to spread out and cool off.** Have kids spread out again to cool off. **Does a cloud form if you squeeze and release your bottle?**

Spark Resources

None

Supplies

Clear plastic bottles (.5 to 1 liter size) with caps, 1 per kid

Hot water

Small cups, 1 per kid

Matches

Ceramic or metal container for used matches

Towels (in case of spills)

Funnel (optional)

7. **The third thing we need is something for the water vapor to stick onto. Outside, water vapor can stick onto dust, pollution, dirt, or even smoke particles. I'll put some smoke into each bottle. After I put smoke into your bottle, quickly put the cap back on and start squeezing and releasing the bottle.**
8. One at a time, each kid should bring a bottle to a leader. Tip the bottle slightly to one side. Light a match, blow it out and then place the match head inside the bottle. Allow the bottle to fill with smoke. Have kids quickly put the cap on the bottle.
9. **We have all three things we need to make a cloud: water vapor, smoke particles, and cooling air. I'll say a little poem as we squeeze and release the bottles together. Watch for clouds appearing in your bottles between squeezes!**

**Squeeze the bottle,
Let it go.
Clouds will form,
And then they'll go.
Jesus is there
To squeeze your hand
When you're afraid
And need a friend.**

Send (5 minutes)

Wrap Up

Remind the Shepherds to distribute the Family Page for this story if the kids haven't already received it, and come together for Wrap Up.

In today's story, Jesus made the storm clouds go away. To make your clouds go away, take the lid off your bottle and squeeze. Puffs of vapor will rise from the bottles. **We were in control of the clouds in the bottle, but who was in control of the storm clouds in today's story? (Jesus) Did Jesus leave the disciples after the clouds went away? (no) And he won't leave you, either. Whenever you are in a storm and are afraid, imagine Jesus is there squeezing your hand, just like we squeezed the bottle. And remember—Jesus isn't afraid of anything!**

Spark Resources
Family Pages



Supplies
None

Prayer Time

**Dear God,
Thank you for sending your Son, Jesus to us. The stories that show he isn't afraid of anything, even big storms, makes us very glad that he loves us and is there to help keep us safe.
Amen.**

Workshop Focus: God's love is constant.

Keep these tips in mind as you welcome kids to the workshop and explore the story together.

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Open the Bible (10 minutes)

A Storm Storytelling

Welcome to Spark Science. I'm glad you're here. Can you think of anything that never changes? (*The sun always rises in the east. There is always day and night.*) **Can you think of things that change quite often?** (*our clothes, the weather, the shows on TV, what the number one song is, etc.*)

One of the goals of Spark Science is to help understand God's power to love, grow, and change. Many of the stories we read give examples of this happening to others through their direct experiences with God. The same is true today. To see what I mean, find Matthew, Chapter 8, verse 23 (page 1067) in your Spark Bible. Invite a volunteer to read the story out loud.

What was something that changed in today's story? (*the weather*) **Was there anything in today's story that stayed the same?** (*the boat, Jesus' power, God's love*) **Why do you think the disciples were put through such a scary experience?** (*maybe to help strengthen their faith, so they could witness Jesus' power*) **Do you think the people in the boat were changed by their experience?** (*yes*) **How?** (*They probably believed more in Jesus' power.*)

Spark Resources
Spark Bibles
Spark Bible Stickers

Supplies
None

Activate Faith (25 minutes)

Weather Watch

Set Up: Loosely tie one uninflated balloon 1 inch (2.5 cm) from each end of the ruler. Cut the cardboard into 1 square piece that fits over the glass, and enough 2-inch-(5 cm) wide strips that are 2 inches (5 cm) taller than the jars so that each kid will have one.

Activity Instructions

Were the disciples expecting a storm when they got into the boat with Jesus?

(no) **How do we know when storms are coming?** *(It's cloudy or windy. The weather forecaster tells us.)* **How do weather forecasters know when storms are likely?**

(They use satellites pictures. They watch the weather that's happening in other areas.

They measure different things.) **Forecasters use many tools and instruments to tell us what they think will happen. One important part of weather forecasting is air pressure. What do you know about air?** *(We need it to live. It has oxygen in it.)*

Air is made of molecules of oxygen, hydrogen, carbon dioxide, water vapor, and other gases. These molecules have mass—they weigh something, although not very much. To demonstrate this, I need a few volunteers.

