



Lesson Plan

Topic	Water
Grantee	Communities United Inc.
Teachers' names	Danielle Coles, Aura Hill
Duration	Two Weeks
Learning Objectives	<ul style="list-style-type: none"> • Children will understand the properties of water. • Children will understand the water cycle. • Children will know why water conservation is important. • Children will understand water safety. • Children will observe and describe how natural habitats provide for the basic needs of plants and animals with respect to water. • Children will explore, describe, and compare the properties of liquids and solids found in children's daily environment. • Children will identify the characteristics of local weather based on first-hand observations.
Link to new Head Start Early Learning Outcomes Framework	<ul style="list-style-type: none"> • Domain: Approaches to Learning SUB-DOMAIN: COGNITIVE SELF-REGULATION (EXECUTIVE FUNCTIONING) • Goal P-ATL 7. Child persists in tasks. • Domain: Approaches to Learning SUB-DOMAIN: COGNITIVE SELF-REGULATION (EXECUTIVE FUNCTIONING) • Goal P-ATL 8. Child holds information in mind and manipulates it to perform tasks. • Domain: Approaches to Learning SUB-DOMAIN: COGNITIVE SELF-REGULATION (EXECUTIVE FUNCTIONING) • Goal P-ATL 9. Child demonstrates flexibility in thinking and behavior. • Domain: Approaches to Learning SUB-DOMAIN: COGNITIVE SELF-REGULATION (EXECUTIVE FUNCTIONING) • Goal P-ATL 11. Child shows interest in and curiosity about the world around them. • Domain: Language and Communication SUB-DOMAIN: ATTENDING AND UNDERSTANDING • Goal P-LC 1. Child attends to communication and language from others. • Domain: Language and Communication SUB-DOMAIN: ATTENDING AND UNDERSTANDING • Goal P-LC 2. Child understands and responds to increasingly complex communication and language from others. • Domain: Language and Communication SUB-DOMAIN: ATTENDING AND UNDERSTANDING • Goal P-LC 5. Child expresses self in increasingly long, detailed, and sophisticated ways.

- **Domain: Language and Communication SUB-DOMAIN: ATTENDING AND UNDERSTANDING • Goal P-LC 6. Child understands and uses a wide variety of words for a variety of purposes.**
- **Domain: Literacy SUB-DOMAIN: PRINT AND ALPHABET KNOWLEDGE • Goal P-LIT 3. Child identifies letters of the alphabet and produces correct sounds associated with letters.**
- **Domain: Mathematics Development SUB-DOMAIN: MEASUREMENT • Goal P-MATH 8. Child measures objects by their various attributes using standard and non-standard measurement. Uses differences in attributes to make comparisons.**
- **Domain: Mathematics Development SUB-DOMAIN: GEOMETRY AND SPATIAL SENSE • Goal P-MATH 10. Child explores the positions of objects in space.**
- **Domain: Scientific Reasoning SUB-DOMAIN: SCIENTIFIC INQUIRY • Goal P-SCI 1. Child observes and describes observable phenomena (objects, materials, organisms, and events).**
- **Domain: Scientific Reasoning SUB-DOMAIN: SCIENTIFIC INQUIRY • Goal P-SCI 2. Child engages in scientific talk.**
- **Domain: Scientific Reasoning SUB-DOMAIN: SCIENTIFIC INQUIRY • Goal P-SCI 3. Child compares and categorizes observable phenomena.**
- **Domain: Scientific Reasoning SUB-DOMAIN: REASONING AND PROBLEM-SOLVING • Goal P-SCI 4. Child asks a question, gathers information, and makes predictions.**
- **Domain: Scientific Reasoning SUB-DOMAIN: REASONING AND PROBLEM-SOLVING • Goal P-SCI 5. Child plans and conducts investigations and experiments**
- **Domain: Scientific Reasoning SUB-DOMAIN: REASONING AND PROBLEM-SOLVING • Goal P-SCI 6. Child analyzes results, draws conclusions, and communicates results.**
- **Domain: Perceptual, Motor, and Physical Development SUB-DOMAIN: GROSS MOTOR • Goal P-PMP 1. Child demonstrates control, strength, and coordination of large muscles**
- **Domain: Perceptual, Motor, and Physical Development SUB-DOMAIN: GROSS MOTOR • Goal P-PMP 2. Child uses perceptual information to guide motions and interactions with objects and other people.**
- **Domain: Perceptual, Motor, and Physical Development SUB-DOMAIN: FINE MOTOR • Goal P-PMP 3. Child demonstrates increasing control, strength, and coordination of small muscles.**
- **Domain: Perceptual, Motor, and Physical Development SUB-DOMAIN: HEALTH, SAFETY, AND NUTRITION • Goal P-PMP 6. Child demonstrates knowledge of personal safety practices and routines.**

