



open exploration

Step 1: Introduce Children to Exploring Water

Three- to five-year-olds have been exploring water all their lives, whether in the bath, at a sink, in the rain, or on a beach. Ideally they have had regular opportunities to explore at the water table area in your classroom too. This open exploration of water builds on children's prior experiences by giving them plenty of time to explore water with materials selected to highlight water's movement and its ability to take the shape of its container. In addition, open exploration introduces children to science talks with the whole class, which continue throughout open and focused explorations. Science talks give children opportunities to reflect on their observations, experiences, questions, and theories, and they create a group sense of shared purpose and excitement. This initial step helps you set the tone for an exciting and manageable water exploration. It guides your thoughtful introduction of new materials, rules, and routines, and it introduces you to some of the strategies and roles you will be using throughout *Exploring Water with Young Children*.

CORE EXPERIENCES

- Share prior experiences with water.
- Hear about materials in various water centers.
- Explore water and water materials.
- Share current experiences with water.

TEACHER NOTE: martin showed us how he made water come out of the end of a long tube by attaching a funnel to one end. He didn't say anything about his exploration; he just wanted to show us what happened.



PREPARATION

- Set up the water table area and a water center. (See p. 18 in “Getting Ready” for detailed information.)
- Display books and posters about water in “dry” locations around the room.
- Read the section on science teaching (pp. 95–99) for information about young children’s inquiry and for strategies you can use to engage children in the exploration.
- Collect a small container of water, two different sizes of cups or containers, and a funnel to bring to the initial meeting with the whole class.
- Make a few copies of the observation record form, p. 116.

SCHEDULE

Set the schedule for the next week, or until all interested children have explored with the new materials. Include the following:

- 10–15 minutes for an introductory meeting with the whole class
- 45–60 minutes for choice time, four or five times during the week
- 10–15 minutes for discussion with the whole class

MATERIALS

One set for the Water Table and another set for the Water Center(s)

- 3 or more long-sleeved water smocks
- 6 or more clear plastic containers, including measuring cups
- 12 pieces of clear tubing in three different diameter sizes, cut into 1-, 2-, and 3-foot lengths
- 3 or more clear plastic funnels that fit snugly into the various sizes of tubing

FAMILY CONNECTION

- Send home a note that introduces the “Exploring Water” study and that suggests ways families might help. (See p. 106 for a sample letter.)
- Schedule and plan an evening when parents and other family members can meet in the classroom, explore water with a range of materials, or talk about ways you can work together to support the study of water in and out of school.

TEACHER NOTE: I’ve taped a shower curtain to the floor under the water table, and I’ve found two big bins for children to keep materials in, under the table. We have a clothesline for hanging wet towels and water smocks, which are kitchen garbage bags with holes for heads and arms.

See p. 18 in step 3 of “Getting Ready” for specific information about these materials.

ISSUE: *I feel uneasy about having water in tubs at a table. Even at the water table there are always spills.*

RESPONSE: Water play at a water table is about small amounts of water and focused attention on a few materials and properties of water. Some ways to prevent water from getting on the floor are covering tables with layers of newspaper, putting tubs of water on trays to catch spills, and filling tubs only 3 or 4 inches full of water.

TEACHING PLAN

ENGAGE

Lead a discussion with the whole group, lasting five to ten minutes, to introduce “Exploring Water.”

Discuss children’s previous experiences with water.

When you start the exploration, gather the children together in a circle and invite them to share experiences they’ve had playing with water. Begin by sharing one of your own experiences. For example, you might say something like this:

- *When I make vegetable soup I like to see which veggies sink and which ones float. And sometimes I pretend the carrots are boats and I watch them sail around inside my sink.*
- *Where do you play with water? The bathtub, sink, puddle, a stream?*
- *What do you do? What do you play with?*

Encourage all children to contribute by asking questions such as the following:

- *Who else likes to (watch sticks float down a stream, play with boats in the bathtub, splash in puddles)? What happens when you do that?*

Introduce new materials.

