

Project WET's Toolkit for Getting Little Feet Wet

A Resource for Coordinators and Facilitators
of Early Childhood Water Education



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About Getting Little Feet Wet

Developed specifically for teachers working with young children (ages 3-6) and in coordination with early childhood experts and educators, *Getting Little Feet Wet* is Project WET's early childhood curriculum. *Getting Little Feet Wet* contains 11 interactive, hands-on activities for young learners to explore different aspects of water—from water properties to water sounds. *Getting Little Feet Wet* is available both as a digital and printed book. In the digital book, readers can click on suggested resources, specific materials and additional links to go directly to a webpage with more information on the resource or product.

Each activity is divided into Pre-K and K-2 options. This is to account for the large gap in learning differences and development between three- to four- year-old children and five- to six-year old children. The suggestions for adapting the activity for Pre-K or extending the lesson for K-2 students are only suggestions. Teachers should teach to the level of their classrooms.

The sidebar at the beginning of each activity displays information on Project WET's Water Literacy Principles, [Head Start's early learning domains](#), early childhood standards, vocabulary and activity learning highlights.

Water Literacy Principle addressed in the activity.

The sidebar at the beginning of all activities in Getting Little Feet Wet calls out the learning areas as defined by Head Start.

Standards for Pre-K through second grade are listed in the sidebar

Highlights, such as story time, outdoor walks and art projects, are also listed in the sidebar.

Water Wonders

WATER LITERACY PRINCIPLE
Water has Unique Physical and Chemical Characteristics:
• Some objects sink and some objects float.
• Water forms drops.
• Water can be absorbed.

HEAD START DOMAIN ELEMENTS
• Fine Motor Skills
• Gross Motor Skills
• Self-regulation
• Number Relations & Operations
• Scientific Skills & Method

STANDARDS
NAEYC: 2A.08.f.g.i; 2A.10.a.d.e.f; 2B.08.a; 2B.08.a.b; 2C.03.a; 2D.03.a.c; 2D.04.a.b; 2D.04.b; 2D.07.a; 2F.02.a; 2F.04.a; 2G.02.c; 2G.04.a; 2G.05.a; 2G.08.a; 2G.07.a; 2G.08.a

NAMEE: A1, A2, A4

NGSS: N/A

COMMON CORE:
ELA: SL.K; SL.K.4; SL.K.6; SL.1; SL.1.4; SL.2; SL.2.4; LK.1; LK.6; LK.1; L.2;
MATH: K.CC.A.1

WATER WORDS
absorb, dissolve, drop, float, mix, sink, soak

HIGHLIGHTS:
water stations, playing with water

Summary
Children play with water to discover some of water's unique properties: Some objects sink in it; some objects float on it; it forms drops; it can be absorbed; it can make some substances "disappear."

Suggested Resources
MUSIC:
• Water We Singing About? by Kevin Kopp (CD and download)
STORY BOOK:
• A Cool Drink of Water, by Barbara Kerley
• All the Water in the World, by George Ella Lyon and Katherine Tillotson
• I Got Wet by Vicki Cobb and Julia Gorton
• Water for YOU and ME, by the Project WET Foundation

Materials
Preparation: Set up stations ahead of time. Be sure to keep towels nearby to clean up water spills!
Activity:
• One copy of each photo on the Photo Demonstration Card – Teacher Copy Page

Teacher Facts and Information
Water has properties that cause it to behave in unique ways. We see the results of this every day. For example, water is attracted to other water molecules, which is why water flows in rivers and streams. Water is also attracted to other substances. Because of this, water

Materials List:
• Towels for cleaning up spills
Station 1
• Eye dropper
• Pennies and/or wax paper to drop water onto
Station 2
• Large plastic container(s) with water
• Items that sink and float such as rocks, leaves, paper, packing peanuts, rubber ducks, wooden blocks, paper clips
Station 3
• Small clear cups with water
• Salt
• Vegetable oil or sand
• Stirrers or plastic spoons for mixing
Station 4
• Small clear plastic cups or containers
• Markers
• Sponges, cut into strips
• Bucket

Getting Little Feet Wet
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Information about *Getting Little Feet Wet*, the standards correlations and links to suggested resources can be found at www.projectwet.org/earlychildhood.

Developing Your Project WET Preschool Program

Keep these philosophies in mind as you design your programs. They may help guide you as you try to accommodate the way preschoolers think of the world around them. Activities in *Getting Little Feet Wet* incorporate these learning areas throughout the guide. Look at the sidebar at the beginning of each lesson for more information on learning areas in each activity.

Tips for the Classroom:

1. Create a whole-classroom learning environment.

- Use Simple Topics: Exposure to water and these concepts may be new for many children, so keep it simple and appropriate.
- Provide Free Choice and Social Situations: Examples include learning stations, providing a water table play area and calling children over to rug/meeting area for show and tell.
- Sensory Experience (part of learning stations): Provide a water table with various tools for holding and scooping, bubbles, floating and sinking objects.
- Songs and Music: Children might not all sing along, but they enjoy listening. Adding gestures will help get them involved.
- Story Time: Choose picture books with bold and colorful illustrations. Give them time to look at each picture and point out other things in the pictures. Omit longer details, if necessary, to maintain attention.
- Dramatic Play: This is the time to allow children to pretend-- be a raindrop in a cloud and fall to the ground, where will you land? Use puppets to take children down to the "river". What do you hear and see?
- Large Motor Games: Provide time for active games, such as sorting, running, jumping, finger painting and sensory bottles.
- Fine Motor Games: Use of pinching action in fingers, (i.e. use droppers or basters, hold and use spoons, pour water, pick up small objects, cut with age appropriate scissors and color).
- Small Group Games: Provide learning stations with water-themed puzzles and sorting games.
- Art: Let children discover as they create. They can paint with feathers, create with play dough, create paintings by blowing through a straw, etc. Avoid step-by-step instruction and pre-conceived crafts.
- Outdoor Exploration and Trail Activities: Incorporation of water exploration and play into outdoor areas to expand senses and experimentation using the natural world.

