sipsafe

WATER SAFETY LESSONS FOR CHILDREN

AGES 1-5

MISSISSIPPI STATE UNIVERSITY
EXTENSION

This project is funded by the Water Infrastructure Improvements for the Nation Act 2107:
Lead Testing in School and Child Care Program Drinking Water Grant.

Water Safety Lessons for Preschoolers

LESSON 1

Water Sources

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with a basic knowledge of where water comes from.

LEARNING OBJECTIVES

Children will identify the different forms of water.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING INFANTS AND TODDLERS

AL.CS.IT.1c Participates in activities and experiences with people, objects, or materials that require attention and common or shared focus.

AL.IC.IT.2c Participates in new experiences, asks questions, and experiments with new things or materials, such as collecting leaves and pine cones in the fall.

AL.C.IT.1c.iii Seeks out new information and explores new play and tasks both independently and with adult support.

LC.CS.IT.4c Seeks information and meaning of words by asking questions in words or sign language, such as "What's that?" or "Who's that?" or "Why?"

C.M.IT.3c.ii Remembers how to do a series of actions that were observed at an earlier time.

PD.FM.IT.1c Uses hand-eye coordination when participating in routines, play, and activities.

VOCABULARY

water
rain
puddle
waves

LEARNING PROCEDURES

Materials needed

- The book *Water* by Emily Neye

1. Gather the students around you so that each of them can easily see the pictures as you read the book aloud.
2. After you read the book, allow the children to participate in the activity.

ACTIVITY: Frog Count

Materials Needed

- Sheets of foam, two shades of green

  The number of foam sheets needed will vary depending on the children's counting ability.

- Lily Pad Pattern (page 6)
- 1 pair of scissors
- 1 green permanent marker
- Toy frogs

  Plastic, rubber, foam, or other materials and large enough so that they are not a choking hazard. The number of frogs will vary depending on the number of children in your classroom.

- Water table, or 1–2 large, shallow containers to use as a water table
- Enough water to put a few inches of water in the containers

Prepare

Print and cut out the Lily Pad Pattern and trace it onto the foam. Make the lily pads large enough to hold several frogs. Cut out the lily pad shapes and decorate as you want.

If your students know a specific counting range, consider incorporating this into the frog count activity. Write a number on one side of each lily pad.

Fill each of the containers with a few inches of water. Next, add the lily pads, along with a few of the frogs, to the containers. Add only a few frogs for the children to see.

Teach

Ask the children to place two frogs on the lily pad with a 2 on it. Continue asking children to place a certain number of frogs on the corresponding lily pad.

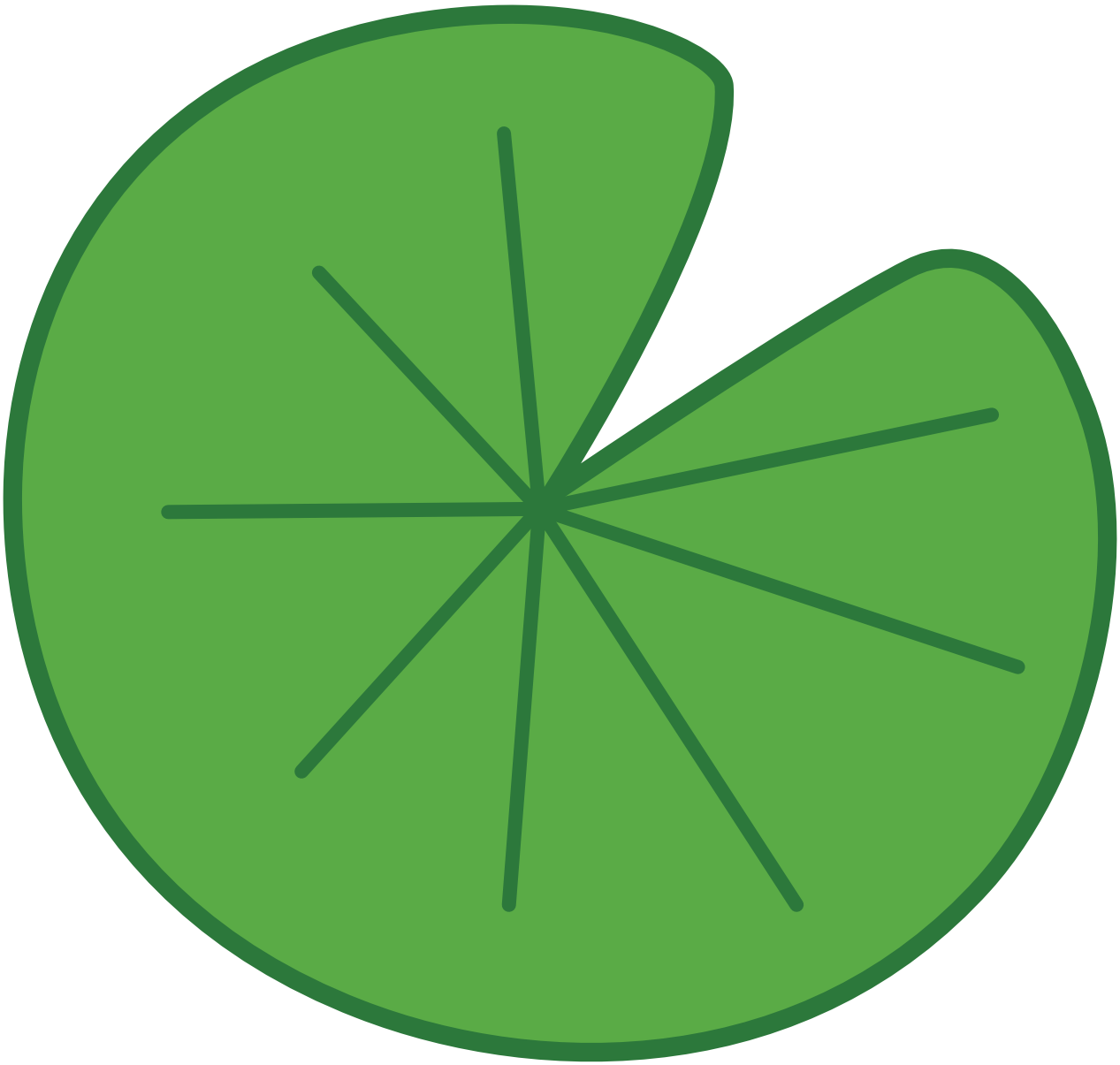
Get creative and let the students experiment a little depending on their attention spans.

Let them see how many frogs can be added to a lily pad before it sinks.

If the children aren't quite ready for number recognition, they can simply place one frog on each of the lily pads.

SAY: "Water is good for our bodies. We want to make sure we are drinking clean water so that we stay healthy and grow big and strong!"

Lily Pad Pattern



Water Safety Lessons for Preschoolers

These lessons were created to be taught in the specific order that is provided in each unit. Teaching the lessons in order will provide scaffolding to ensure the students gain an understanding of SipSafe objectives. However, these lessons were developed so that each one can be taught as a stand-alone lesson if needed.

LESSON 1

Water on Earth

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with a basic knowledge of the water cycle. Children will learn specifically about how rain falls to the earth from the clouds. Children will explore weather concepts, experiment with cause and effect, learn new vocabulary words, experience a hands-on learning activity, and explore clouds and rain.

LEARNING OBJECTIVES

Children will explain where water comes from on Earth.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 3-YEAR-OLD CHILDREN

ELA.RL.PK3.4a Increase vocabulary through conversations with adults and peers.