1. **Tie this string around the middle of the ruler. When you hold it up, move the string until the ruler is balanced straight across.** Give a kid the ruler with the balloons attached and a 12-inch (30 cm) piece of string.
2. **The amount of air in these balloons is the same right now. How can we change the amount of air in just one balloon?** *(Blow into one.)* Remove one balloon from the balance. Select a volunteer to inflate it.
3. **This balloon now has more air molecules squeezed into it. What will happen when it goes back onto the balance?** *(It'll be heavier.)* Slip the balloon back onto the same place on the ruler. That end should go down.

When molecules are packed closer together, the air is heavier. This heavier air pushes harder against everything. When air is heavier and pushing harder, it creates high pressure. What is the opposite of high pressure? *(low pressure)*

When air molecules are farther apart, the air is lighter. Lighter air doesn't push as hard on things, so it creates low pressure. How can we measure air pressure? *(various answers)* **We use an instrument called a barometer. We'll make barometers today and discover how they work.**

4. Give each kid an uninflated balloon, a marker, scissors, a clear jar, and a rubber band.
5. **Lay your balloon down. Draw a marker line on its edge. Slip the tip of the scissors in the balloon's neck and cut along the line.**
6. **Stretch one piece of the balloon tightly over the neck of the jar. Hold it in place with the rubber band.**

Spark Resources

None

Supplies

Non-latex balloon, 1 per kid
plus 2

Ruler

String

Plastic jars, 1 per kid

Rubber bands, 1 per kid

Broom straws, 1 per kid

Tape

Clay

Thin cardboard

Markers, 1 per kid

Scissors, 1 per kid

7. **Get a broom straw and bit of tape. Carefully tape one end of the straw to the middle of the balloon.**

During a period of high pressure, the heavier air will push down harder on the balloon. Demonstrate. **What happens to the free tip of the straw?** (*It goes up.*) **Heavy air doesn't move as easily as light air, so it's harder for clouds or stormy weather to move into the area. High pressure usually means good weather.**

During a period of low pressure, the air isn't as heavy, and the balloon skin will rise. Demonstrate. **What happens to the straw tip?** (*It goes down.*) **What happens to lighter air?** (*It rises. It goes up.*) **As the lighter air rises, it leaves an empty space. New air rushes in to fill the empty space. What do we call rushing air?** (*wind*) **And what could that new air bring with it?** (*storms*)

8. **Most barometer movements are pretty small. On one side of a cardboard strip, write Matthew 8:23-27, the reference for today's story. Use the other side to mark the level of your straw on stormy and sunny days. The clay is to hold the cardboard upright next to your jar.**

Send (5 minutes)

Wrap Up

Remind the Shepherds to distribute the Family Page for this story if the kids haven't already received it, and come together for Wrap Up.

We saw today that even some things we can't see, like air and air pressure, can change. Can you think of invisible things that don't change? (*various responses*) **Some people get set in their ways and refuse to change their way of thinking or how they feel about things. This can make it hard to learn new things. However, I can think of one good invisible thing that never changes. That is God's love for us. No matter what else is going on, God's love for us is constant.**

Prayer Time

Dear God,

We know that sometimes we have to experience extraordinary things before we change our minds. Help us to realize that although our life experiences may test us, your love will be a constant.

Amen.

Spark Resources
Family Pages



Supplies
None

Workshop Focus: God's power gives me the chills.

Keep these tips in mind as you welcome kids to the workshop and explore the story together.

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Open the Bible (10 minutes)

A Storm Storytelling

Welcome to Spark Science. I'm glad you're here. What is the most awesome thing you have ever seen? Maybe it was watching an athlete, a singer, a movie, or a minister. Or maybe it was visiting a special place, like the Grand Canyon, or seeing a solar eclipse. (various responses) People react in different ways to awesome displays. How did you react? (I jumped up and down. I said, "Unbelievable." I got goose bumps.)

Our story today features an incredible display of power. It is so amazing, the thought of it might just send chills up your spine. Let's see. Turn to Matthew Chapter 8 verse 23 in your Spark Bible (page 1067), or the story A Storm on page 286 in your Spark Story Bible. It's a pretty short story, so we'll be able to read both versions. Invite volunteers to read the story out loud from both the Spark Story Bible and the Spark Bible.

Have you ever felt that something big and important was about to happen? How would you feel if you saw Jesus calm a storm? Would that give you the chills? Are there any other Bible stories that give you chills?

