

SESSION 4

Topic: It's a Watery World

Objective: Children will understand the importance of drinking adequate amounts of water in order to stay healthy and hydrated for physical activity.

Key Concepts: Water is important for plants and humans to function and grow. Children should drink 1.2 liters of water per day. Water is better than sugary and soda drinks because water does not have any sugar, preservatives or caffeine. Just like humans, plants need and store water in their stalks and leaves. Children will also learn basic concepts of where water is found in plants. These basic concepts will contribute to our garden activity.

Materials Needed

- Celery experiment instructions
- Celery experiment items (celery stick, water, jar, blue food coloring)
- Session 4 discussion card
- Large pictures of gardening activities
- "Gardener Says" game instructions
- Large picture of water content in human body
- 2 Liter bottle with water to fill to 1.2 liters
- "Watering" game instructions
- Pictures of dry, wilted plants (need water)
- Pictures of healthy plants (don't need water)
- Watering cans
- Picture of a sun
- Tummy Mindfulness and Experiential Eating protocol
- Fruit, vegetables, and napkins for tasting
- Tummy dolls
- "Seedling Song" lyrics
- "Plant Splash Relay" game instructions
- 2 Baskets
- Small blue balls for each child
- Leaf drying experiment
- Measuring tape

Diet or Physical Activity Guideline or Recommendation

Meeting the Daily Fluid Needs (CDC): <http://www.cdc.gov/nutrition/everyone/basics/water.html>

NAEYC Recommendations Satisfied

Curriculum 2.A.03, Curriculum 2.A.08, Curriculum 2.A.10, Curriculum 2.A.11, Curriculum 2.A.12, Curriculum 2.B.05, Curriculum 2.C.03, Curriculum 2.C.04, Curriculum 2.D.02, Curriculum 2.D.03,

Review [10 minutes—science experiment, discussion, game]

- **Science experiment:** In order to demonstrate that plants are filled with water, the teacher leads the children in the Celery Experiment.
 - Be sure to use celery that is fresh and firm.
 - Cut a small section off the bottom of a celery stick.
 - The celery stick is placed in a jar filled with water that has been colored with 4-5 drops of blue food coloring.
 - Over time the water will diffuse through the celery, turning it blue.

(This experiment should be started at the beginning of the session in order to show the best results.)

- **Discussion 4a:** In order to review the importance of physical activity, the teacher shows the children pictures of the activities with gardening tools that were used in the last session.
- **Game:** In order to review the gardening tools and re-emphasize that gardening is a great source of physical activity, the teacher lead the children in another game of “Gardener Says” (played like Simon Says).

Classroom Activity [20 minutes—discussion, game]

- **Discussion 4b:** In this session, the teacher explains the importance of drinking water by telling the children that water makes up about 80% of their body.
 - The teacher shows the children a picture to demonstrate this.
 - Using a 2 L bottle, the teacher fills it up to 1.2L to show the children how much water they should be drinking every day.
 - The teacher then asks the children to help identify how and where they can drink water at school (e.g. there is a water fountain by the front office or Mom and dad can pack a water bottle in our lunch bags).
- **Game:** To reinforce the importance of water, play the “Watering” game. The teacher tells the children that just like them, plants are made up of water as well.
 - The teacher engages the children in a discussion about what happens when plants and people don’t get enough water.
 - The teacher shows the children pictures of plants with lots of water and plants that are “thirsty” and have become wilted.
 - The teacher asks the children to stand up in a line and using one of the water cans, pretends to water the children. As the children receive “water” they stand up strong and tall on their tip toes with arms stretched out. The teacher then says that there is no more water and instructs the children to droop their arms as if they were wilted. Repeat several times.

- The teacher holds up a flashcard of a sun and asks the students what happens if they get too much sun, the children respond by drooping their arms, crouching down, and pretending to be “wilted.” Next the teacher holds up a watering can and asks the children what happens when the plant is watered, the children are encouraged to respond by jumping up with their arms reaching to the sky to imitate a strong healthy plant.
 - The teacher continues to do this asking the students the following questions:
 - What happens when we play all day outside in the hot sun?
 - What happens when our mom or dad gives us a large glass of water to drink?
 - What happens to our plants when it’s hot and humid outside?
 - What happens to our plants when they get a lot of rain?
 - What happens when we drink sugary and soda drinks instead of water?

