The InvestiGator Club™ Prekindergarten Learning System

# Investigations

TEACHER'S EDITION

Integrated Activities for Exploring, Experimenting, and Making Discoveries

# Wet and Wonderful Water

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**www.investigatorclub.com**

# Part 2 What Is Water Like?

Tell children: *Now that you have been investigating all the places where water is found, it's time to discover what water is like. During this Investigation we'll learn more about how water feels, looks, acts, sounds, and moves. We'll do lots of exploring, lots of thinking, and lots of experimenting with water. So if you are ready, let's investigate!*

**Language/Literacy/Science**

*Children investigate water using their senses and talk about their experiences.*

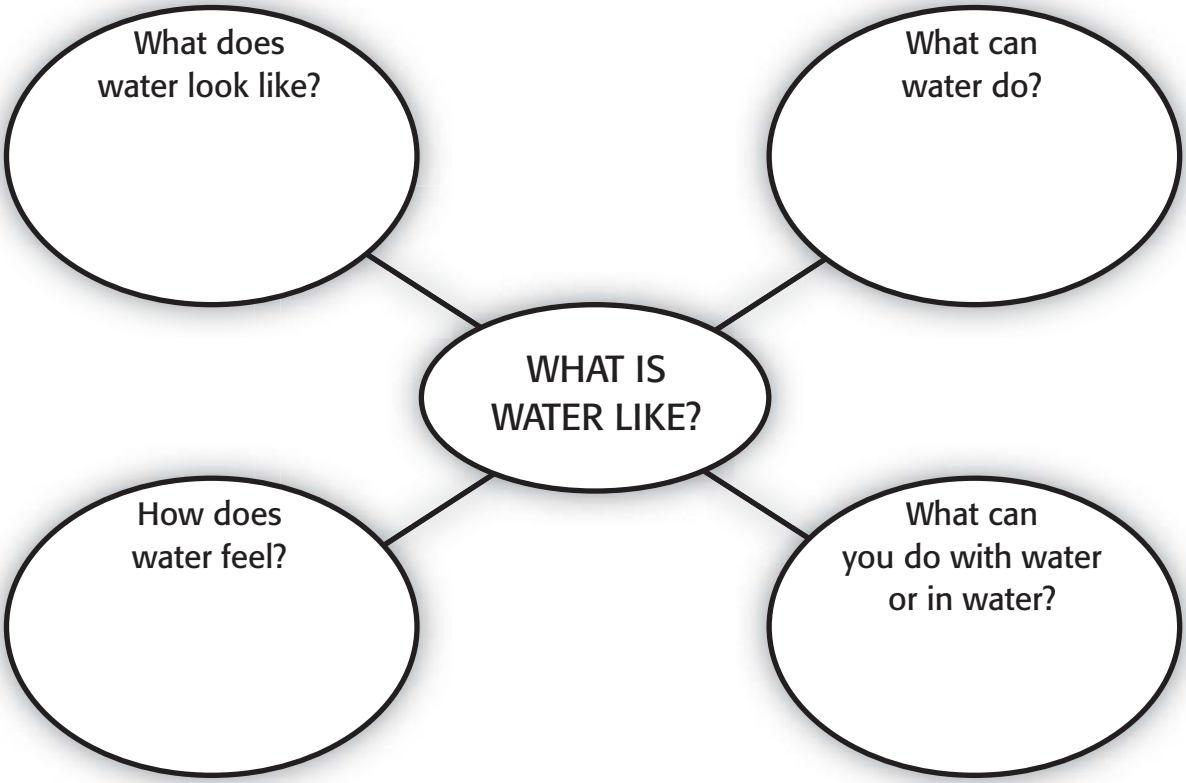
## Materials

- water table
- test tubes
- plastic containers
- funnels
- colanders
- chart paper

## Water Web

Invite children to use a variety of materials at the water table. Allow time for them to freely explore and talk about what they are experiencing as they work. In the meantime, create an idea web with questions on chart paper. The following diagram is an example. Leave plenty of space to record responses.

- Invite children to talk about what they experienced using their senses. Ask each question and record children's responses.
- Post the Water Web in the classroom. As children discover new things about water, add their ideas to the word web.