ELA.RI.PK3.10 Actively engage in a variety of shared reading experiences (e.g., small group, whole group, with a peer or teacher) with purpose and understanding through extension activities (e.g., art activities, dramatic play, creative writing, and movement).

AL.PS.PK3.3 With guidance and support, apply prior learning and experiences to build new knowledge.

S.ES.PK3.1a Observe daily display about weather and seasonal activity.

S.ES.PK3.2 Begin to identify objects in the sky (e.g., clouds, sun, moon, stars).

VOCABULARY

water cycle
weather
rain

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards
- Easel chart

- Cardstock paper
- Pen, pencil, marker, or any other writing utensil
- Globe

Teach

SAY: "Let's find out what we are learning about today."

Hold up your news board and read the topic while pointing to the words: **Water on Earth**

Hold up a globe for the children to see.

EXPLAIN

Hold up a globe and SAY: "A globe shows us our whole world and what it looks like from far away. Our world is called 'Earth,' and it is much, much bigger than this globe. We can even see where we live."

Point to your location on the globe.

SAY: "Does everyone see all of the blue? This shows us how much water is on the earth! Isn't it a lot?"

SAY: "The big spots of blue are the oceans, the little spots are lakes, and the little lines are rivers."

SAY: "Here are places we find water. Tell me if you've seen these..." Hold up pictures of rivers, lakes, and oceans. Try to avoid clip art or sketches; use real photographs, instead.

ACTIVITY: Cloud in a Jar

Materials Needed

- 1 large, empty glass container (canning jar or pickle jar)
- 1 can of shaving cream (foam, not gel)
- 1 small bottle of blue food coloring (10–20 drops)
- 1 pipette
- 1 small dish
- Water (enough to fill the jar)
- Pictures of
  - clouds at various stages before rain
  - lakes
  - oceans
  - rivers

Prepare

- Fill the jar with water, leaving only about 2 inches of space from the top of the jar.
- Add a few drops of blue food coloring into a small dish.
- Add a small amount of water to the dish with the food coloring and stir. The mixture should be dark enough to saturate the shaving cream "cloud" so the children can see it drip through the shaving cream and into the water.

Teach

SAY: “We are about to learn how rain gets to the earth!”

SAY: “Rain is in the clouds in the sky, and when the rain saturates the clouds, the clouds get heavy. When the clouds get heavy, rain begins to fall to the earth.”

Set the jar with water, dish with food coloring, and shaving cream in a place where all of the children can observe. Fill the top of the jar with shaving cream and explain to the children that this is “our fluffy clouds we see in the sky.” Allow the shaving cream to settle for a few minutes.

Fill a pipette with the water and food coloring mixture. Slowly add it to the cloud and SAY: “As a cloud gets heavy with rain, it falls to the earth.” Observe what happens. After a few minutes, the “rain” will begin to come out of the cloud and into the water.

Ask the children what they see. Tell them what you see. The children’s observations can be drawn or spoken.

SAY: “Now we know how rain falls from the clouds. Once the rain is inside and the clouds get heavy, gravity allows it to fall to the earth for us to use!”

LESSON 2

Water Safety

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will introduce the difference between what is safe and unsafe water for children to drink. Children will also learn the sources of safe drinking water and action steps to take in order to make their water safe. During these activities, children will learn the importance of becoming a "water hero."

LEARNING OBJECTIVES

Children will identify what water is safe and unsafe to drink.

Children will choose what is clean water and what is unclean water to use.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 3-YEAR-OLD CHILDREN

ELA.RL.PK3.4a Increase vocabulary through conversations with adults and peers.

ELA.RI.PK3.10 Actively engage in a variety of shared reading experiences (e.g., small group, whole group, with a peer or teacher) with purpose and understanding through extension activities (e.g., art activities, dramatic play, creative writing, and movement).

AL.PS.PK3.3 With guidance and support, apply prior learning and experiences to build new knowledge.

S.ES.PK3.1 With guidance and support, recognize that weather changes (e.g., rainy, windy, sunny, cloudy).

S.ES.PK3.1a Observe daily display about weather and seasonal activity.

S.ES.PK3.2 Begin to identify objects in the sky (e.g., clouds, sun, moon, stars).

VOCABULARY

potable
drinkable
safe

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.

- Typed cue cards
- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today."

Hold up the news board and read the topic while pointing to the words: **Water Safety**

Teach

SAY: "Water is found in many places. Sometimes, we can drink it because it's clean and safe! Sometimes we should not drink it because it isn't clean or safe for us."

SAY: "If I find a puddle outside, should I drink from it? Do you think it's clean?" Allow the children to respond.

SAY: "If I wash dishes in the sink, and all the water gets yucky and filled with dirt and soap, is it clean and safe to drink?" Allow the children to respond.

ACTIVITY: Clean Water

Materials Needed

- 3 clear jars or cups
- Enough water to fill each jar three-fourths full
- Mesh strainer, colander, or sieve
- 1 large bowl or bucket
- Leaves, rocks, large confetti/large glitter, large beads
  - Each of these materials should be too large to go through the mesh strainer, colander, or sieve. (The goal is to demonstrate what the colander or strainer "catches" and how it "cleans" the water.)
  - Gather enough of the materials to fill the jars one-fourth full.
- Felt picture board with cut-outs or printed pictures to help you show the children a plumbing system model

Prepare

Prepare three clear jars by filling each one three-fourths full of water.

In the first jar, add large rocks. In the second jar, add leaves. In the third jar, add large confetti, large glitter, or large beads. Add only enough of each material so that it is visible in the water.

Set the mesh strainer, colander, or sieve aside for later use.

Teach

SAY: “Before water comes out of the faucet, it must travel through pipes and underground to get to you!”

Show children the felt board or pictures showing a plumbing system.

SAY: “When the water travels, it can get dirty, and now we know that dirty water isn’t safe for us. Sometimes the thing that makes the water dirty is lead.” Allow children to say the word *lead*.

SAY: “When water runs through the pipes, lead can get in our water. Is this clean and safe for us to drink?” Allow children to respond.

Place all three jars, containing the water and materials, in an area that can be easily viewed by the children. Place the bucket and sieve nearby.

SAY (while pointing to all the jars): “Do you think any of these are clean and safe to drink?”

SAY: “So what are some things that make water dirty and unsafe to drink?” Allow children to respond briefly and remind them that different things can make water unclean, but the main source is lead in pipes. Explain again that it makes the water unsafe and unclean.

SAY: “Do you know what can happen if you drink dirty, unsafe water? It can make you sick!”

SAY: “Because our water gets dirty sometimes, we can be water heroes and clean the water!” Pick up one of the jars and the sieve. Hold the sieve over the bucket to catch the water.

SAY: “To clean the water, we must turn on the faucet or water fountain.” Begin slowly pouring the water through the sieve and allow the debris to catch in the sieve slowly as the water continues to pour.

SAY: “As we run the water, all of the dirt and bad things in the water go away! But we must keep it running to get all the dirt out.” Finish pouring the contents of the jar through the sieve.

SAY: “See all of the clean water we made?” Show them the clean water in the bucket.

Repeat this until you have shown the children how to “clean” the water in the other two jars.

SAY: “To clean the water, we have to sing a song! We must turn on the water at the faucet or water fountain, and while it flows, we sing our water heroes song before we drink. This song will give us clean water if we follow the steps!”