Tell the children that the class is going to really explore water and that’s why you’ve rearranged the water table area, cleared a new space in the room for a water center, and have new materials for them to use in their water play.

Show children a funnel and a piece of tubing. Invite them to tell about times they’ve used or seen funnels or tubing. Ask questions such as: “What were they used for?” Then invite children to share ideas they have for using the funnels and tubing in their water play. Perhaps your children will want to hold and position the materials as they share their ideas.

Discuss rules and routines.

Tell children that both the water table and the water center will be open during choice times for many weeks and they will have lots of time to play with the new materials.

Ask the children to help you make a list of things they can do to keep their classroom and the people in it as dry as possible. Record their ideas on a chart. Demonstrate the particular ways you would like children to do the following:

- Put smocks on, take them off, and hang them up.
- Clean up spills with a mop, towels, or sponges.
- Fill and empty the water table each day.

ISSUE: *My children have a difficult time sitting through discussions. What can I do?*

RESPONSE: Teachers find they are able to build children’s interest in science talks by beginning with short meetings lasting four or five minutes. They also suggest engaging the children with an object, photograph, or drawing to focus the talk.

Sharing what children notice about water offers them opportunities to develop their descriptive language. Throughout this exploration, use vocabulary that describes the movement of water, the sounds it makes, the way objects behave in it, how it behaves on different materials, and so on. In addition to modeling descriptive vocabulary, help children refine their descriptions by asking questions such as the following:

- How did the stream change?
- How much of the boat was under water?
- How is this drop different from that one?

TEACHER NOTE: *Holly was captivated with the way water traveled down the funnel.*



As you transition children to choice time, focus the children going to the water table and water center on their new exploration by saying something such as the following:

- *I can't wait to find out what the water does when you use the funnels and tubing!*

EXPLORE

Use tubing, funnels, and various containers to explore water during choice times, until all interested children have participated.

Observe and document children's water explorations.

Spend a few minutes observing children as they engage in water play. Make sketches or take photos of how children use the materials. Use an observation record form to note what children are doing and what they are noticing. Observe the following:

- What are they noticing as they fill and empty containers? The weight of the water? The way it spills over the top?
- What are they doing with the tubes? How are they filling them with water?
- How are they using the funnel?
- How are they combining the materials?
- What kinds of play are children engaged in?
 - Exploratory: trying out the materials to see what they do
 - Dramatic: using the materials as part of a dramatic play scenario such as "gas station"
 - Constructive: using the materials to build something, such as a fountain (For example, are the children using the materials to invent a game to see how fast they can empty a tub?)

Use these notes to facilitate the upcoming science talk.

Acknowledge children's exploration.

Children who are actively exploring water should be left to play. However, as you observe children's exploration, you can support their work by acknowledging them with a smile, or taking a photograph of them as they work. You might also spend a few minutes modeling water play by exploring water yourself. As you do so, children are likely to join you or invite you into their play.

Some children appreciate when adults acknowledge their work with a comment or a conversation. When children ask if you would like to drink some of their secret lemonade, for example, ask how they made it. Or, if children want to show you something they are doing, ask them to tell you about it.

TEACHER NOTE: I decided to write on my calendar specific times when I would observe children's water explorations. This kind of planning also helped my assistant know when she would have to be in charge.

ISSUE: *I'm not a very good artist. Why should I sketch what the children are doing?*

RESPONSE: Taking the time to sketch children's water systems is a way of acknowledging the importance of what children are doing. Another purpose is to provide an outline of the materials so that children can show you how water has moved through the materials. Simple line drawings of funnels (triangles) and tubes (lines) can be a good starting point for a discussion about water flow.

TEACHER NOTE: If I hadn't spent time watching the children explore I never would have noticed their fascination with trying to fill containers up to the very top without spilling.



Encourage all children to explore the new materials.

Suggest ideas that appeal to a child's special interest. For example, if a child likes dramatic play in the kitchen, invite him to come to the water area to make a beverage or food he might need or use in the kitchen.

