

Material Preparation

MATERIALS

- pitcher
- clear plastic container or storage bin
- tablespoon
- measuring cup
- water
- plastic tablecloth (optional)
- masking tape
- paper towels
- permanent marker
- wax paper
- 2–3 lbs. of dry potting soil
- disposable aluminum muffin tin with six sections

For each child and the teacher:

- dropper
- 5-oz. plastic cup
- paper towel sheet
- *Ask Me About Rain* sticker

PREPARE IN ADVANCE

- Fill one cup with water for the teacher and place a dropper in it.
- Fill a small pitcher with water.
- Fill one cup per child with one tablespoon of water and place a dropper in it.
- Fill each section of the aluminum muffin tin with $\frac{1}{4}$ cup of dry potting soil.
- Use masking tape to label the sections with each child's name.



SET UP THE LESSON AREA

- Cover the table with a plastic tablecloth, if needed.
- Tape a large sheet of wax paper in the center of the table.
- Set aside aluminum muffin tin with soil and a cup with water and a dropper for each child.
- Set aside one sheet of paper towel per child.
- Set aside the clear plastic container and the pitcher with water.



For each child



PHOTOGRAPHS

- *Street Puddle* photograph
- *Dirt Road Puddle* photograph



OBJECTIVE

Children will investigate how rain puddles are formed.

EXCITE

1. Gather children at a table in the ECHOS lesson area. **Watch what I am doing and tell me what you think I'm making.** Use a dropper to add one drop of water at a time onto the wax paper in the center of the table. **Watch me.**
2. **What do you see happening? Yes, the drops of water are forming a puddle.** When the rain falls from the sky, puddles sometimes form on the ground, the sidewalk and the road.



INTRODUCE

1. **Let's pretend it is raining and more drops of rain are falling in the puddle. What do you think will happen?** Listen to the children's responses. **Let's see.** Use a dropper to add some more water to the puddle on the wax paper in the center of the table. The puddle should get larger and begin to spread out. **Yes, the puddle is getting bigger.**
2. Add one or two more droppers full of water, taking care that the water does not spill onto the floor. **Wow, what a big puddle we made!**
3. **How can we make this puddle go away right now?** Listen to children's responses. **Let's use some dry paper towels to absorb the water.** Give each child one paper towel. Have them take turns drying up the puddle.

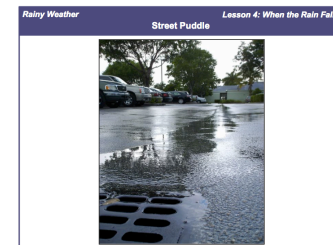


4. **When rain falls, *shallow* holes on the sidewalks or the road can fill up with rainwater.** Put your hands together to form a bowl shape; try not to have any spacing between your fingers. **I can cup my hands together into the shape of a bowl so that it looks like a shallow hole. See? Now, it's your turn.**
5. Place the clear bin and the pitcher of water in front of you at one end of the table. Call on two children at a time to stand next to the bin. Ask: **If water is poured into your hands, do you think it will make a puddle?** Listen to the children's responses. **Let's find out what happens.**
6. **We are going to work in pairs.** Ask two children to help. **I'm going to pour a small amount of water into your hands.** Ask one child to cup her hands together over the bin. Pour some water into her cupped hands. **Now you have a puddle in your hands. Can you see it?** Listen to the children's responses. Give the other child a paper towel. **Use this dry paper towel to soak up the puddles in (*child's name*) hands.** Repeat this step until each pair of children has had a turn. Remove the clear bin from the table.

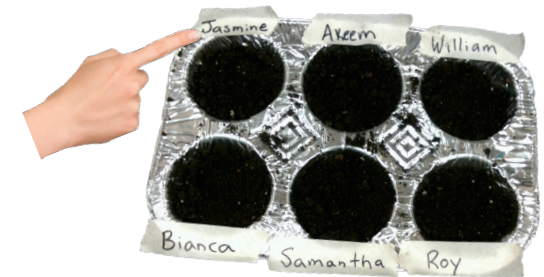


EXPLORE

1. Regroup the children. **Can you think of a time when it rained and you looked at the ground? Did you see a puddle that looks like this?** Show the children the *Street Puddle* photograph. **Did you ever see a puddle that looks like this?** Show the *Dirt Road Puddle* photograph.
2. **Today we are going to investigate puddles. We'll drop water into cups of dry dirt and see what happens.**



3. Give each child a cup of water and a dropper. **We'll use this pan to make puddles. The pan is divided into six sections. Let's count them together: 1, 2, 3, 4, 5, 6. Do you see your name on one section of the pan?**
4. **When it's your turn, add a dropperful of water to the section of the pan with your name next to it.** Guide the first child's turn. **Now, gently pick up some water using your dropper. Drip the water into the dirt.** Assist as needed if the child is having difficulty using the dropper.
5. Move the pan around the table or lesson area as needed to allow the next child to have a turn. Repeat until each child has had their first turn.
6. **What will happen when you add more water?** Listen to the children's responses. **Use your dropper to find out at your next turn.** Repeat until each child's section of the muffin tin begins to form a puddle on the surface of the dirt.
7. Guide the children as they explore the activity. Encourage them to watch the water from the dropper form a puddle on the surface of the dry soil. As the dirt absorbs the water, the water will begin to disappear. **What did you notice? Where did the water go?** Accept responses.
8. When the children have used up all of the water in their cups, collect the materials. **You were great puddle investigators today!**




INTERACT

Interact to accommodate children's individual needs and strengths. Use these suggested strategies as needed:

- If children need assistance using the dropper, encourage them to ask a friend, or help them yourself.
- Less is more. Guide children to add a little bit of water at a time to the dirt. Discourage children from dumping the entire cup of water into the dirt.
- Assist with turn taking as the aluminum muffin tin is passed around. Children may become impatient while waiting for their turn.



OUTCOMES

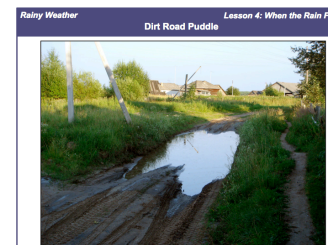
1. Regroup the children in the ECHOS lesson area. **What did we discover today?**
Listen to the children's responses. If needed, use suggested prompts to elicit key concepts and vocabulary. Encourage responses from everyone.
 - **What happened when you added water to the dirt?**
 - **What makes a puddle get bigger?**
2. Recap and review the unit key concepts by asking and prompting children to recall something they learned from any of the prior *Rainy Weather* lessons.
3. Give each child an *Ask Me About Rain* sticker. 
Remind the children to tell their family something they have learned about rain.
4. After you have completed *Lesson #4: When the Rain Falls* with all the children in your classroom, display the *Puddle* photographs in your science area to encourage observation.

VOCABULARY

- puddle
- shallow



Street Puddle photograph



Dirt Road Puddle photograph



Street Puddle



Dirt Road Puddle