Teach "The Itsy-Bitsy Spider" song:

The itsy-bitsy spider

Went up the waterspout

Down came the rain and

Washed the spider out

Out came the sun and

Dried up all the rain

And the itsy-bitsy spider

Went up the spout again

Sing the song several times, and practice with the children at the water fountain when they get a drink. Remind them again that they should sing the song while the water runs in order to flush the faucet before they drink.

SAY: "This is our water heroes song!"

ACTIVITY: Safe Water

Materials Needed

- Safe Water Activity sheet (pages 47 and 48; one for each child)
- Crayons, pencils, markers, or any other writing utensil for children to use

Print pages 47 and 48 together (47 on one side, 48 on the other). Children will draw on one side and take the sheet home to their parents. Page 48 is for parents.

Teach

The Safe Water Activity sheet is designed for the children to draw how they use water each day. After the children have completed this activity sheet, send the sheet home. The back of these activity sheets includes information to quickly educate parents about reducing lead exposure at home and offers a quick resource guide.

GIVE each child a Safe Water Activity sheet.

SAY: "I want everyone to draw different ways we use water every day! Do we use it to brush our teeth or cook? Draw a way you use water each day."

LESSON 3

Water Cycle

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson provides children with a simple and scientific understanding of the water cycle. Children will learn about the water cycle through colorful illustrations and crafts. Children will learn about the water cycle and how clean water plays a role in the process. Children will be able to identify how lead contamination can make water unclean.

LEARNING OBJECTIVE

Children will explain the water cycle.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 3-YEAR-OLD CHILDREN

ELA.SL.PK3.2 With guidance and support, demonstrate understanding of information by asking and answering questions, as well as responding to directions.

AL.PS.PK3.2 With guidance and support, begin to use a variety of strategies to solve a problem, reach a goal, or answer a question (e.g., work with others, use a variety of materials, use trial and error).

AL.PS.PK3.3 With guidance and support, apply prior learning and experiences to build new knowledge.

S.ES.PK3.1 With guidance and support, recognize that weather changes (e.g., rainy, windy, sunny, cloudy).

S.ES.PK3.1a Observe daily display about weather and seasonal activity.

S.ES.PK3.2 Begin to identify objects in the sky (e.g., clouds, sun, moon, stars).

VOCABULARY

water cycle
weather
rain

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help introduce the topic to the children
- Typed cue cards

- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: “Let’s find out what we are learning about today.”

Hold up the news board with the day’s topic.

SAY: “Does anyone know what this says?”

Read the topic from the news board while pointing to the words: **Water Cycle**

EXPLAIN

Use the Water Cycle Diagram (page 49) as a visual aid.

SAY: “We are going to learn about the water cycle!”

SAY: “The sun is what controls the water cycle. When the sun shines down and warms up the earth, it heats up lakes, rivers, and streams. As the water warms up, it gets lighter and floats through the air by evaporation.”

SAY: “As the water floats up into the air, we cannot really see it, but it forms clouds in the air. Can we see clouds?” Allow children to respond.

SAY: “When the clouds become saturated, they get heavy! Do you all remember what happens when clouds get heavy?” Remind children of the Clean Water activity from Lesson 2.

SAY: “Precipitation happens when the clouds get heavy, and the rain comes down to Earth. If it’s cold enough, this rain freezes and we get snow! As the rain falls to the earth, it fills lakes, streams, and oceans. The rain helps plants to grow and it gives animals something to drink. Some animals even live in this water in oceans and lakes!”

SAY: “People need water, too. What are some ways we use water?” Allow children to respond. “We use water for drinking, brushing our teeth, taking a bath or shower, flushing the toilet, washing dishes, doing laundry, watering plants, washing the car, and swimming.”

SAY: “Once we are done with the water, it goes down the sink or toilet drain. Remember when we talked about plumbing? Our water goes into a pipe, which takes it away to get cleaned, and then the water goes back into a lake. So the pipes in our homes are actually a part of the water cycle because they bring us water and take it away.”

SAY: “Does anyone remember how our water can get dirty?” Allow children to respond and then remind them how water flows through pipes and sometimes can become unclean.

SAY: “What must we do to clean our water?” Allow children to respond and have the children sing the water heroes song (“The Itsy-Bitsy Spider”).

ACTIVITY: Water Cycle Bracelet

Materials Needed

- Hemp cord
- Pony beads (10 colors, enough for each child to get one of each color used)
  - Yellow – sun
  - Clear – air
  - White – clouds
  - Light blue – river or stream
  - Dark blue – lake or pond
  - Purple – ocean
  - Brown – ground surface/soil
  - Green – plants
  - Red – animals
  - Gray – lead exposure
  - Orange – water hero
- Scissors
- The Water Cycle Diagram handout (page 49)
- Photos of the steps in the water cycle (optional; photos of rain, clouds, puddles, the sun, etc., to help children visualize the steps)
- Take-home Water Cycle Card to help children explain their bracelets (page 50; one for each child)

Prepare

Cut the hemp cord into 12-inch lengths and double-knot each piece 4 inches from an end. Prepare one cord for each child. Place each bead in order of what they represent, referencing the Water Cycle Card. Make a water cycle bracelet for each child. When all the beads are in place, double-knot the end of the cord to keep the beads in place.

Print and cut out a take-home Water Cycle Card for each child.

Teach

Explain the water cycle bracelets, where each colored bead represents a different part of the water cycle.

SAY: “The yellow bead represents the sun. The clear bead represents the air. The white bead represents the clouds.” Continue through each colored bead.

Give each child a bracelet. Walk them through the water cycle as a group by repeating what they learned in the EXPLAIN section of this lesson. Ask them to point to each bead as you talk about the step it represents.

ASK: “What color is the water bead? What color is the plant bead?” Ask as many questions as you like.

When you reach the gray bead that represents lead in water, stop and have a discussion with the children.

SAY: “Remember that when rain falls from the sky, the water is collected for us to use. We can use it to drink, wash dishes, cook, and give to our pets!”

SAY: “Sometimes, as the water travels through the pipes to get to our homes and school, it can get dirty. The dirt comes from the pipes and can make our water unclean and unsafe to drink.”

SAY: “Does anyone remember what we need to do before drinking from the water fountain or using the water faucet?” Allow children to respond.

SAY: “We need to turn on the faucet and sing our water heroes song!” Sing “The Itsy-Bitsy Spider.”

SAY: “Drinking dirty water can make you sick. It could make your stomach or head hurt, and make you feel bad.”

ASK again: “What do we need to do to clean the water and be water heroes?” Sing the water heroes song with the children several times.

Give each child a take-home Water Cycle Card. Tell them how to explain to others what the different colors mean.

LESSON 4

Where Water Comes from Indoors

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with basic knowledge of where water comes from indoors. The children will build on their prior knowledge about where water comes from on the earth. They will now be able to differentiate between outdoor and indoor water sources. The purpose of this activity is to teach children where water comes from indoors and identify when water is used throughout the day.

LEARNING OBJECTIVES

Children will identify where water comes from inside.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 3-YEAR-OLD CHILDREN

ELA.RI.PK3.1 With guidance and support, answer questions related to a variety of informational print materials (e.g., simple graphs, pictorial lists, maps, and charts).

ELA.RI.PK3.10 Actively engage in a variety of shared reading experiences (e.g., small group, whole group, with a peer or teacher) with purpose and understanding through extension activities (e.g., art activities, dramatic play, creative writing, and movement).

AL.CI.PK3.2 Begin to ask questions to seek new information.

AL.PS.PK3.3 With guidance and support, apply prior learning and experiences to build new knowledge.

SE.SD.PK3.4a With guidance and support, share experiences and ideas with others (e.g., engage in conversation to express ideas).