Lesson Summary

Art Activities:

- **Wet and Dry Chalk:** Explore chalk using wet chalk and dry chalk on various surfaces. Children can observe what happens to the color of chalk as the water dries over time.
- **Spray Art:** Add a small amount of watercolor to a spray bottle of water. Make several bottles in different colors using this method. Lay out a large piece of blank paper and allow children to spray it with the various bottles. Allow to dry.
- **Eye Dropper Art:** Children use eyedroppers to paint coffee filters with droplets of different colored water.
- **Bubble Art:** Add a small amount of food coloring to bubble solution. Outdoors, blow bubbles and have children "catch" them on a piece of paper.
- **Rain Collage:** Children will explore magazines and cut out various forms of rain or water. They will then create a collage, using scissors, different shaped hole punches, and glue.
- **Rainbow Art:** Each day children will be encouraged to create a monochromatic piece of art, including: red, orange, yellow, green, blue, purple, and white.
- **Papier Mache Raindrops:** Teacher directed activity. Close supervision required. Use a funnel to have children fill small latex balloons with sand. Teachers will tie them. Hang them from a string so they are at children's eye level. Have children papier mache them using a flour and water or glue and water mixture (50/50) and ripped up newspaper or catalog strips. Allow to dry 24 hours (or until dry). Teachers can then poke a small hole in the balloon, allowing sand to escape and be reused for another project and the balloon to be extracted from the raindrop. Children can then paint their raindrop and hang them about the room or take them home. **Colorations has a nice paint additive that makes paint shimmer, giving a fluid quality.
- **Raindrop Suncatchers:** Children will use a 50/50 glue and water mixture to adhere cool color tissue paper to a raindrop shaped piece of clear plastic. Once dry, run through laminator again to preserve. Children can cut out their raindrop and teachers can help them hole punch and string it up into the window.
- **Floating Art:** Have children grate chalk into several piles (on separate plates. Place a clean tub of water on a table (about the size of a dish tub. Have children choose two or three colors of chalk to sprinkle onto the water. Children can then place a piece of paper gently over them. The plate should absorb the chalk colors. Lay flat or line dry. In place of chalk you can also use India ink or oil paints and swirl colors to create other patterns.

Science and Math Activities:

- **Ocean Bottle:** Parent activity in which children and parents

create a sensory bottle including a piece of plastic bag, water, and food coloring. Children can also add in various ocean animal beads, sand or salt as families discuss elements of the ocean. Markers, fabric, glue and yarn will be available to decorate the outsides of the bottles as well.