**Science/Language/Problem Solving**

*Children will experiment to discover the way water flows.*

### Materials

- containers of water
- plastic tub (rectangular in shape)
- large wooden blocks
- How Does Water Flow? Activity Sheet
- blue crayon

# How Does Water Flow?

Invite children to work in small groups. Show them how to use wooden blocks to raise one end of a plastic tub. Have children take turns pouring water into the tub at the high end. As they observe the water flow, have them describe what they see. Ask: *Does the water flow up or down?*

- Challenge children to work together to try to get the water to move uphill. Ask: *Which way does the water move? Were you able to make the water move uphill? Did the water stay up? Why do you think water always flows down?*
- Give each child a How Does Water Flow? Activity Sheet. Name the picture on the sheet: a lawn sprinkler. Have children take the activity sheet home and use a blue crayon to trace the flow of water. Tell them that the next box is for drawing another example showing the flow of water, such as a running faucet, a stream on a hill, water running off a roof, or water running down a driveway or street. Send a note home asking parents to help children complete the drawing and to bring it back to school in one or two days.
- Share children's drawings. Add their discovery about water flow to the classroom word web.

**Science/Language**

*What will floating objects do in flowing water? Children experiment to find out!*

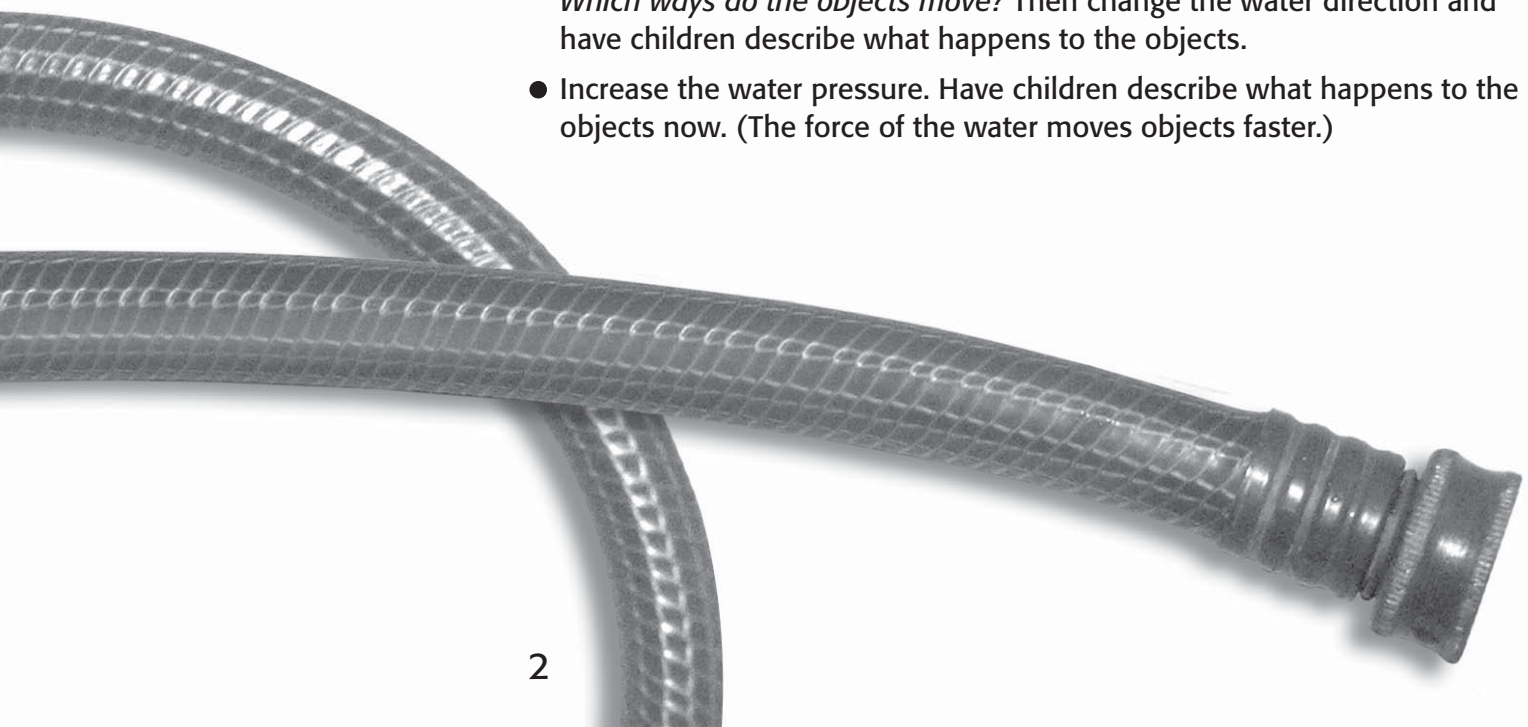
### Materials

- water hose
- objects that float

# Going with the Flow

Ask children: *Have you ever floated a toy boat in a stream or pond? What makes your toy boat move? Do you think floating objects in water move the same way the water flows or in a different way?*

- Run a hose over a hard surface outdoors. Have the water pressure on low at first. Have children place objects that float in the stream of water. As children observe the movement of the water and the floating objects, ask: *Which ways do the objects move?* Then change the water direction and have children describe what happens to the objects.
- Increase the water pressure. Have children describe what happens to the objects now. (The force of the water moves objects faster.)