VOCABULARY

water source
potable
pipes
plumbing

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.

- Typed cue cards
- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today."

Hold up the news board and read the day's topic while pointing to the words: **Water from Indoors**

EXPLAIN

Hold up a jar of water.

SAY: "In this jar, I have water! It's wet, clean, clear water. Did you know that people, animals, and plants all need water to live? Water makes up a big part of our world and our bodies. So, to stay healthy, we must drink plenty of clean water."

SAY: "Does anyone know how we can take care of ourselves using water?" Let children respond briefly.

SAY: "Drinking plenty of clean water helps us take care of ourselves and stay healthy. Animals, plants, and other living things need water, too!"

ACTIVITY: When Do We Use Water?

Materials Needed

- Pictures of daily activities the children participate in during school hours (e.g., washing hands after an activity or before lunch)
- Pictures of pipes/plumbing
- Watercolor paints and water
- Paint brushes
- Paper for painting

Teach

SAY: "We can find water inside and outside. Where are all the places we find water inside today? Let's think about when we use it and how we use it."

SAY: "Now, let's paint a picture to show where water comes from indoors!" Give children time to paint.

Water Safety Lessons for Preschoolers

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LESSON 1

Water on Earth

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with a basic knowledge of the water cycle. Children will learn specifically about how rain falls to the earth from the clouds. Children will explore weather concepts, experiment with cause and effect, learn new vocabulary words, experience a hands-on learning activity, and explore clouds and rain.

LEARNING OBJECTIVES

Children will explain where water comes from on Earth.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 4-YEAR-OLD CHILDREN

ELA.RL.PK4.4 Exhibit curiosity and interest in learning words in print.

ELA.SL.PK4.1 With guidance and support, participate in small-group and large-group shared conversations about pre-kindergarten topics and texts with peers and adults.

AL.PA.PK4.1 Follow through to complete a task or activity.

S.ES.PK4.1a With teacher guidance, collect and display daily data about weather and seasonal activity.

S.ES.PK4.2 With prompting and support, identify characteristics of the clouds, sun, moon, and stars.

VOCABULARY

water cycle
saturation
precipitation
gravity

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards
- Easel chart

- Cardstock paper
- Pen, pencil, marker, or any other writing utensil
- Globe

SAY: "Let's find out what we are learning about today."

Hold up the news board and read the day's topic while pointing to the words: **Water on Earth**

Hold up a globe for the children to see.

Teach

Hold up a globe and SAY: "A globe shows us our whole world and what it looks like from far away. Our world is called 'Earth,' and it is much, much bigger than this globe. We can even see where we live." Point to your location on the globe.

SAY: "Does everyone see all of the blue? This shows us how much water is on the earth! Isn't it a lot?"

SAY: "The big spots of blue are the ocean, the little spots are lakes, and the little lines are rivers."

SAY: "Here are places we find water. Tell me if you've seen these..." Hold up pictures of rivers, lakes, and oceans. Try to avoid clip art or sketches; use real photographs, instead.

ACTIVITY: Cloud in a Jar

Materials Needed

- 1 large, empty glass container (canning jar or pickle jar)
- 1 can of shaving cream (foam, not gel)
- 1 small bottle of blue food coloring (10–20 drops)
- 1 pipette
- 1 small dish
- Water (enough to fill the jar)
- Pictures of
  - clouds at various stages before rain
  - lakes
  - oceans
  - rivers

Prepare

- Fill the jar with water, leaving only about 2 inches of space from the top of the jar.
- Add a few drops of blue food coloring to a small dish.
- Add a small amount of water to the dish with the food coloring and stir.

SAY: "We are about to learn how rain gets to the earth!"

Teach

SAY: “Rain is in the clouds in the sky, and when the rain saturates the clouds, the clouds get heavy. When the clouds get heavy, rain begins to fall to the earth.”

Set the jar with water, dish with food coloring, and shaving cream in a place where all of the children can observe. Fill the top of the jar with shaving cream and explain to the children that this is “our fluffy clouds we see in the sky.” Allow the shaving cream to settle for a few minutes.

Fill a pipette with the water and food coloring mixture. Slowly add it to the cloud and SAY: “As a cloud gets heavy with rain, it falls to the earth.” Observe what happens. After a few minutes, the “rain” will begin to come out of the cloud and into the water.

Ask the children what they see. Tell them what you see. The children’s observations can be drawn or spoken.

SAY: “Now we know how rain falls from the clouds. Once the rain is inside and the clouds get heavy, gravity allows it to fall to the earth for us to use!”

LESSON 2

Water Safety

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will introduce the difference between what is safe and unsafe water for children to drink. Children will also learn the sources of safe drinking water and action steps to take in order to make their water safe. During these activities, children will learn the importance of becoming a "water hero."

LEARNING OBJECTIVES

Children will identify what water is safe and unsafe to drink.

Children will choose what is clean water and what is unclean water.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 4-YEAR-OLD CHILDREN

ELA.RL.PK4.4 Exhibit curiosity and interest in learning words in print.

ELA.RL.PK4.4a Develop new vocabulary from stories.

ELA.RL.PK4.10 Actively engage in a variety of shared reading experiences (e.g., small group, whole group, with a peer or teacher) with purpose and understanding through extension activities (e.g., art activities, dramatic play, creative writing, movement).

ELA.RI.PK4.1 With prompting and support, ask and/or answer questions with details related to a variety of informational print materials (e.g., charts, graphs, maps, lists, and other reference materials).

ELA.RI.PK4.10 With prompting and support, actively engage in a variety of shared reading experiences (e.g., small group, whole group, with a peer or teacher) with purpose and understanding through extension activities (e.g., experiments, observations, topic studies, conversations, illustrated journals).

ELA.SL.PK4.1 With guidance and support, participate in small-group as well as large-group shared conversations about pre-kindergarten topics and texts with peers and adults.

ELA.L.PK4.4a Apply new meaning for familiar words accurately (e.g., recognizing that a car is also a vehicle).

ELA.L.PK4.5 With guidance and support, explore word relationships and word meanings.

M.CC.PK4.6 Use comparative language (e.g., more than, less than, equal to, same, and different) to compare objects, using developmentally appropriate pre-kindergarten materials.

AL.PA.PK4.1 Follow through to complete a task or activity.

AL.PA.PK4.2 Demonstrate the ability to remain engaged in an activity or experience.

AL.PS.PK4.3 Apply prior learning and experiences to build new knowledge.

S.ES.PK4.1 With prompting and support, describe daily weather changes and seasonal patterns using related vocabulary (e.g., fall, summer, spring, winter, hot, cold, warm, sunny, cloudy).

S.ES.PK4.1a With teacher guidance, collect and display daily data about weather and seasonal activity.

S.ES.PK4.2 With prompting and support, identify characteristics of the clouds, sun, moon, and stars.

VOCABULARY

potable
drinkable
safe

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards
- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today."

Hold up the news board and read the topic while pointing to the words: **Water Safety**

Teach

SAY: "Water is found in many places. Sometimes, we can drink it because it's clean and safe! Sometimes we should not drink it because it isn't clean or safe for us."

SAY: "If I find a puddle outside, should I drink from it? Do you think it's clean?" Allow the children to respond.

SAY: "If I wash dishes in the sink, and all the water gets yucky and filled with dirt and soap, is it clean and safe to drink?" Allow children to respond.