Invite a child to play with someone who is enthusiastic about water, or to play with you.

REFLECT

Share and discuss observations with small groups at both the water table and water center near the end of choice time, and in a science talk with the whole group.

Conduct discussions with small groups during choice time.

Near the end of choice time, ask children at the water table to show you some of what they have been doing with the materials. Encourage them to describe what happened to the water by asking questions such as the following:

- *Can you show us how you got water into the tube?*
- *What happened to the water when you put it in the funnel?*

Conduct a large group science talk.

Gather your whole group together in a circle and initiate a science talk by using one of the following strategies:

- Show one or two pieces of equipment.
- Share a photograph or sketch from the exploration.
- Share an observation you made of a child using a funnel or tubing.

Use follow-up questions such as the following to extend the conversation:

- *Did anyone else try something like what Eli did? What happened when you put water in the tubing?*
- *Who used the funnel? What happened to the water? Did anyone have something different happen when they used a funnel? Tell us about it.*

ISSUE: *My children cannot sit and discuss things in a large group.*

RESPONSE: It is important for children to learn to share their experiences and ideas with the group, to listen to others' ideas, and to question and discuss. These are important skills for learning science. You can help children build these skills over time. Begin with short discussions. Take time to encourage sharing and talk about how well children listen.

Teacher: *I noticed John using the funnel. What happened when you used the funnel, John?*

John: *Water fall down.*

Teacher: *Can you show us with this funnel? Use your finger to show us what the water did. Do you think you might be able to make the water fall up?*

John: *(Turns the funnel upside down.)*

Teacher: *So, you're thinking that if you hold the funnel upside down, then the water would fall up. Show us with your finger what the water would do. Oh! So you're thinking that you could pour the water into the big part of the funnel that's now on the bottom and the water might shoot out the little part that's now pointed up? What do the rest of you think? What do you think will happen if John pours water into the funnel when it's like this?*

Step 2: Ongoing Open Exploration

Initial explorations with water will be exciting for most children. As they continue to explore the water centers with a changing array of materials, children will go beyond their initial excitement and begin to explore more questions and develop some ideas about properties of water that will help them move toward more focused explorations.

CORE EXPERIENCES

- Continue to explore water with clear plastic containers, funnels, tubing, and syringes.
- Explore water with plastic squirt bottles and basters.
- Discuss experiences with water at the water table and the water center(s).
- Think about and look for water in books and in daily life.

PREPARATION

Photocopy the observation record form.

SCHEDULE

Set the schedule for the week, or until all children have participated in the following:

- 5–10 minutes for a meeting before each choice time
- 45–60 minutes for choice time, four or five times during the week
- 5–10 minutes for discussions with the whole group, once a week

MATERIALS

At the Water Table

Add a set of the following to materials already at the water table and water center(s):

- 3 or more plastic turkey basters
- 3 or more clear plastic squirt bottles

FAMILY CONNECTION

- Send notes home periodically detailing what children are doing and learning.
- Encourage family members to work with you in the classroom. Prepare a brief explanation of what they can do to facilitate children's water exploration or to give you time to observe and encourage the water exploration.
- Create a sign-out sheet for families interested in borrowing water exploration materials over a weekend.

TEACHER NOTE: I shared a photo of monica, Isabel, and marissa pouring water from one large container into another, and we had the following conversation:

Teacher: *What can you tell me about the water you were pouring?*

Marissa: *It can spill. I like the way it spills on the sides when it gets full.*

Monica: *It can get all wet. I got my shirt wet. The floor got wet, but I cleaned it up.*

Teacher: *Who else has been pouring water at the water center? What did you notice?*

Early on I decided not to use the basters because I was certain that children would use them to just squirt each other. But another teacher in the workshop we're attending convinced me to try. She said she'd talked to each group that chose to explore water about checking to see where the tips of their basters were pointing before they squeezed. I tried the same thing, and it worked! A few kids did squirt each other, but I used it as an opportunity to talk with them about how to predict where the water will go before they squirt.