**Math/Language**

*Children develop math skills by estimating, checking, and recording amounts of water using different sizes of containers.*

## Materials

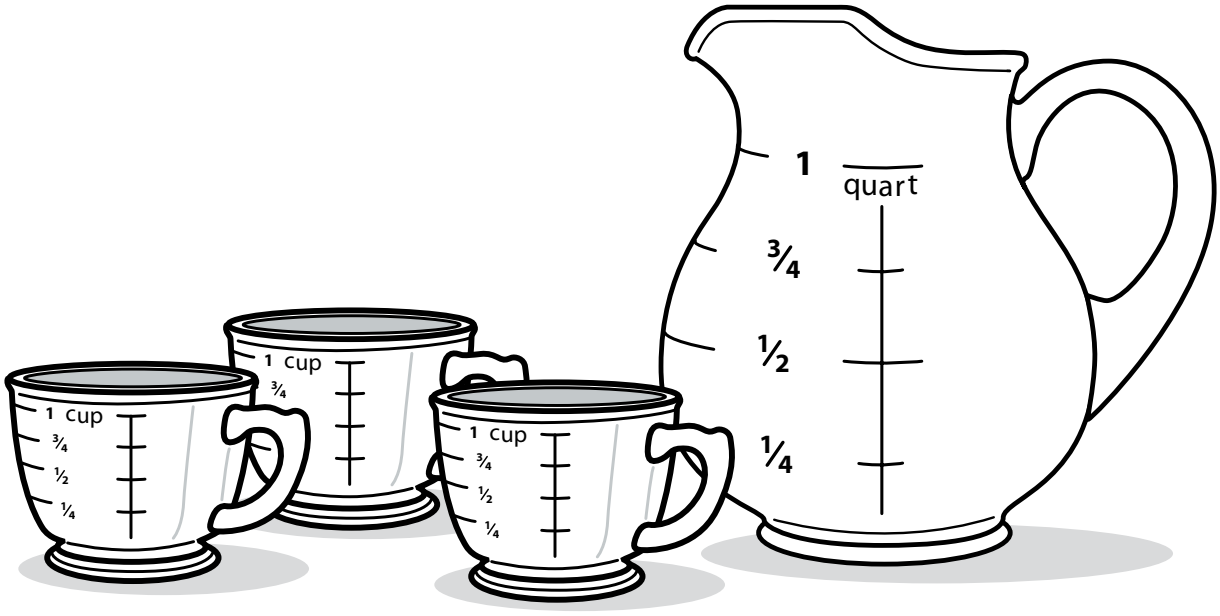
- variety of plastic containers including a one-cup and quart-size container
- water table or tub of water
- Fill It Up! Activity Sheet
- pencils

# Fill It Up!

Gather clean plastic cups and containers of varying sizes and shapes. Have children work in small groups to use them at the water table for filling and pouring water. After freely exploring, invite children to talk about what they have been doing and what they notice about the various containers.

Focus on estimating and checking capacity.

- First, show a one-cup and a quart-size measure. Ask: *Which container is smaller? Which container is larger?* Have your child discover what happens when water is poured from the large container into the small one. Then have your child fill the small container and pour it into the large one.
- Next, ask: *Which container will hold more water? How many cups do you think it will take to fill the large container?* Give each child a Fill It Up! Activity Sheet. Have them estimate and record the number or draw tally marks in the space provided.




- Have children check by filling the cup and pouring the water into the pitcher. As children work, have them color the cups used on the bottom of the sheet. When the pitcher is full, they can count the number of cups and record the number in the space provided.
- Invite children to continue to explore capacity and volume using containers of varying sizes and shapes. Encourage them to first guess which of two containers will hold more water and then check by seeing what happens when they fill one container with water and then pour the water into the other container. *Does the water spill over the sides or do you need to add more water to fill it up?* Invite children to share their discoveries: *Were you surprised to find out which held more water? Did any containers hold the same amount of water?*