ACTIVITY: Clean Water

Materials Needed

- 3 clear jars or cups
- Enough water to fill each jar three-fourths full
- Mesh strainer, colander, or sieve
- 1 large bowl or bucket
- Leaves, rocks, large confetti/large glitter, large beads
    - Each of these materials should be too large to go through the mesh strainer, colander, or sieve. (The goal is to demonstrate what the colander or strainer "catches" and how it "cleans" the water.)

- Gather enough of the materials to fill the jars one-fourth full.

- Felt picture board with cut-outs or printed pictures to help you show the children a plumbing system model

Prepare

Prepare three clear jars by filling each one three-fourths full of water.

In the first jar, add large rocks. In the second jar, add leaves. In the third jar, add large confetti, large glitter, or large beads. Add only enough of each material so that it is visible in the water.

Set the mesh strainer, colander, or sieve aside for later use.

Teach

SAY: "Before water comes out of the faucet, it must travel through pipes and underground to get to you!"

SHOW: For demonstration, have a felt board or cards showing a plumbing system.

SAY: "When the water travels, it can get dirty, and now we know that dirty water isn't safe for us. Sometimes the thing that makes the water dirty is lead." Allow children to say the word *lead*.

SAY: "When water runs through the pipes, lead can get in our water. Is this clean and safe for us to drink?" Allow children to respond.

Place all three jars, containing the water and materials, in an area that can be easily viewed by the children. Place the bucket and sieve nearby.

SAY (while pointing to all the jars): "Do you think any of these are clean and safe to drink?"

SAY: "So what are some things that make water dirty and unsafe to drink?" Allow children to respond briefly and remind them that different things can make water unclean, but the main source is lead in pipes. Explain again that it makes the water unsafe and unclean.

SAY: "Do you know what can happen if you drink dirty, unsafe water? It can make you sick!"

SAY: "Because our water gets dirty sometimes, we can be water heroes and clean the water!" Pick up one of the jars and the sieve. Hold the sieve over the bucket to catch the water.

SAY: "To clean the water, we must turn on the faucet or water fountain." Begin slowly pouring the water through the sieve and allow the debris to catch in the sieve slowly as the water continues to pour.

SAY: "As we run the water, all of the dirt and bad things in the water go away! But we must keep it running to get all the dirt out." Finish pouring the contents of the jar through the sieve.

SAY: "See all of the clean water we made?" Show them the clean water in the bucket.

Repeat this until you have shown the children how to "clean" the water in the other two jars.

SAY: "To clean the water, we have to sing a song! We must turn on the water at the faucet or water fountain, and while it flows, we sing our water heroes song before we drink. This song will give us clean water if we follow the steps!"

Sing "The Itsy-Bitsy Spider" song:

The itsy-bitsy spider

Went up the waterspout

Down came the rain and

Washed the spider out

Out came the sun and

Dried up all the rain

And the itsy-bitsy spider

Went up the spout again

Sing the song several times, and practice with the children at the water fountain when they get a drink. Remind them again that they should sing the song while the water runs in order to flush the faucet before they drink.

SAY: "This is our water heroes song!"

ACTIVITY: Safe Water

Materials needed

- Safe Water Activity sheet (pages 47 and 48; one for each child)
- Crayons, pencils, markers, or any other writing utensil for children to use

Print pages 47 and 48 together (47 on one side, 48 on the other). Children will draw on one side and take the sheet home to their parents. Page 48 is for parents.

Teach

The Safe Water Activity sheet is designed for the children to draw how they use water each day. After the children have completed this activity sheet, send the sheet home. The back of these activity sheets includes information to quickly educate parents about reducing lead exposure at home and offers a quick resource guide.

GIVE each child a Safe Water Activity sheet.

SAY: "I want everyone to draw different ways we use water every day! Do we use it to brush our teeth or cook? Draw a way you use water each day."

LESSON 3

Water Cycle

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson provides children with a simple and scientific understanding of the water cycle. Children will learn about the water cycle through colorful illustrations and crafts. Children will learn about the water cycle and how clean water plays a role in the process. Children will be able to identify how lead contamination can make water unclean.

LEARNING OBJECTIVE

Children will explain the water cycle.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 4-YEAR-OLD CHILDREN

ELA.RL.PK4.4a Develop new vocabulary from stories.

ELA.RI.PK4.1 With prompting and support, ask and/or answer questions with details related to a variety of informational print materials (e.g., charts, graphs, maps, lists, and other reference materials).

ELA.SL.PK4.1 With guidance and support, participate in small-group and large-group shared conversations about pre-kindergarten topics and texts with peers and adults.

AL.PA.PK4.2 Demonstrate the ability to remain engaged in an activity or experience.

AL.PS.PK4.3 Apply prior learning and experiences to build new knowledge.

S.ES.PK4.2 With prompting and support, identify characteristics of the clouds, sun, moon, and stars.

VOCABULARY

water cycle
saturation
precipitation
gravity

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help introduce the topic to the children
- Typed cue cards

- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today."

Hold up the news board with the day's topic.

SAY: "Does anyone know what this says?"

Read the topic from the news board while pointing to the words: **Water Cycle**

EXPLAIN

Use the Water Cycle Diagram handout (page 49) as a visual aid.

SAY: "We are going to learn about the water cycle!"

SAY: "The sun controls the water cycle. When the sun shines down and warms up the earth, it heats up lakes, rivers, and streams. As the water warms up, it gets lighter and floats through the air. This is called 'evaporation.'"

SAY: "As the water floats up into the air, we cannot really see it, but it forms clouds in the air. Can we see clouds?" Allow children to respond.

SAY: "When the clouds become saturated, they get heavy! Do you all remember what happens when clouds get heavy?" Remind children of the Clean Water activity from Lesson 2.

SAY: "Precipitation happens when the clouds get heavy, and the rain comes down to Earth. If it's cold enough, this rain freezes and we get snow! As the rain falls to the earth, it fills lakes, streams, and oceans. The rain helps plants to grow and it gives animals something to drink. Some animals even live in this water in oceans and lakes!"

SAY: "People need water, too. What are some ways we use water?" Allow children to respond. "We use water for drinking, brushing our teeth, taking a bath or shower, flushing the toilet, washing dishes, doing laundry, watering plants, washing the car, and swimming."

SAY: "Once we are done with the water, it goes down the sink or toilet drain. Remember when we talked about plumbing? Our water goes into a pipe, which takes it away to get cleaned, and then the water goes back into a lake. So the pipes in our homes are actually a part of the water cycle because they bring us water and take it away."

SAY: "Does anyone remember how our water can get dirty?" Allow children to respond and then remind them how water flows through pipes and sometimes can become unclean.

ASK: "What must we do to clean our water?" Allow children to respond and have the children sing the water heroes song ("The Itsy-Bitsy Spider").

ACTIVITY: Water Cycle Bracelet

Materials Needed

- Hemp cord
- Pony beads (10 colors, enough for each child to get one of each color used)
  - Yellow – sun
  - Clear – air
  - White – clouds
  - Light blue – river or stream

- Dark blue – lake or pond
- Purple – ocean
- Brown – ground surface/soil
- Green – plants
- Red – animals
- Gray – lead exposure
- Orange – water hero

- Yogurt cups (emptied and cleaned)
- Scissors
- The Water Cycle Diagram (page 49)
- Photos of the steps in the water cycle (optional; photos of rain, clouds, puddles, the sun, etc., to help children visualize the steps)
- Take-home Water Cycle Cards to help children explain their bracelets (page 50; one for each child)

Prepare

Cut the hemp cord into 12-inch lengths and double-knot each piece 4 inches from an end. Prepare enough cord so that each child will have one cord. Print and cut out the take-home Water Cycle Cards. Set out the yogurt cups and place a piece of cord and one of each colored bead into each cup.