TEACHING PLAN

ENGAGE

Allow five to ten minutes during a meeting with the whole group to discuss the ongoing open exploration.

Introduce materials that squirt water.

Introduce basters and squirt bottles during a meeting with the whole group before choice time.

Show children a baster and invite them to share their experiences with basters or their ideas about what they might be for.

Do the same with a squirt bottle, or wait and introduce them on another day.

Tell the children that these materials have been added to the materials already at the water table and the water center.

Facilitate a conversation about children's experiences with these materials by asking questions such as the following:

- *What do you think you might do with a baster at the water table?*
- *How do you think basters work?*

Talk with children about developing rules and safe practices for using basters and squirt bottles, and post these rules in the water center.

Invite advanced water explorers to share their experiences.

Encourage children's continued exploration of water flow and motivate all children to participate in the exploration by focusing the group on recent events at the water table. Provide children with concrete reminders—such as your sketches or photographs, or materials from the water table—to help them recall and share their experiences more easily. Ask questions like these:

- *What did you do at the water table yesterday?*
- *How have you been getting water into the tubing?*
- *What happened when you put the funnel into the tubing?*

EXPLORE

Encourage children's exploration during choice time until all children have participated.

Observe and document children's exploration.

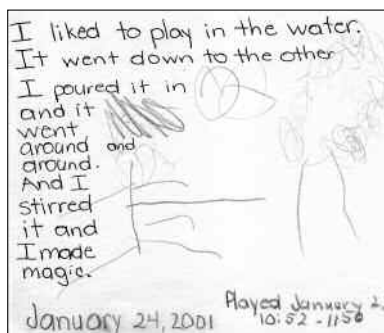
Spend a few minutes observing children as they engage in water play. You might do any of these things:

- Make sketches or take photographs of how children use the materials.
- Use the observation form to record what children do and say. Look for the following:

ISSUE: *Should I teach my children how to use a baster?*

RESPONSE: Problem solving and persistence are important skills and attitudes for children to develop. Don't jump in too soon. But if a child is becoming frustrated, encourage children who have figured out how to work with basters to help those who haven't. If no one knows how to use one, show one or two children and let them show the others.

TEACHER NOTE: Zack drew this picture and told me, "I liked to play in the water. It went down to the other water. I poured it in and it went around and around. And I stirred it and I made magic."



ISSUE: *The water table looks so crowded with materials right now. Should I put some away?*

RESPONSE: Too many materials in the water at once can be overwhelming. But children need access to a range of materials. Try keeping bins under the water table for storing materials so children have easy access to them and so that all of the materials are not in the water table.

- How are they using the basters and squirt bottles?
- How are they filling them with water?
- How are they combining the materials?
- Do they notice bubbles and how they move? Do they notice where bubbles come from?
- What kind of play are children engaged in?
 - Exploratory: trying out the materials to see what they do.
 - Dramatic: using the materials as part of a dramatic play scenario such as “hospital.”
 - Constructive: using the materials to build something, such as a fountain. For example, are the children using the materials to invent a game to see how far they can squirt water?

Use your photographs, sketches, and notes about children’s experiences and ideas to create a documentation panel. The documentation panel communicates to children and adults how children have been using materials at the water table and at the water center(s) to explore water. See guidelines for creating documentation panels on p. 115. The panel can be used during an upcoming science talk and as a way to talk with parents about children’s science inquiry.

Acknowledge children’s ongoing explorations.

As you observe children’s explorations, acknowledge their work with descriptions of the effects their use of the materials have on water. For example, you might make comments like these:

- *When you squeezed the baster into the tube, water came out this end.*
- *You made bubbles when you squeezed the squirt bottle under water.*

If children engage you in conversation, ask questions that focus on the water they are moving:

- *Where is it going?*
- *What’s happening to the bubbles?*
- *What are you using the funnel, baster, or tubing for?*

Offer interested children clipboards, paper, and pencils or markers so they can draw their experiences. Children who see you making sketches of their exploration will be more likely to want to try sketching themselves.