- **Mixing Colored Water: Children will experiment with different colored water which they will be able to mix into clear vessels or onto coffee filters.**
- **Water Tasting: Have children taste different types of water, including tap water, mineral water, spring water, soda water, and distilled water. Discuss similarities and differences. Survey which they liked and did not like.**
- **Water Well: In a container with a large opening, place a toilet paper tube in the middle and have children fill around it with a 2 inch layer of pebbles, then top that layer with a two inch layer of sand. When completed, have children pour approximately 1-2 cups of water using a watering can over the top to simulate rainfall. Children can observe the water soaking through the ground and gathering in the well.**
- **Water Exploration Chart: Have four containers with various types of water in them. For ours, we used a container of water from a nearby river, a container of water with salt added, a container of water with tea leaves, and a container of water with saliva in it. Have children explore using sight and smell. Ask if they think any of them are okay to drink, why they look like they do, etc... Chart answers. We talked about how it can be hard to tell if something is safe to drink sometimes (regarding the saliva, which children got a gross fascination out of).**
- **Sink/Float With Salinity Factors: Have two tubs of water one plain tap water and one with a cup of salt mixed in. Have various objects to float (we included foam and wooden blocks, a tennis ball, a light plastic ball, some plastic people figurines, a rock, and an egg).**
- **Water Drop: Children will explore how water flows, using various pieces of technology on a board, including funnels, tubes, and fans.**
- **Water Absorption: Children will hypothesize and investigate if materials are able to absorb water. Children will test sponges, paper, towels, plastic, cotton balls, etc... Children will guess if assorted objects will absorb water. Then, a tablespoon of water will be placed on a tray and the object placed on top of it. Children will then see if they were able to guess correctly and conjecture why the object did or didn't absorb the water.**
- **Solids and Liquids: Children will explore the properties of water, ice and non-Newtonian fluids like Oobleck. Children will experiment with how water freezes and melts and the properties it demonstrates in each form of matter.**
- **How much water does a plant need to grow? Experiments.**

- **Experiment One: Using three plants, children will water each plant a different amount each day. One plant will get a spoonful of water (teaspoon), one will get a ¼ cup, and one will get a pint (2 cups). Children will hypothesize and observe the plants over several weeks. This will allow them to conceptualize that plants need a specific amount of water.**
- **Experiment Two: Using a labeled pitcher, explain to the children that you want to see how much water a plant drinks over a period of time. Let them know that this water is only for one special plant and will not be used for anything else. Let them know that they are going to see how much the plant drinks by measuring the water in the container (you can use a ruler or a graduated container) at the end of each week. Have a chart that the children can keep track of how much water is used each week. Based off of how much the plant drank the first week, have them guess how long it will take before the plant drinks all of the water.**
- **Does it dissolve? : Have children hypothesize and test a variety of everyday materials and see if they dissolve in water. Use small clear jars and stir with a Popsicle stick. (We tested salt, sugar cubes, baking soda, coffee powder, tea leaves, oil, and sand.**
- **Tornado Tubes: Children can explore water flow and movement using observational skills and water tubes that create a tornado phenomenon.**
- **Oil Spill Clean Up: In water table, crumble coconut fiber and sprinkle over top of water. Give children chenille stems, bubble wands, fish nets, etc to see if they can clean the oil spill.**
- **Oil Spill Clean Up, Part 2: In a small tub of water, pour a small amount of oil onto the surface. Have children 'swim' plastic animals through the oil spill. Have children try this with feathers and scraps of teddy bear fur as well. Then have them try to clean the oil off. Have children explore different ways to clean off the oil and discuss why certain ways work better than others. Talk about dish soap and how it is used to help clean animals affected by real oil spills.**

Literacy Activities:

- **Zen Alphabet Painting: Children use paintbrushes and plain water to practice writing letters on small slate or chalkboards.**
- **Connect the rain drop letters. Spray a flat surface using a medium mist of water. Children can try to connect the droplets of water to create a trail which makes a letter.**
- **Foam and rock letters in water table: Children will try to match a floating foam letter to rock letters which have sunk with their letter face down.**
- **Making Alphabet Soup: Children and teachers will follow a**

recipe to create soup with alphabet pasta.