Mindful Eating [15 minutes—tummy mindfulness, experiential eating]

- **Tummy Mindfulness and Experiential Eating Protocol:**
 - Direct children to wash their hands before their taste testing.
 - Food should be served to the children with gloved hands.
 - After washing their hands, the children are presented with fruits and vegetables from the garden (or grocery store if needed) to sample. Images of a body with an empty belly, full belly, and half full belly will be available for the children to compare. The teacher describes the feelings of hunger and fullness to the children to increase their understanding of these concepts.
 - Before sampling the fruits and vegetables, the teacher asks the children if they are too full, just right, or hungry by asking them to point to the appropriate images.
 - The teacher then calls on a few children and asks them to describe what hunger or fullness feels like. The teacher tells the children that if they are not hungry then they should only take a small taste and a bigger taste if they are hungry.
 - After sampling the fruits and vegetables, the teacher asks the children if they are too full, just right, or hungry (point to the images).

***While the children are tasting, encourage positive conversation by making statements and asking questions that prompt the children to identify the color, smell, taste, and texture of the fruit or vegetable they are tasting, the sounds they make when they bite and chew, and what do they feel happening inside their mouths while they are chewing. Avoid statements that are coercive, like “just take a polite taste,” or “everyone has to try it.”**

For example:

“What **sound** was made when you chewed the celery? What do you feel happening inside your mouth while you chew? [*That celery was really crunchy and juicy.*]”

“How does the tomato **taste**?”

“What does the bell pepper **smell** like?”

“What does the cucumber feel like in your **hand**? [*It’s nice and cool.*]”

“What **color** are the strawberries that we are tasting?”

Garden Activity [20 minutes—garden maintenance, song, garden exploration, game, science experiment]

- **Garden Maintenance and Song:** The teacher leads the children outdoors to water the garden. Once finished, the students set their water cans down. Encourage students to sing the “Seedling Song” while they water.
- **Garden Exploration:** Using real fruits and vegetables, the teacher brings the children around the garden and shows the children the fruits and vegetables that are growing in the garden. Children are encouraged to identify the fruit or vegetable, its color, its shape, how it feels (i.e. smooth, fuzzy, etc.), what stage of the life cycle, what it needs to grow, and whether it is ready for harvesting.
- **Game:** To reinforce the importance of drinking water and watering the plants, the children play the “Plant Splash Relay” game:
 - The children are split into two teams and line up as far as possible from two baskets set up for each team to run to. The baskets represent a pretend flower.
 - Each child is given a blue ball, which represents a “water droplet.”
 - The teacher says “Go” and the first child in each line runs down to the basket and places her/his “water droplet” or ball inside the “flower” or basket and then runs back to his/her line.
 - Once the first child returns, the second child runs down to the flower and deposits her/his water droplet before returning to the line.
 - While each child is relaying back and forth between baskets, the children waiting for a turn jump up and down with their arms in the air cheering for each classmate.
 - This continues until everyone has had a turn. Repeat the relay several times if time permits and have the children hop, skip, and/or run for each additional turn.
 - For additional physical activity, redistribute the blue balls for each relay by having the children run to the basket to retrieve a ball and run back to get into line.
- **Science Experiment:** To reinforce the need for water the teacher will lead the Leaf Drying experiment. As the children head back to the classroom have them pick a leaf from the garden and place it in a safe place in the classroom. The leaf will demonstrate what happens to the leaf when it becomes dehydrated.

Wrap Up/Review [5 minutes—discussions]

- The teacher measures the lima bean so that we can continue to chart its growth. Ask the children questions about what the lima bean needs to grow strong and healthy.
- **Discussion 4c:** In order to further review concepts covered about how plants store water, the teacher gathers the children around the celery experiment.
 - The children break it in half to see how far the food coloring has traveled up the celery.
 - Give the students the opportunity to pass the celery stick around.

- **Discussion 4d:** In order to further review concepts covered about the importance of water, the teacher transitions over to the drying leaf.
 - Ask the children questions about why water is important for them (prompt the children to answer that it helps keep them healthy, provides hydration to be physically active).
 - Ask what happens if a plant becomes dehydrated.
 - The teacher asks the children what will happen to the leaf next time they check on it and asks for someone to **SHOW** what will happen to the leaf (act it out) the next time they see it.