Spark Resources
Spark Story Bibles
Spark Bibles
Spark Bible Stickers

Supplies
None

Activate Faith (25 minutes)

Caught in a Storm

Set Up: Fill the bowls with water and let them come to room temperature. Cut the cardboard into strips about an inch wider and an inch longer than the thermometers. Punch a hole in one end of the cardboard. Cut the string into 12-inch (30 cm) lengths. Make sets of the following materials for each pair of kids: two thermometers, cardboard strip, string, gauze, rubber bands.

Activity Instructions

If you've ever been caught in a storm, you know you can get chills, even if it's warm outside. Why? (*Getting wet makes you feel cold. Wind makes you feel cold. Water washes away/absorbs your body heat.*)

Let's test some of your ideas.

- 1. Find a partner whose age is at least 2 years apart from yours.**
- 2. Roll up your sleeves.**
- 3. One kid in each pair—the tester—needs to hold out his or her arms. The partner—the temperature checker—will place a hand on each forearm to check the temperature of both.**
- 4. Temperature checker, dip a sponge in the water. Squeeze out the extra, and then rub the sponge on one of your partner's arms. Count to 40. Ask your partner if one arm feels cooler than the other. Use your hands to check the results.**
- 5. Does water make a big difference in how you feel?** (*various answers*) If the air is very dry, the water will evaporate quickly, making the wet arm noticeably cooler. If the room is humid, there won't be much difference.
- 6. Switch roles. This time, after the first temperature check, the tester should stand so that one arm is in front of a fan and the other arm is not. Do not wet an arm. Count to 40.**
- 7. Temperature checker, ask your partner if one arm feels cooler than the other. Use your hands to check the results.**
- 8. Does wind make a difference in temperature change?** (*maybe a little*)
- 9. Let's test wind and water together. Pick one partner to go first. Both will get the chance to try this experiment.**
- 10. Feel the arms of the tester like before. Wet one arm with a damp sponge. The tester should then stand with both arms in front of the fan for 40 seconds. Does anyone get the chills?** (*I've got goose bumps!*)

Spark Resources

None

Supplies

Scissors
Thin cardboard
Hole punch
Water
Bowls
Sponges or absorbent paper towels, 1 per 2 kids
Fan
Extension cord (if needed)
Thermometers, 1 per kid
String
Rubber bands
Small pieces of cotton gauze, 1 per 2 kids
Twist ties (optional)

11. **The temperature checker should feel both arms. Is there a difference?** (Yes! *The wet arm is much cooler!*) Give the partner the same experience.

What does it mean when we talk about windchills? (*When it's windy, it feels colder than it really is.*) **Wind does make it feel cooler, which is great when it's hot, but not so great when it's cold. Water can also make things feel cooler. We sweat to help the body cool off. As water evaporates, it absorbs heat and carries it away.**

We experienced this on our bodies; now let's measure the effect with thermometers. We're going to make an instrument called a sling psychrometer.

1. Distribute materials to each group.
2. **Read the temperature on each thermometer. Are they the same or different?** They should be close to the same.
3. **Dip the gauze into water. Squeeze out most of the extra. Wrap the wet gauze around the bottom bulb of one thermometer. Secure it with a rubber band or twist tie.**
4. **Make a thermometer sandwich, with a wet bulb thermometer, piece of cardboard, dry bulb thermometer. Use rubber bands to keep all these pieces together.**
5. **Push one end of string through the hole in the cardboard and tie a strong knot.**
6. **Standing away from everyone else, twirl the sling psychrometer in front of you for 40 seconds.**
7. **As soon as you stop twirling, look at the temperature of each thermometer. What do you notice?** (*The wet bulb one is cooler!*) **The drier the air, the greater the difference in temperature, because the water evaporates quickly in dry air.**
8. **Weather forecasters use the temperature difference to measure how much water is in the air. This number helps them predict how likely a storm is.**



Send (5 minutes)

Wrap Up

Remind the Shepherds to distribute the Family Page for this story if the kids haven't already received it, and come together for Wrap Up.

We experienced physical chills today, our bodies reacting to water evaporating from our skin. Hopefully, as you read and ponder stories like the one we read today, you will get mental chills. Your brain will think, "Wow! God's power is so awesome. It's incredible!" Speaking of chills, help me create a "chills" prayer today. We'll start each line with the next letter in the word "chills." The first letter is C.

Spark Resources

Family Pages



Supplies

None

Prayer Time

Dear God,

Encourage kids to make up their own lines for example.

Chills we get when we think of your power

Helping to guide us every day.

Inside we are amazed by what you do.

Let us share our wonder with others as we

Learn more about your power and love.

Amen.