- **Sponge letter stamps: Children will use letter shaped stamps to paint words with tempera.**
- **Writing with different wet/dry media: Children will explore writing with wet and dry chalk, water, watercolors, and cornstarch paint.**
- **Hidden Letters: Children will use Scotch tape to create a "hidden letter" for a friend. The friend will then paint their paper with watercolors to "reveal" the letter.**

Music and Movement Activities:

- **Itsy Bitsy Spider:**
 - **With Traditional Hand Movements**
 - **With Props:**
 - **Summer Version: Two foot Piece of Rain Spout, 3 in plastic spider, and pitcher of water or hose Children can sing the nursery rhyme while having the spider climb the rainspout. When he reaches the top, place him inside, then have children "wash him out" with the water.**
 - **Winter Version: Attach a magnet to the spider. Children can sing the nursery rhyme while having the spider climb the rainspout. When he reaches the top, children can take turns pretending to be rain (we signified this with them wearing a blue glove) and wipe him off the spout.**
- **"If all the raindrops" Song taste test: Children will learn the song, and taste the elements in it, including lemon drops and gumdrops.**
- **Rain Rain Go Away Chant with sign language**
- **Native American Rain Dance with traditional music/chant**
- **Rainbow Song (Red and Orange Green and Blue Shiny Yellow Purple too, All the colors that I know, show up in the rainbow...)**

Outdoor Activities:

- **Water Relay Races: At the playground, set up three containers. One large container full of water and two smaller containers (1-2 gallon capacity) that are empty save for a few drops of food coloring. Have children split into two groups. One group gets one color of sponge corresponding to their food color container; the other group gets the other color sponge. Children take turns dunking their sponge, racing to their container, and squeezing the water out. They then have to run back and give it to the next person in their group. They continue until their water level reaches the top (we drew a line about three inches from the top of the container.**
- **Zen Painting: Give children paintbrushes and containers of**

	<p>water. Allow them to paint on the pavement and watch their paintings evaporate.</p> <ul style="list-style-type: none"> • Water Drops (see explanation above) • Splashing in puddles • Sprinkler play: Children can take traditional sprinkler play and incorporate new elements, like umbrellas and containers to catch water.
<p>Resources List materials, props and titles/authors of books</p>	<p>Materials:</p> <ul style="list-style-type: none"> • Music and Movement Area: Rain Sticks, Rain Sounds CD, Ocean Waves CD, Water spout, plastic spiders, blue gloves • Art Area: Spray bottles, Eye Droppers, Watercolor Paints, Food Coloring, Coffee Filters, Newspaper, Chalk, Bubble Solution, Balloons, Sand, Tempera Paint, Laminating Film, Trays, Hole Punches, Plastic Tubs, Paintbrushes, Scissors, Glue, Flour • STEM Areas: Small clear plastic bottles with watertight lids, Plastic bags, Ocean Animal Beads, Shells, Sand, Salt, Fabric, Glue, Yarn, Coffee Filters, Eye Droppers, Spray Bottles, Cotton balls, Small clear plastic jars, Plants, Graduated pitcher with cover, tap water, mineral water, soda water, spring water, distilled water, quart size water tight container with a wide mouth, toilet paper tube, prisms, magnifying glasses, sand, gravel, funnels, siphon pump, foam letters, pebbles with letters on them, pool noodle boats, sea shells, pet fish, sensory beads, corn starch, tea, river water, sponge, paper towels, marker, rulers, paper, sugar cubes, baking soda, tea leaves, and oil. • Literacy Area: Paintbrushes, Cups for water, individual chalkboards or slate pieces, Spray bottles, cornstarch, food coloring, sponge letters • Outdoor Area: Hoses, Umbrellas, Rain boots, Rain jackets, Puddles (natural or man-made), paintbrushes, water table, watering cans, funnels, plastic containers, rain gauge, sponges, Graduated containers <p>Booklist:</p> <ul style="list-style-type: none"> • A drop around the world by Barbara Shaw McKinney • The Water Cycle by Mayra Calvani • Anna Carries Water by Olive Senior • Why Should I Save Water by Mike Gordon • The Snowflake: A Water Cycle Story by Neil Waldman • Oil Spill by Melvin Berger