Encourage all children to participate.

Use strategies such as the following to be sure all children have opportunities to explore water with these materials. Their common experiences build the foundation upon which focused explorations are built.

- Assign reluctant children to the water table or the water center with a few enthusiastic explorers during choice time.

TEACHER NOTE: Today was the first day children noticed bubbles at the water table. They asked me if I’d put soap in the water. When I told them I hadn’t, they started mixing the water around with their hands and created more bubbles. I’m going to remind them of their experience and facilitate a science talk focused on their ideas about bubbles!

TEACHER NOTE: valda was fascinated by the bubbles escaping from the funnel she’d inverted and placed in the tub of water. When I asked her where she thought the bubbles were coming from, she lifted up the funnel a pinch and looked under it. “Can you make more?” I asked. She proceeded to repeatedly lift the funnel up and down, and Nina called it a bubble machine.



- Invite reluctant explorers to hold a tube or funnel for you or one of their friends.
- Place an “observer’s chair” near the water table for children who may want to watch the water play for a day or two before they join in. Engage the observer with comments about what’s happening at the water table. For example: “Wow! Did you see that? They made the water come out of that tube like a faucet. I wonder how they did that.”

EXTEND

Look at books about water.

Use one or two pages from books with large photographs or drawings of water to help individuals, small groups, or your whole group of children reflect on their open exploration. Ask children to compare what they’ve experienced with water with what they see in the photographs. Ask follow-up questions like these:

- *What do you notice about how the water seems to be moving in this picture? Have you done anything like that with water?*
- *Look at how the illustrator drew the shape of the water in this picture. Have you ever seen water look like that?*

Look at moving water outdoors.

Tell children that during choice time you will take turns bringing small groups of children for a walk around the school building (or outside if it is raining or has rained recently) so they can look for water. Remind children that water can be found in many different places. You might ask questions like these:

- *Where do you think we’ll see water?*
- *What do you think it will look like?*
- *Where do you think we will find puddles? Drips? Streams?*

Bring a camera, if possible, and clipboards with paper and markers attached. If it’s safe to do so, have children sit and draw what they see when they find pipes or evidence of water. Outside, invite children to sit and draw a roof, gutters, and downspouts.

REFLECT AND DISCUSS

With small groups during choice time, and in weekly science talks with the whole group for ten to fifteen minutes, share water play experiences.

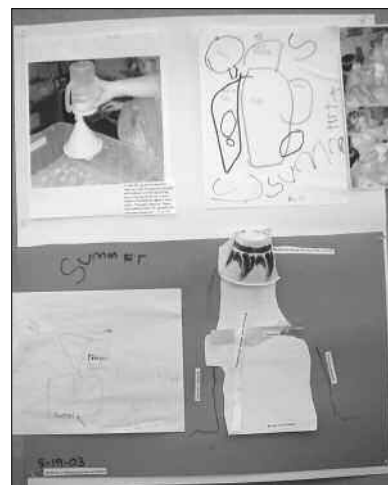
Conduct small group discussions during choice time.

Every couple of days, join children at the water table or the water center for a few minutes before choice time ends. Ask children to tell you about their play and use follow-up questions like these to focus their thinking on the effects their use of materials has on water.

ISSUE: *My children are always splashing each other.*

RESPONSE: Controlling water is not easy for young children. Unexpected splashes will happen. But if children are purposefully splashing each other, you need to reiterate clear rules, redirect their play, and, as a last resort, remove children from the area for the day if they cannot or will not stop.

TEACHER NOTE: Summer loves the water table and the collage table. After she’d observed bubbles one day and I’d printed some photos of her exploration, I engaged her at the collage table. She used our photos to make a three-dimensional representation of her discovery. Then I asked her if she would draw me a picture of what happened. She agreed! As she told me about her drawing, I wrote down her words: “I took the cup and screwed the cover on it and I scooped up the water with a shovel into the cup, all the way to the top of the cup. I put a funnel in the hole and tipped it over slowly. The water came out. There were bubbles inside the cup while the water was coming out.”