**Art/Fine Motor Skills**

# Wet and Wonderful Water Art

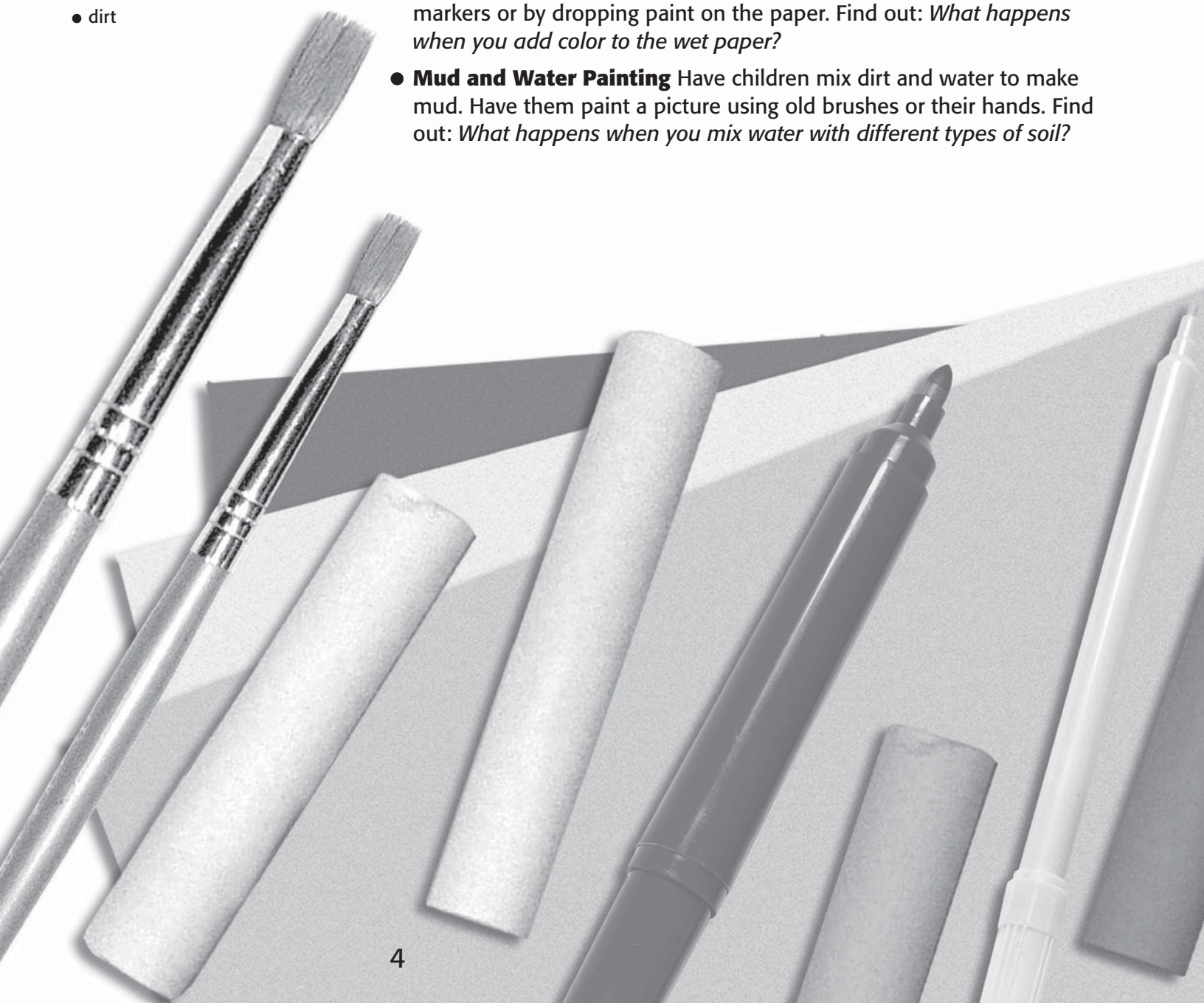
*What is wonderful about the following art activities? They all use water!*

Tell children: *Dilly does art projects with Great Auntie Lu. Here are some projects just for you!*

## Materials

- colored chalk
- art paper
- cups of water
- eyedroppers
- food coloring
- coffee filters
- markers
- tempera paint
- brushes
- dirt

- **Wet Chalk** Have children fold art paper in half. On one side have them draw a picture using dry colored chalk. On the second half have children dip chalk in water and then draw on the paper. Talk about differences they see. Ask: *Which do you like better?*
- **Eyedropper Painting** Mix food coloring with small amounts of water. Have children use an eyedropper to drop colored water on coffee filters to create designs. Find out: *What happens when the colors run together?*
- **Wet Paper Paintings** Have children use a clean brush and water to wet the paper first. Then they can experiment by drawing with chalk or markers or by dropping paint on the paper. Find out: *What happens when you add color to the wet paper?*
- **Mud and Water Painting** Have children mix dirt and water to make mud. Have them paint a picture using old brushes or their hands. Find out: *What happens when you mix water with different types of soil?*