Teach

Explain the water cycle bracelets, where each colored bead represents a different part of the water cycle. Tell the children to hold their cord up so that the knot is at the bottom. Walk them through the water cycle, telling them to place the colored beads on the cord as you get to that color in the cycle.

Have the children answer a question (such as, "What color is the water bead?") before placing each bead on the bracelet.

When you reach the gray bead that represents lead in water, stop and have a discussion with the students.

SAY: "Remember that when rain falls from the sky, the water is collected for us to use. We can use it to drink, wash dishes, cook, and give to our pets!"

SAY: "Sometimes, as the water travels through the pipes to get to our homes and school, it can get dirty. The dirt comes from the pipes and can make our water unclean and unsafe to drink."

SAY: "Does anyone remember what we need to do before drinking from the water fountain or using the water faucet?" Allow children to respond.

SAY: "We need to turn on the faucet and sing our water heroes song!" Sing "The Itsy-Bitsy Spider."

SAY: "Drinking dirty water can make you sick. It could make your stomach or head hurt, and make you feel bad."

ASK again: "What do we need to do to clean the water and be water heroes?" Sing the water heroes song with the children several times while they finish placing the gray bead onto their cord.

When all the beads are on, double-knot each cord next to the last bead to keep all the beads together. Ask children to return the yogurt cups.

Give each child a take-home Water Cycle Card. Tell them how to explain to others what the different colors mean.

LESSON 4

Where Water Comes from Indoors

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with basic knowledge of where water comes from indoors. The children will build on their prior knowledge about where water comes from on the earth. They will now be able to differentiate between outdoor and indoor water sources. Children will learn where water comes from indoors and identify when water is used throughout the day.

LEARNING OBJECTIVES

Children will identify where water comes from inside.

MISSISSIPPI EARLY LEARNING STANDARDS FOR CLASSROOMS SERVING 4-YEAR-OLD CHILDREN

ELA.RI.PK4.1 With prompting and support, ask and/or answer questions with details related to a variety of informational print materials (e.g., charts, graphs, maps, lists, and other reference materials).

ELA.SL.PK4.1 With guidance and support, participate in small-group and large-group shared conversations about pre-kindergarten topics and texts with peers and adults.

ELA.L.PK4.4a Apply new meaning for familiar words accurately (e.g., recognizing that a car is also a vehicle).

ELA.L.PK4.5 With guidance and support, explore word relationships and word meanings.

S.ES.PK4.2 With prompting and support, identify characteristics of the clouds, sun, moon, and stars.

VOCABULARY

water source
potable
pipes
plumbing

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards

- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today."

Hold up the news board and read the day's topic while pointing to the words: **Water from Indoors**

EXPLAIN

Hold up a jar of water.

SAY: "In this jar, I have water! It's wet, clean, clear water. Did you know that people, animals, and plants all need water to live? Water makes up a big part of our world and our bodies. So, to stay healthy, we must drink plenty of clean water."

SAY: "Does anyone know how we can take care of ourselves using water?" Let children respond briefly.

SAY: "Drinking plenty of clean water helps us take care of ourselves and stay healthy. Animals, plants, and other living things need water, too!"

ACTIVITY: When Do We Use Water?

Materials Needed

- Pictures of daily activities the children participate in during school hours (e.g., washing hands after an activity or before lunch)
- Pictures of pipes/plumbing
- Watercolor paints
- Paint brushes
- Paper for painting

Teach

SAY: "We can find water inside and outside. Where are all the places we find water inside today? Let's think about when we use it and how we use it."

SAY: "Now, let's paint a picture to show where water comes from indoors!" Give children time to paint.

Water Safety Lessons for Preschoolers

These lessons were created to be taught in the specific order that is provided in each unit. Teaching the lessons in order will provide scaffolding to ensure the students gain an understanding of SipSafe objectives. However, these lessons were developed so that each one can be taught as a stand-alone lesson if needed.

LESSON 1

Water on Earth

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will provide children with a basic knowledge of the water cycle. Children will learn specifically about how rain falls to the earth from the clouds. Children will explore weather concepts, experiment with cause and effect, learn new vocabulary words, experience a hands-on learning activity, and explore rain.

LEARNING OBJECTIVES

Children will explain where water comes from on Earth.

MISSISSIPPI COLLEGE AND CAREER-READINESS STANDARDS FOR SCIENCE

P.K.5A Students will demonstrate an understanding of the solid and liquid states of matter.

P.K.5A.1 Generate questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.

P.K.5A.2 Describe and compare the properties of different materials (e.g., wood, plastic, metal, cloth, paper) and classify these materials by their observable characteristics (visual, aural, or natural textural) and by their physical properties (weight, volume, solid or liquid, and sink or float).

E.K.8A Students will demonstrate an understanding of the pattern of seasonal changes on the earth.

E.K.8A.1 Construct an explanation of the pattern of the earth's seasonal changes in the environment using evidence from observations.

E.K.8B Students will demonstrate an understanding that the sun provides the earth with heat and light.

E.K.8B.1 With teacher guidance, generate and answer questions to develop a simple model that describes observable patterns of sunlight on the earth's surface (day and night).

E.K.8B.2 With teacher guidance, develop questions to conduct a structured investigation to determine how sunlight affects the temperature of the earth's natural resources (e.g., sand, soil, rocks, and water).

VOCABULARY

precipitation
evaporation
condensation

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards
- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil
- Globe

SAY: "Let's find out what we are learning about today!"

Hold up the news board and read the day's topic while pointing to the words: **Water on Earth**

Hold up a globe for the children to see.

EXPLAIN

Hold up a globe and SAY: "A globe shows us our whole world and what it looks like from far away. Do you know what the blue is?" Allow the children to answer.

SAY: "Water makes up most of the earth. In fact, 70 percent of the earth is water."

SAY: "Now we are going to learn how rain is 'made.'"

ACTIVITY: Weather Cycle in a Bag

Materials Needed

- 1–3 zip-top sandwich bags
- ½ cup of soil for each bag (potting soil, soil from backyard, etc.)
- Plant mister or spray bottle (enough for several children to share; 1–3 depending on number of students)
- 1 small roll of painter's tape
- Several large spoons or cups to scoop soil
- Window with adequate sunlight
- Newspaper, garbage bags, or a tray (to protect the working surface)

Teach

- Show children how to spoon soil into the bag, filling it one-fourth to one-third of the way full.
- Show children how to generously mist the soil in the bag. The soil must be very moist, but not muddy.
- Help children zip the bags shut.

- Tape the bag to a sunny window, and watch what happens!
  - The bag will become cloudy/foggy as the moisture evaporates. The reaction time will vary depending on where the window is, how much sunlight is available, and the outside temperature. This experiment could take 2 hours or overnight.
  - The "cloud" will form as the bag becomes foggy. Explain to the children that this is like the clouds we see in the sky, but up close.
  - Once the "cloud" inside the bag can no longer hold water, "rain" will begin.
  - The "rain" will be represented by the condensation dripping down the walls of the bag.
- Take time to discuss the water cycle process that occurred throughout the experiment. This is an excellent opportunity to explain how water can accumulate lead, and how not all water is clean.

SAY: "Sometimes, after rain falls from the sky, we collect it and turn it into our drinking water. Most of the time, our water is safe and clean to drink! However, sometimes the rain that we collect for our drinking water can get dirty."