- *What happened when you lifted the funnel up? Put the end of the tube in the baster? Squeezed the squirt bottle under water?*
- *What did it look like? What did you notice about what happened to the water?*
- *Did the same thing happen to anyone else? How was your experience different?*

Conduct weekly science talks with the whole group.

Use your sketches or photos of children's exploration to initiate a conversation about what children are noticing.

You might ask or say something like this:

- *Justicia, what were you doing in this picture? Where did the water go? How did you help it to get there?*

Invite children to compare experiences. You might say something like this:

- *Who else used the squirt bottles? Tell us about it.*
- *Did anyone else discover the bubbles coming out of the baster? Tell us what you noticed.*

Transition from Open Exploration to Focused Exploration

When children are engaged in open exploration, they notice, wonder, and ask general questions about water. Children's questions are expressed in actions and words. For example, during open exploration, a child may reach for a funnel to fill a tube. Or a child might say, "Let's use this baster to squirt the water up."

During a focused exploration, children plan an investigation that focuses on a question that is central to their particular interest. They make new observations and record and represent their experiences. They reflect on their actions and look for patterns and relationships. Often these reflections lead them to ask new questions. These experiences can also lead to the formulation of new understandings or theories based on the evidence they have gathered.

When children begin to focus their observations and ask specific questions about how water behaves, they may be ready for focused exploration. Here are some samples of more specific questions children may begin to ask: Will this skinny tube move water faster than this fatter one? Do drops always run down? How can I get water to move up? Do all heavy things sink?

If most of your children have been engaged in water play a number of times over the past few weeks, many of them may have developed a particular interest. Here are some signs to look for to determine which children might like to pursue a more focused question or exploration:

TEACHER NOTE: Yesterday Reggie and Rey played gas station at the water table. Empty bottles became cars, and they filled the cars up with gas by putting hoses into the bottles and pouring water into the other end of the hose. I jotted down the pieces of their conversation that related to their experiences controlling the flow of the gas, and I took a few photographs too. During today's science talk I invited the two boys to talk about the photos, and I read aloud a transcript of their conversation.

Reggie: *The gas is spilling—it's spilling! Hey, you can't spill the gas! I'll get a bigger car. Look! It's going in, but you have to go faster. Go faster!*

Rey: *I'm going fast! The gas goes slow. I have to stop to fill up the pumper.*

Reggie: *Let me do it. Let me go faster. This goes too slow. Pour it with something else.*

The boys told us that the gas didn't get into the cars very well—it spilled, and it went slow, and then stopped. I asked the group to help make a list of things the boys might do to keep the gas from spilling and to help it move faster. We posted the finished list next to the water table:

- use a funnel at the end of the tube and then pour the gas.
- use a baster to squirt the gas into the cars.
- Shake the gas when it's in the tube and get it to go in the car.

I'll refer to the list for the next few days as children explore the suggestions.

- Spending a full choice time interacting with water in purposeful ways. These children often have ideas in mind about what they want to do. They may be continuing play from the previous day or exploring what materials can do to move or contain water.
- Becoming more deliberate in how they explore water. For example, as children pour water from one container to another, they begin to shift their focus from less controlled pouring between containers to more careful pouring.
- Not choosing the water table or a water center any longer after having been involved previously.

Children took the lead during open exploration, following their interests using a number of different materials. Your role as teacher was to reflect on what you observed children doing, to determine what they were trying to do and wanted to know, and to support and encourage their work. Open exploration was also the time to learn what your children seemed most interested in as they explored water. In focused exploration, children will still take the lead, but you will play a greater role: you will gather resources and background information, create opportunities for children to look more carefully and learn more deeply, and challenge them to go further and think more deeply about their experiences.