**Science/Fine Motor Skills/ Math**

*Children investigate drops of water.*

## Materials

- eyedroppers
- wax paper
- cups of water
- magnifying glasses
- construction paper

# Look Closely!

Tell children that the InvestiGators like to examine things close-up. Here's their chance to look at water drops close-up! Have them use the eyedropper to place a drop of water on wax paper. Ask: *What shape is the water drop? What happens when you keep adding more drops? What changes? What stays the same?* Have children use a magnifying glass to take a closer look.

Cut water-drop shapes of varying sizes from construction paper. Have children order the shapes from smallest to largest and use size words to compare.

**Movement/Gross Motor Skills**

*What happens when children pretend to move like water or as if in water? A whole lot of motion goes on!*

# Move Like a . . .

Ask children to show how it would look to move in the following ways:

- **Move like water.**

  Move like an ocean wave crashing on the beach.

  Move like a gentle stream flowing down a hill.

  Move like little drops of rain falling on the grass.

  Move like water popping out of a lawn sprinkler.

- **Move like you are in water.**

  Pretend you are a surfer riding a wave.

  Pretend you are walking through a puddle after a rainstorm.

  Walk sideways like a crab on the ocean floor.

  Slither like a slippery eel in the ocean deep.

  Pretend to swim across a pond.

  Dip and dive like a porpoise in the sea.

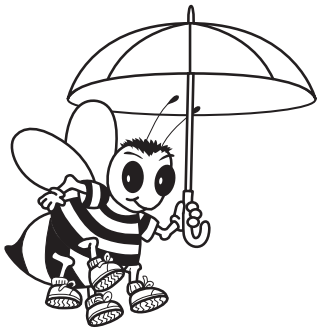
Invite children to suggest additional ways to move like or in water.

**Music/Movement/Language**

*Children listen to and compare the pitter-patter sounds of falling rain.*

### Materials

- empty metal cans
- trays or pie tins
- plastic containers
- umbrella
- garden hose or squirt bottle (optional)



# Pitter-Patter Band

Tell children that Bruno Buzzbee gets the latest weather reports from the Buzz Network and shares them with the other members of the InvestiGator Club. Teach children the following finger rhyme, Bruno's report for the day:

*Drop-drop, raindrops* *(Move fingers to imitate falling rain.)*
*falling all around.*
*Pitter-patter on my rooftop.* *(Tap softly on the floor or table.)*
*Pitter-patter on the ground.*
*Up goes my umbrella* *(Pretend to open an umbrella)*
*As rain falls from the sky.* *(Look up.)*
*Everything is wet with rain,* *(Point all around.)*
*But I am nice and dry.* *(Point to self.)*

Make your own pitter-patter band to listen to the sounds of falling rain. On the next rainy day place hollow metal containers and plastic containers upside down outdoors. Listen to the different sounds made by the falling rain. Listen for sounds on the rooftops, gutters, and windows too.

No rain in the forecast? Simulate a rainy day by using a garden hose or a squirt bottle filled with water to squirt water on different objects, including an umbrella. Ask children to describe the different sounds they hear played by the pitter-patter band.

**Language/Literacy/ Early Writing**

*Children write a poem describing the many sounds of water.*

### Materials

- chart paper
- marker
- crayons
- environmental recording of water sounds (optional)

# Water Poem

Invite children to close their eyes and listen to the sounds of water as you drip water on a pan, pour water into a glass, turn on a faucet, use your hand to swish and splash water at the water table, and let water go down a drain. You may want to record sounds beforehand or use a recording of environmental sounds, if available.

List words suggested by children on chart paper. Your list might include:

*drip, drip, drop*
*plink, plonk*
*swish*
*shhhh*
*splish, splash*
*pitter-patter*
*drizzle, drizzle*
*Glub! Glub!*

# Water Poem (continued)

Use the words to write a "list poem" with children. The following is an example!

## Water Sounds

Pitter-patter! Pitter-patter!

Drip! Drop! Plink!

Water on the roof top.

Water in the sink.

Splish! Splash! Splish!

Shhhh! Glub, glub!

Water in a puddle.

Water in my tub.

Recite the poem while tracking print. Have children echo-read each line.