SAY: "The water can get dirty from traveling through the pipes to our faucets indoors. When the water travels through the pipes, it can get lead in it, and the lead makes it dirty."

SAY: "We should all know that dirty water can make us sick! Our bellies and head can hurt, and we can feel sick from drinking dirty water."

SAY: "We do not want to drink dirty water and get sick, do we? How can we make sure our water is clean?"

SAY: "We sing our water heroes song while we run the water so we can make sure it is clean! Let's sing the water heroes song together!"

Sing "The Itsy-Bitsy Spider"

The itsy-bitsy spider
Went up the waterspout
Down came the rain and
Washed the spider out
Out came the sun and
Dried up all the rain
And the itsy-bitsy spider
Went up the spout again

LESSON 2

Water Safety

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson will introduce the difference between what is safe and unsafe water for children to drink. Children will also learn the sources of safe drinking water and action steps to take in order to make their water safe. During these activities, children will learn the importance of becoming a "water hero."

LEARNING OBJECTIVES

Children will identify what water is safe and unsafe to drink.

Children will choose what is clean water and what is unclean water to use.

MISSISSIPPI COLLEGE AND CAREER-READINESS STANDARDS FOR SCIENCE

P.K.5A Students will demonstrate an understanding of the solid and liquid states of matter.

P.K.5A.1 Generate questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.

P.K.5A.2 Describe and compare the properties of different materials (e.g., wood, plastic, metal, cloth, paper) and classify these materials by their observable characteristics (visual, aural, or natural textural) and by their physical properties (weight, volume, solid or liquid, and sink or float).

E.K.8A Students will demonstrate an understanding of the pattern of seasonal changes on the earth.

E.K.8A.1 Construct an explanation of the pattern of the earth's seasonal changes in the environment using evidence from observations.

E.K.8B Students will demonstrate an understanding that the sun provides the earth with heat and light.

E.K.8B.1 With teacher guidance, generate and answer questions to develop a simple model that describes observable patterns of sunlight on the earth's surface (day and night).

E.K.8B.2 With teacher guidance, develop questions to conduct a structured investigation to determine how sunlight affects the temperature of the earth's natural resources (e.g., sand, soil, rocks, and water).

VOCABULARY

potable
drinkable
safe

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. This can be a felt picture board, typed cue cards, easel chart, or simply a piece of cardstock paper with the topic written out for the children to see. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help you introduce the topic to the children.
- Typed cue cards
- Easel chart
- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today!"

Hold up the news board and read the topic while pointing to the words: **Water Safety**

EXPLAIN

SAY: "Water is found in many places. Sometimes, we can drink it because it's clean and safe! Sometimes we should not drink it because it isn't clean or safe for us. Did you know that drinking unclean and unsafe water can make us very sick?"

SAY: "If I find a puddle outside, should I drink from it? Do you think it's clean?" Allow children to respond.

SAY: "If I wash dishes in the sink, and all the water gets yucky and filled with dirt and soap, is it clean and safe to drink?" Allow children to respond.

ACTIVITY: Clean Water

Materials Needed

- 3 clear jars or cups
- Enough water to fill each jar three-fourths full
- Mesh strainer, colander, or sieve
- 1 large bowl or bucket
- Leaves, rocks, large confetti/large glitter, large beads
  - Each of these materials should be too large to go through the mesh strainer, colander, or sieve. (The goal is to demonstrate what the colander or strainer "catches" and how it "cleans" the water.)
  - Gather enough of the materials to fill the jars one-fourth full.
- Felt picture board with cut-outs or printed pictures to help you show the children a plumbing system model

Prepare

Prepare three clear jars by filling each one three-fourths full of water.

In the first jar, add large rocks. In the second jar, add leaves. In the third jar, add large confetti, large glitter, or large beads. Add only enough of each material so that it is visible in the water.

Set the mesh strainer, colander, or sieve aside for later use.

Teach

SAY: "Before water comes out of the faucet, it must travel through pipes and underground to get to you!"

SHOW: For demonstration, have a felt board or cards showing a plumbing system.

SAY: "When the water travels, it can get dirty, and now we know that dirty water isn't safe for us. Sometimes the thing that makes the water dirty is lead." Allow children to say the word *lead*.

SAY: "When water runs through the pipes, lead can get in our water. Is this clean and safe for us to drink?" Allow children to respond.

Place all three jars, containing the water and materials, in an area that can be easily viewed by the children. Place the bucket and sieve nearby.

SAY (while pointing to all the jars): "Do you think any of these are clean and safe to drink?"

SAY: "So what are some things that make water dirty and unsafe to drink?" Allow children to respond briefly and remind them that different things can make water unclean, but the main source is lead in pipes. Explain again that it makes the water unsafe and unclean.

SAY: "Do you know what can happen if you drink dirty, unsafe water? It can make you sick!"

SAY: "Because our water gets dirty sometimes, we can be water heroes and clean the water!" Pick up one of the jars and the sieve. Hold the sieve over the bucket to catch the water.

SAY: "To clean the water, we must turn on the faucet or water fountain." Begin slowly pouring the water through the sieve and allow the debris to catch in the sieve slowly as the water continues to pour.

SAY: "As we run the water, all of the dirt and bad things in the water go away! But we must keep it running to get all the dirt out." Finish pouring the contents of the jar through the sieve.

SAY: "See all of the clean water we made?" Show them the clean water in the bucket.

Repeat this until you have shown the children how to "clean" the water in the other two jars.

SAY: "To clean the water, we have to sing a song! We must turn on the water at the faucet or water fountain, and while it flows, we sing our water heroes song before we drink. This song will give us clean water if we follow the steps!"

Sing "The Itsy-Bitsy Spider" song:

The itsy-bitsy spider

Went up the waterspout

Down came the rain and

Washed the spider out

Out came the sun and

Dried up all the rain

And the itsy-bitsy spider

Went up the spout again

Sing the song several times, and practice with the children at the water fountain when they get a drink. Remind them again that they should sing the song while the water runs in order to flush the faucet before they drink.

SAY: "This is our water heroes song!"

ACTIVITY: Safe Water

Materials needed

- Safe Water Activity sheet (pages 47 and 48; one for each child)
- Crayons, pencils, markers, or any other writing utensil for children to use

Print pages 47 and 48 together (47 on one side, 48 on the other). Children will draw on one side and take the sheet home to their parents. Page 48 is for parents.

Teach

The Safe Water Activity sheet is designed for the children to draw how they use water each day. After the children have completed this activity sheet, send the sheet home. The back of these activity sheets includes information to quickly educate parents about reducing lead exposure at home and offers a quick resource guide.

GIVE each child a Safe Water Activity sheet.

SAY: "I want everyone to draw different ways we use water every day! Do we use it to brush our teeth or cook? Draw a way you use water each day."

LESSON 3

Water Cycle

OVERVIEW

These lessons are designed to introduce water safety into the classroom by providing basic, scientific knowledge about how water plays a vital role in our lives. Children will learn why water is such a valuable resource, how it is used, and its characteristics. Using fun and engaging activities, this lesson will begin to introduce concepts that will help children be "water heroes" by reducing lead exposure so everyone can SipSafe.

PURPOSE

This lesson provides children with a simple and scientific understanding of the water cycle. Children will learn about the water cycle through colorful illustrations and crafts. Children will learn about the water cycle and how clean water plays a role in the process. Children will be able to identify how lead contamination can make water unclean.

LEARNING OBJECTIVE

Children will explain the water cycle.