	<ul style="list-style-type: none"> • My Water Comes from the Mountains by Tiffany Fourment • A Fish out of Water by PD Eastman • All the Water in the World by George Ella Lyon • Did Dinosaurs drink this water? By Robert Wells • A Cool Drink of Water by Barbara Kerley • One Well by Rochelle Strauss • Down Comes the Rain by Franklyn Branley • Water (Eyewitness Books) by DK Publishing • Let's Try it out in the Water by Seymour Simon • Re-Cycles by Michael Elsohn Ross • Water by Frank Asch • Water Can Be by Laura Purdie Salas • A Drop in the Ocean by Jacqui Bailey • The Water Hole by Graeme Base • Who Sank the Boat? By Pamela Allen • All about Matter by Mari Schuh • Matter: See It, Touch It, Taste It, Smell It by Darlene Stille • Solids, Liquids, and Gases by Carol K. Lindeen • Floating and Sinking by Amy Hansen • Floating and Sinking by Karen Bryant-Mole
<p>Family Engagement Activities</p>	<ul style="list-style-type: none"> • Parents will keep a water journal with their children. Each day they will write down how they used water. On Friday of each week we will ask them to bring the journal in so children can compare how their families use water. • Parents will help create a water cycle bottle and will observe with child each night what is happening inside the bottle. Parents will help children keep a log about what is happening in their bottle. • Parents will participate in an in-class art activity, creating sensory bottles with their children.

Link to CLASS Instructional Support Domain Responses to Guiding Questions (Preschool only)

Concept Development	Quality of Feedback	Language Modeling
<p>Analysis and Reasoning</p> <ul style="list-style-type: none"> • What <i>how</i> and <i>why</i> questions are used? ○ Why do plants need water? ○ How does water make things dissolve? ○ How heavy is water? ○ How can you tell if water is safe to drink? ○ Why do some things float in water and some things sink? ○ Why does it snow when it is cold outside? ○ How do you use water at home? ○ How many different types of water do you know? • As appropriate, cite examples of problem solving, prediction & experimentation, classification, comparison and evaluation which were used in lessons. • Prediction and experimentation was used during: <ul style="list-style-type: none"> ○ Mixing colored water ○ Water tasting ○ Water Exploration ○ Sink/Float with Salinity ○ Water Absorption ○ Solids and Liquids ○ Plant Experiments 	<p>Scaffolding</p> <ul style="list-style-type: none"> • What verbal hints or assistance are provided to support children to understand concepts? ○ While discussing how heavy water is, as children how we measure weight? Reference how we find out their weight and ask if they use scales to weigh other things. ○ When discussing water use at home, ask children what rooms have water a t home and what do we do in those rooms. Reference tooth brushing and drinking as examples if children are unable to respond and then ask if they do anything else. <p>Prompting Thought Processes</p> <ul style="list-style-type: none"> • How do teachers ask children to explain their thinking? (Examples) ○ When child is categorizing what will sink or float, ask “How did you decide that will sink/float?” 	<p>Open-ended Questions</p> <ul style="list-style-type: none"> • What open-ended questions are asked by teachers? ○ Where does water go when it evaporates? ○ What lives in the water? ○ What does water feel like? ○ What kind of water do you drink? ○ Where does water come from? ○ What needs water to live? <p>Advanced Language</p> <ul style="list-style-type: none"> • What advanced language is used to support the topic? ○ Vocabulary such as: <ul style="list-style-type: none"> ○ Precipitation ○ Condensation ○ Evaporation ○ Gauge ○ Temperature ○ Measure ○ Properties ○ Liquid ○ Solid ○ Siphon ○ Magnify

<ul style="list-style-type: none">○ Does it dissolve?• Comparison and classification is used in:• Ocean Bottles• Water tasting• Water Exploration• Sink/Float with Salinity• Water Absorption• Solids and Liquids• Does it dissolve?	<ul style="list-style-type: none">○ When child is trying to clean 'oil spill', ask child why they decided to build their cleaning device the way they did.○ When child is hypothesizing about how much water plants need after observing the first week, ask "How did you decide the plant would take that long to drink it's water?"	<ul style="list-style-type: none">○ Prism○ Reflect○ Predict○ Observe○ Meteorologist○ Flood○ Drought