**Health/Math/Cooperation**

*Children squeeze, measure, stir, and pour to make a refreshing drink using water.*

### Materials

- chart paper
- marker
- lemons
- white grape juice
- water
- ice cubes
- measuring spoons and cups
- pitcher
- spoon
- small paper cups

# Make a Watery Drink

Talk about the importance of drinking lots of water and other liquids every day. Ask children to name their favorite drinks. List their ideas on chart paper. Read the list and ask children to help you identify drinks that are kinds of water or are made with water.

- Have children work in groups of three to make lemonade with the following recipe or a variation.

## Lemonade

1 tablespoon lemon juice

2 tablespoons white grape juice

1 1/2 cups of water

ice

- Cut lemons in half for children. Have group members work together to squeeze, measure, stir, and pour. Add ice cubes and enjoy!

**Fine and Gross Motor Skills**

*Children learn to develop and control the muscles of the hand while discovering unique ways of moving water from one place to another.*

### Materials

- small and large containers
- water
- variety of sponges
- turkey basters
- eyedroppers
- spoons
- Moving Water Activity Sheet
- crayon

# Moving Water

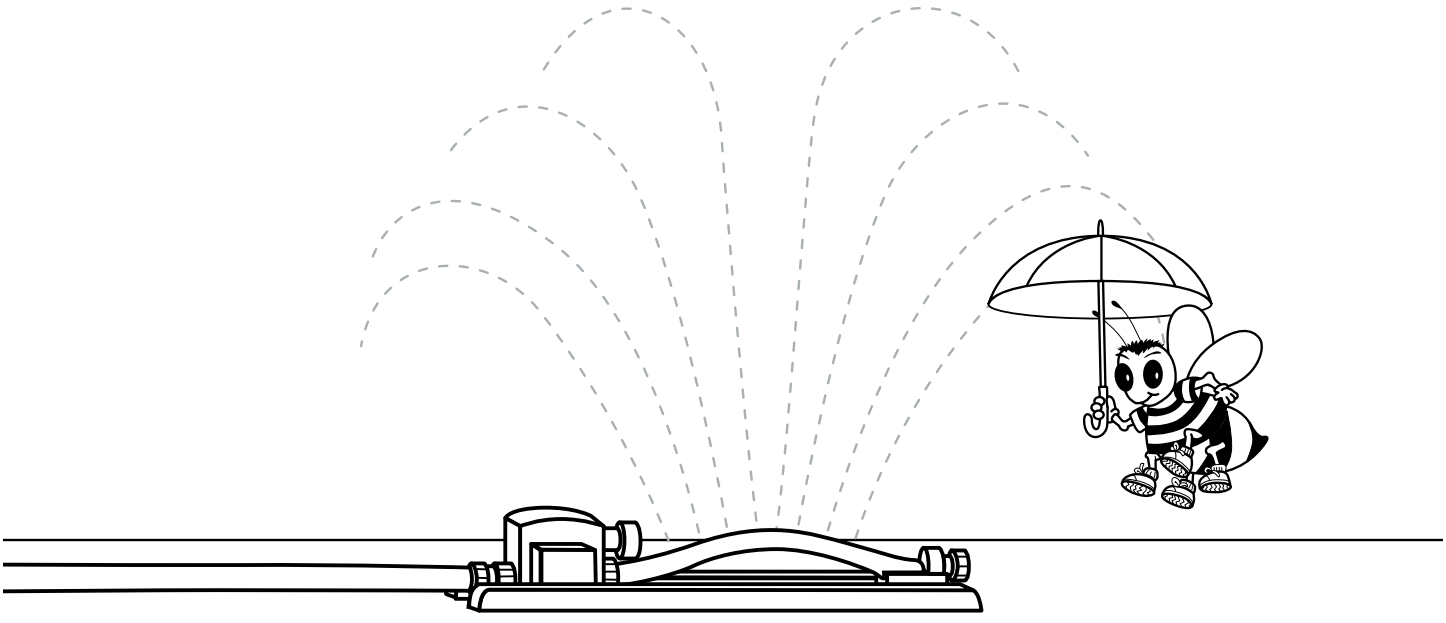
Set up an area for children to investigate moving water. Place sets of identical containers side by side. Fill one with water. Include a sponge or a baster with larger containers and an eyedropper or spoon for smaller containers.

- Have children remove all of the water from one container using the tool provided and move it to the second container.
- Children will discover that the tool used (eyedropper, baster, spoon, or sponge) holds a certain amount of water and no more.
- Keep the discovery area for a few days (changing the water each day) so that children can investigate moving water using different tools. Talk about what made the process easy or difficult to do.
- Provide each child with a copy of the Moving Water Activity Sheet. Have children first use a finger to trace the path the water must follow to reach the bucket. Then have them use a crayon to color the path.