MISSISSIPPI COLLEGE AND CAREER-READINESS STANDARDS FOR SCIENCE

L.K.3B Students will demonstrate an understanding of the interdependence of living things and the environment in which they live.

P.K.5A Students will demonstrate an understanding of the solid and liquid states of matter.

E.K.8A.1 Construct an explanation of the pattern of the earth's seasonal changes in the environment using evidence from observations.

E.K.8B Students will demonstrate an understanding that the sun provides the earth with heat and light.

E.K.10 Students will demonstrate an understanding of how humans use the earth's resources.

VOCABULARY

evaporation
condensation
precipitation
collection

LEARNING PROCEDURES

To begin class, prepare a visual aid (news board) to help you introduce the lesson topic for the day. On your news board, add the topic you will be teaching for this lesson.

Materials for News Board

(choose the materials/method you wish to use)

- Felt picture/letter board
- Cut-outs of letters to spell your topic, water drops, a drinking glass, or any other visual aid that could be added to your news board to help introduce the topic to the children
- Typed cue cards
- Easel chart

- Cardstock paper
- Pen, pencil, marker, or any other writing utensil

SAY: "Let's find out what we are learning about today!"

Hold up the news board with the day's topic.

SAY: "Does anyone know what this says?"

Read the topic from the news board while pointing to the words: **Water Cycle**

ACTIVITY: Water Cycle Adventure

Materials Needed

- A wet shirt in a plastic bag
- *The Great Big Water Cycle Adventure* by Kay Barnham

Teach

Gather your students around you so they can easily see the bag with the wet shirt.

SAY: "I am so sad because I spilled water on my favorite shirt!" Pull the shirt out of the bag and show them.

SAY: "Now I will have to throw away my favorite shirt because it is wet!" Give the students time to object to this idea. Hopefully a student will suggest that it will dry.

If no one responds, ASK: "Does anybody have any ideas about what I can do with my shirt to fix it?"

ASK: "What does it mean for something to dry?"

ASK: "Where does the water go when something is drying?"

SAY: "Today, we will learn about where water goes in the water cycle!"

Put the shirt away so the children will not be distracted by it.

ASK: "What does a wheel do on a bike?"

SAY: "The water cycle acts like a wheel on a bike by going around in cycles."

READ: *The Great Big Water Cycle Adventure* aloud to the children.

ACTIVITY: Water Cycle Diagram

Materials Needed

- The Water Cycle Diagram (page 49; one for each child)
- Water Cycle Terms handout (page 51; one for each child)
- Scissors (one for each child or group of children)
- Glue sticks (one for each child or group of children)

Teach

Have children sit at desks or in a circle on the floor.

Walk the children through the Water Cycle Diagram.

SAY: "Evaporation (point at red lines) is when the water from the ground heats up and gets lighter and floats through the air. Clouds (point at the clouds) are a form of condensation. The water begins to collect and forms the clouds. Rain (point to the raindrops) falls from the clouds when they get very heavy. This is called precipitation. When water (point to the water) falls from the clouds, it collects in streams, lakes, oceans, and other bodies of water."

ASK: "What makes the water on the ground heat up?" Allow children to respond.

SAY: "That's right—the sun heats up the water and causes it to evaporate."

Continue asking questions and going over the steps of the water cycle until you feel your students understand the concept.

Show the children how to cut out the Water Cycle Terms labels and glue them to the Water Cycle Diagram in the right order.

SAY: "Now, you cut out your water cycle terms and glue them to your water cycle diagram! Raise your hand if you need help."

Visit each child or group, and walk them through the water cycle, explaining the vocabulary while pointing to the appropriate words on the page.

ACTIVITY: Water Cycle Bracelet

Materials Needed

- Hemp cord
- Pony beads (10 colors, enough for each child to get one of each color used)
  - Yellow – sun
  - Clear – air
  - White – clouds
  - Light blue – river or stream
  - Dark blue – lake or pond
  - Purple – ocean
  - Brown – ground surface/soil
  - Green – plants
  - Red – animals
  - Gray – lead exposure
  - Orange – water hero
- Yogurt cups (emptied and cleaned)
- Scissors
- The Water Cycle Diagram (page 49)
- Photos of the steps in the water cycle (optional; photos of rain, clouds, puddles, the sun, etc., to help children visualize the steps)
- Take-home Water Cycle Cards to help children explain their bracelets (page 50, one for each child)

Prepare

Cut the hemp cord into 12-inch lengths and double-knot each piece 4 inches from an end. Prepare enough cord so that each child will have one cord. Print and cut out the take-home Water Cycle Cards. Set out the yogurt cups and place a piece of cord and one of each colored bead into each cup.

Teach

Explain the water cycle bracelets, where each colored bead represents a different part of the water cycle. Tell the children to hold their cord up so that the knot is at the bottom. Walk them through the water cycle, telling them to place the colored beads on the cord as you get to that color in the cycle.

Have the children answer a question (such as, "What color is the water bead?") before placing each bead on the bracelet.

When you reach the gray bead that represents lead in water, stop and have a discussion with the students.

SAY: "Remember that when rain falls from the sky, the water is collected for us to use. We can use it to drink, wash dishes, cook, and give to our pets!"

SAY: "Sometimes, as the water travels through the pipes to get to our homes and school, it can get dirty. The dirt comes from the pipes and can make our water unclean and unsafe to drink."

SAY: "Does anyone remember what we need to do before drinking from the water fountain or using the water faucet?" Allow children to respond.

SAY: "We need to turn on the faucet and sing our water heroes song!" Sing "The Itsy-Bitsy Spider."

SAY: "Drinking dirty water can make you sick. It could make your stomach or head hurt, and make you feel bad."

ASK again: "What do we need to do to clean the water and be water heroes?" Sing the water heroes song with the children several times while they finish placing the gray bead onto their cord.

When all the beads are on, double-knot each cord next to the last bead to keep all the beads together. Ask children to return the yogurt cups.

Give each child a take-home Water Cycle Card. Tell them how to explain to others what the different colors mean.

Ways We Use Water

BE A WATER HERO!

4 EASY WAYS TO REDUCE YOUR CHILD'S LEAD EXPOSURE

FLUSH FAUCETS

In the mornings, turn on your faucets and allow them to run for at least 30 seconds before using the water

COLD WATER!

Always use cold water from the tap when cooking or preparing baby formula.

MAINTENANCE

Each year, flush water heaters by following the manufacturer's guide.

CAUTION!

Never drink directly from an outdoor hose or utility sink!

MISSISSIPPI STATE UNIVERSITY EXTENSION

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MORE RESOURCES

www.cdc.gov/nceh/lead/about/program.htm

www.cdc.gov/biomonitoring/Lead_factsheet.html

www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

For more information, please contact Jason R. Barrett at jason.barrett@msstate.edu, Ballew Hall, Suite 207/Box 9547, Mississippi State, MS 39762.

Water Cycle

 Yellow = Sun

 Clear = Air

 White = Clouds

 Light Blue = River

 Dark Blue = Lake

 Purple = Ocean

 Brown = Soil

 Green = Plants

 Red = Animals

 Gray = Lead Exposure

 Orange = Water Hero!

Water Cycle

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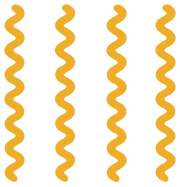
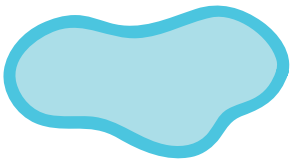
Water Cycle Terms

evaporation 

condensation 

collection 

precipitation 

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