

WATER WONDERS

BENCHMARK and TASK

SC.A.1.1.1 The student knows that objects can be described, classified, and compared by their composition (e.g., wood or metal) and their physical properties (e.g., color, size, and shape).

- The student demonstrates that water can be poured, evaporated, and absorbed.

KEY QUESTION

How can water be moved from one container to another?

BACKGROUND INFORMATION

Water is one of our most vital natural resources. All living things require water to survive. Although it is the second most abundant substance on earth, the amount of fresh water available for use is very limited. Most of the water on the earth is salt water, which is found in the oceans and the seas.

Water is a liquid and flows easily. All liquids are able to flow, but some liquids flow faster than others. Water also has other observable properties:

- Water is transparent.
- Water is “sticky,” causing water drops to combine when they meet.
- Water exerts pressure.
- Water can be poured.
- Water has mass.
- Water can dissolve some materials.
- Water can be absorbed.
- Water can evaporate.
- Water can act as a filter.

MATERIALS

Teacher

pitcher of water

plastic cup

Water Is Wet by Sally Cartwright

Water (Benchmark Education Co.)

We Use Water (Benchmark Education Co.)

Per student (optional)

raincoat or large plastic garbage

bag with holes for head and arms

Per group

water table or large pan or bucket of water

dropper

pitcher of water

3 containers (water level marked with a rubber band or masking tape):

- small plastic cup
- plastic vial
- plastic soda bottle with a small mouth

funnel

measuring cups

spoons/slotted spoons



various utensils: watering can, various water toys, squeeze bottle, spray bottle, strainer, sieve
newspaper
paper towels or sponges for cleanup

TEACHING TIPS

1. Set up several water exploration areas outdoors, using large pans or buckets. If the activity must be done indoors, cover the tables with newspaper to absorb spills.
2. For each group, mark the desired water level of 3 containers (plastic cup, soda bottle, plastic vial) with rubber bands or masking tape.

ENGAGE

1. Read the book *Water Is Wet* by Sally Cartwright.
2. Display a pitcher of water and a cup.
Ask:
How can we move water from one container into another?
Accept students' ideas, but do not move the water into the cup at this time.
3. Tell students that they will be experimenting with various containers to find the best way to move water from one container to another.

EXPLORE

1. Organize students into groups. Students should put on raincoats (if you're going to use them) and move to the water areas.
2. Allow ample time for free exploration with a variety of containers and utensils in the water area.

EXPLAIN

Ask:

How can you fill a container with water?

Does it take longer to fill a small container or a large container?

What happens when you pour too fast?

What happens when you pour too slowly?

How does water sound as you pour it?

How does it feel when you pour water over your hand?

Continue this line of questioning, based on the materials available and the students' responses. Also encourage the students to wonder aloud and ask other questions about water, so they can continue to explore.

EXPLORE

1. Show students a pitcher of water and three empty containers – a small plastic cup, a plastic soda bottle with a small mouth, and a small vial. Explain that their task is to fill each of the three empty containers with water up to the level marked with the rubber band or masking tape, being careful to spill as little as possible. (Add a dropper, a funnel, spoons, and various other containers to each of the water exploration areas at this time.)
2. Send groups back to the water areas to work on the assigned task.

EXPLAIN

1. Ask:
How did you move water from the pitcher into the vial?
How did you move water from the pitcher into the soda bottle?
How did you move water from the pitcher into the plastic cup?
(Each time, allow students to demonstrate different methods they used.)
What words do we use to tell how we move water from one container to another? (Pour, scoop, drip, etc.)
2. If some students used the funnel or the dropper to move the water, discuss this. If not, introduce the funnel and dropper.
Ask:
Why is it sometimes helpful to use a funnel when pouring water?
When might a dropper be the best way to move water from one container to another?
Is it easier to pour from a narrow container or a wide container?
3. Show students the pitcher and cup that were introduced earlier. Ask them again the best way to move the water from the pitcher to the cup. This time allow one student volunteer to transfer the water and discuss the fact that water (and other liquids) can be poured.

EXTEND/APPLY

1. Tell the students to watch carefully at home and notice all of the times that people pour water, such as filling the bathtub, filling the water glasses for dinner, pouring water for a pet.
2. Have students take turns pouring and serving drinks for each other at snack time.
3. Remind students that water can be poured because it is a liquid. Ask if they can think of other liquids that can be poured.
4. Read *Water* and/or *We Use Water*.

EXTENSIONS

1. Encourage students to continue exploring water concepts at the water table center in the classroom. Pose questions, such as:
How many cups of water do you need to fill one ice cube tray?
What happens when you pour water on a ramp?
(Students can use a tub turned upside down for a ramp.)
2. Spray bottles are common in our everyday life. Provide opportunities for the students to play with spray bottles and to discover that the water from a spray bottle can be a spray or a stream, then ask:
When should we use the spray?
When would it be better to use the stream?

ASSESSMENT

Observe the different students for the following:

- Do the students use a variety of tools for pouring and collecting water?
- Are they able to use appropriate language (e.g., pour, scoop, drip) when describing how they move the water?