Name _____

# How Does Water Flow?

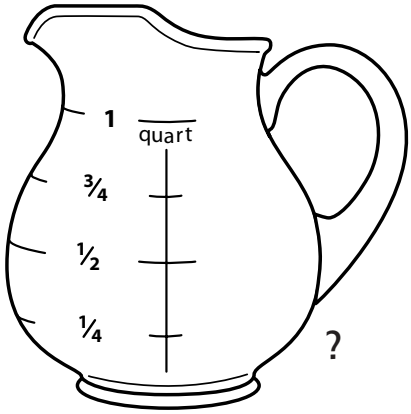
Draw the water flow for the sprinkler.

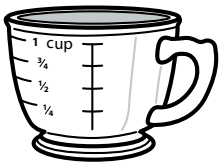


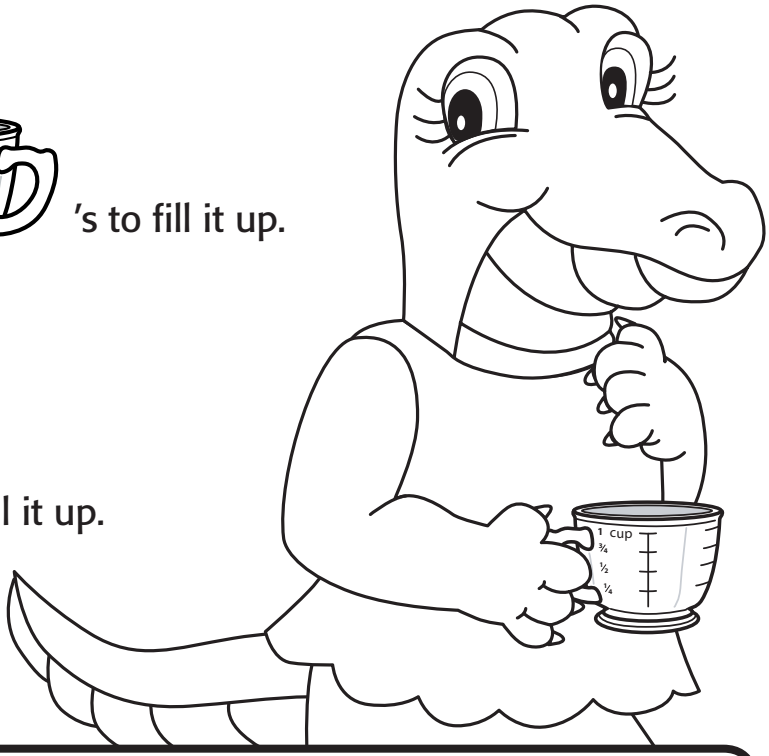
Draw a picture to show another place where water flows.

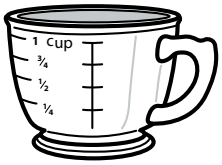
**Name** _____

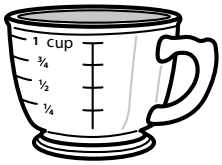
# Fill It Up!

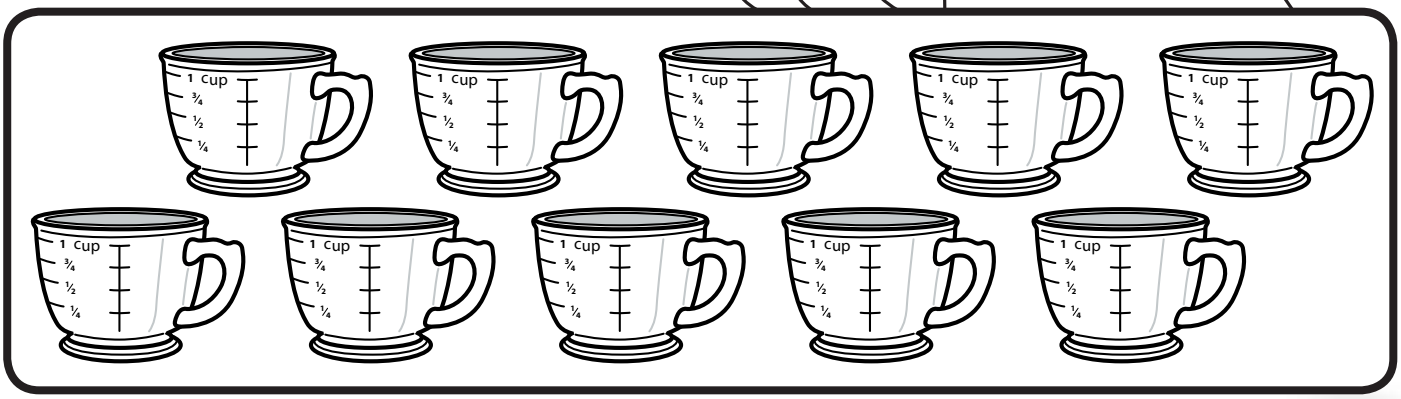



How many  's will it take to fill a ?