Focused exploration includes three different studies that can occur in any order and often simultaneously. The flow study focuses children on beginning to develop theories about how and why what they do makes water move in particular ways. This study relies on materials and setups that provoke children to move water in various ways and reflect on what they do to control that movement. The drops study helps children begin to develop two additional important concepts: water sticks to itself (cohesion) and water sticks more or less strongly to different materials (adhesion). This study relies on children's careful observation of drops; they focus on the shape and movement of drops and how those shapes and movements differ when drops are on various materials. The sinking and floating study focuses on helping children begin to notice that objects sink or float in water depending on a number of factors including their shape, what's inside them, and what they're made from. This study supports children as they collect data and develop theories about why some objects sink and others float.

You may notice that some of your children will remain engaged in open exploration and might want to continue to pour water from container to container; this is fine. They can continue with open exploration while others shift to focused exploration. Participating in the group discussions, observing, and listening to the children who are focusing on particular properties of water more closely will help those in open exploration become interested in more focused questions. Most children, however, move back and forth between open and focused exploration. The transition is not one-way; rather, it is cyclical. In focused exploration, when children are introduced to a

TEACHER NOTE: Beth told us that she was trying to get water to go through the tube in the funnel. She said she tried putting water in the funnel but it didn't get into the tube, so she put the tube under the water and got some in that way.



EXAMPLE: These children enjoyed filling the baster and squirt bottle and then seeing how fast they could make the water come out.



new challenge or a new material, they may return to open exploration in order to become more familiar with these new things before shifting back to focused exploration.

FOCUSED EXPLORATION: FLOW, DROPS, SINK AND FLOAT

Children have been using a variety of materials as part of their water play. They have had opportunities to notice how those materials move water, how they either sink or float in water, how water drops look and move differently on materials with different textures, and how water fills containers of various shapes and sizes. You have observed their play and have encouraged them to share their experiences with these materials.

Now, by introducing new materials to children's water play, you focus their exploration more narrowly. Bottles and cups with holes punched in them invite children to notice streams and to do so more closely; eyedroppers, hand lenses, and different kinds of fabrics, papers, and other materials encourage children to explore cohesion and adhesion; boat-building materials and a good variety of objects to place in tubs full of water will focus children on sinking and floating; and shelves in the water table, along with pumps and empty buckets, encourage children to create and control water flow.

Guiding children's focused explorations requires the teacher to know which property of water she is helping children explore or reflect upon. Therefore the next section of the guide presents three distinct focused explorations of water that teachers can match to their children's interests. These focused explorations are named Flow, Drops, and Sink and Float. Teachers can choose to facilitate them one after another, in any order, or simultaneously.

Of course, providing children with the time and materials they need to focus on a particular property of water is just the beginning! Teachers continue to facilitate science talks, but now they focus the discussions on particular properties of water and what children are noticing as they engage in exploration that might result in evidence for their developing theories.

Rainy-day walks; visits to a water works, stream, or harbor; or a look under the sink gives children opportunities to compare their water explorations to what they see away from the water table and water center(s). Guest visitors can share their knowledge and enthusiasm for working with water. Sailors, plumbers, and people who design sprinkler systems can provide children with new information about how the properties of water influence real-world work. Books and Web sites offer still images of water, which can help children look more closely at how water moves and the shapes it takes as they engage in their own explorations. The extension section (p. 89) has suggestions for field trips, guest visitors, and books. See the section on science teaching (p. 95) for information about young children's inquiry and for strategies you can use to focus and deepen their experience and thinking during the exploration.

TEACHER NOTE: It was a rainy day so we went outside to play in the puddles. A group of four children became intrigued with the water running out of the drain pipe. It was beginning to make a stream. They busily piled sticks and stones to dam it, to see how high they could get their puddle to fill, and then they broke the dam and watched the water flood their stream. When we got back inside, we talked about how hard it was to hold back the water with the sticks and stones; how quickly the water flowed into the stream once the dam broke. Amy and Melissa asked if they could make a river outside again. If it doesn't rain soon, I'll see if I can get the custodian to hook up the hose for us.