I think it will take _____  's to fill it up.

It took _____  's to fill it up.



**Investigation: Wet and Wonderful Water/Part 2**

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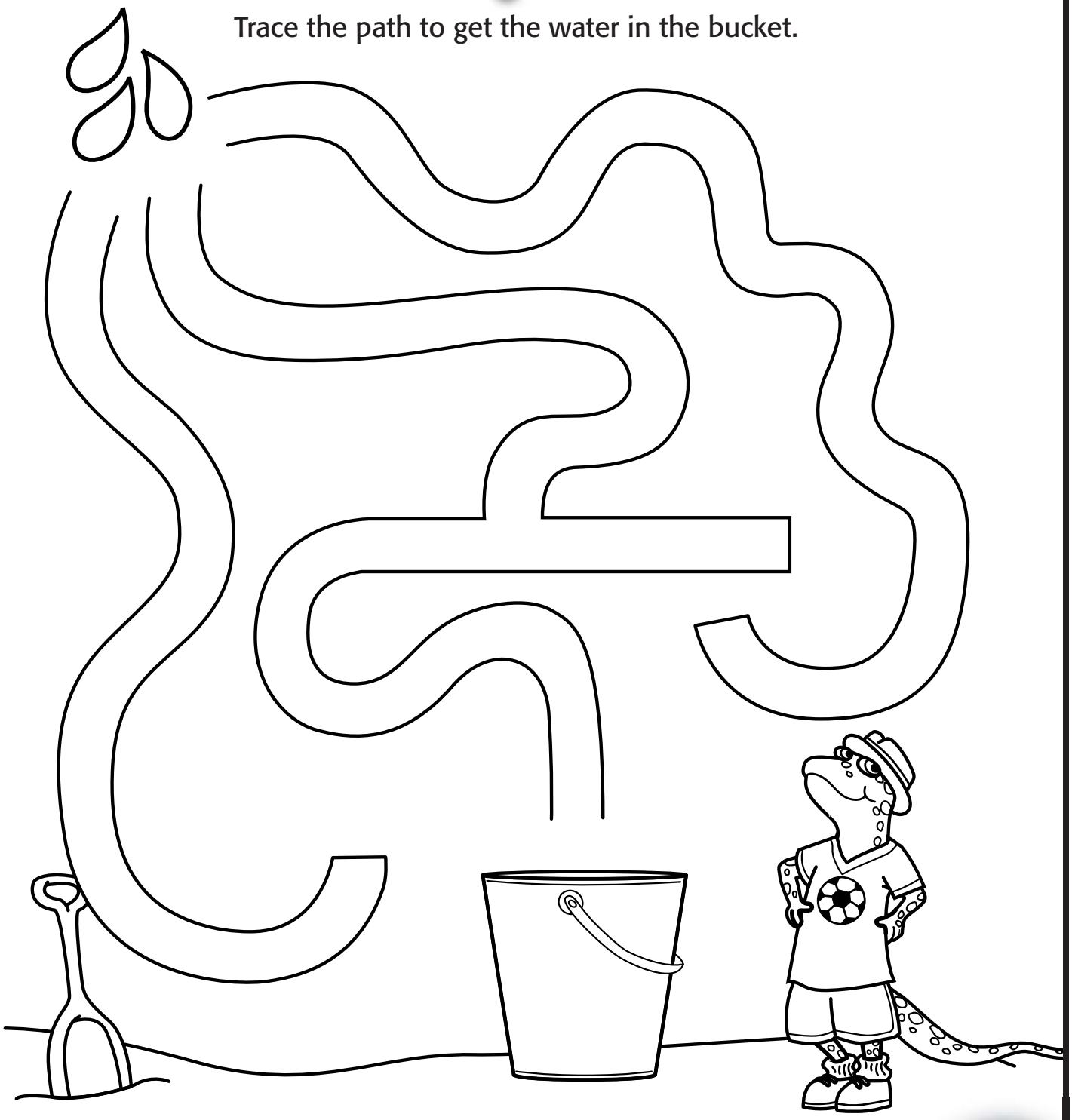
**Activity Sheet**

Name _____

# Moving Water

Trace the path to get the water in the bucket.



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**Activity Sheet**