2. Focus on Inquiry-Based Learning

With inquiry, educators use open-ended questions and children are encouraged to ask their own questions, experiment, use trial and error, discuss, and evaluate. Small children can make discoveries independently or as members of a group. All Project WET curricula are designed as inquiry-based learning activities, allowing children to discover the answers for themselves.

By using open-ended questions you can find out how children think, not just what they already know. Whenever possible, lead with questions like, "What would happen if..." or "If you were a frog where would you like to live?"

Remember: Inquiry is the point of the activity, not a way of getting children to the right answer.

Why is inquiry Important?

Young children need to learn how to learn, rather than just learn facts. They learn best through finding their own answers. When children discover that they can find answers to what puzzles them, they are learning the basics of scientific principles.

Benefits:

- Children will find the answer they are ready to understand.
- Focus remains on the process of learning rather than the facts.
- Children who learn early to think creatively and problem solve are more likely to continue this type of thinking as they get older.
- They can ask their own questions and find their own answers.

Misconceptions:

- *Loss of control:* This kind of classroom can get loud and may appear chaotic to someone unfamiliar with it. Once instructors get used to the activity level of children involved in inquiry, they recognize it as the sound of minds at work! Children will have a more positive experience if you leave time for unstructured activities. They will learn through play.
- *Conflicts between children:* Provide enough toys/ puppets/ supplies to minimize conflicts. Remember this is the age children experience cooperative learning and build the skills necessary for sharing and working together.
- *Children won't learn:* Recognition of what children should be learning at this age, which includes attitude, passion, and confidence, helps instructors to let go of the desire for children to know facts.
- *Children will learn misinformation:* When children find their own answers and construct with own knowledge, sometimes they come up with less than the whole answer. We may need to encourage them to revise their theories through more open-ended questions.

3. Set up Learning Stations

Learning stations give children time and opportunity to explore the activity at their own pace. Learning stations can be puzzles, play dough, blocks, aquatic animal memory, or other activities that pertain to your topic.

Importance of Learning Stations:

Learning stations promote choice and freedom of movement. They convey a sense of trust in the children by allowing them to choose what is important to them. As a result, the program is more responsive to the needs of individual children, rather than treating them as a group.

Benefits:

- Learning Stations create a welcoming environment. When children arrive they may be feeling apprehensive but having familiar activities set up for them to choose from helps to ease them into a new space and routine.
- Setting up the right environment encourages learning and play and discourages inappropriate behavior.

About Preschool Learners

The following are words of advice from educators experienced in doing programs with preschool children. You can use these tips in your workshops and in your own programming.

How Preschoolers Think

Preschoolers think everyone sees the world the way that they do.

- Thought processes of preschool age children don't always seem logical to adults and once they've come to a conclusion, it's difficult to reverse their thinking. For example, they may say "If an apple is red, then a green fruit is not an apple."
- Preschoolers are not miniature adults—they are kids with their own sets of needs and abilities.
- They are so honest, literal, and logical.
- Everything is about me—this is not a bad thing, it's just they are not as equipped to think of others.
- They can do it themselves—they want to do it on their own, their way, whether it's right or wrong.
- They are learning about everything all at once, all the time—lots of stimuli each day that they must make sense of, we take it for granted, everything just makes sense, but they have a limited understanding of the world around them, so there is much to make sense of.
- They make sense of their world through play. Play is very important to preschool-aged children.

What Can Preschoolers Learn?

- Knowledge—they can tell a story.
- Comprehension—they can tell you the main point of the story.
- Application—they can tell you how a story applies to real life and their own experiences.

Note: Preschoolers are not comfortable with analysis and synthesis.

Planning Ahead

- It's good to have plan B and C ready, because preschoolers often finish things faster than you think, or things may be too difficult for them and you need to be flexible and move onto something else.
- When possible, test out your ideas and activities on your own kids, grandkids and neighbors.
- Always tell them what you expect before jumping into the program or activity, i.e. "When I am talking, you should listen", "What does it look like when you are listening?"....

Capabilities

Only by being around and working with this age of kids will you see how they react to things and what they are capable of doing.

- Preschoolers can act out various scenarios and learn about others and themselves. Imaginary friends may come into play, and they ramble on or talk to themselves as they play, but it helps them make sense of things.

- They learn by repetition. Review things that have been discussed. If they forget, don't get angry; just go back to the topic. Some kids may even need to be shown HOW TO PLAY! Sounds odd, but it is true.
- Lessons should incorporate movement. Act out vocabulary. Be sure the movement is appropriate for the space (they tend to run into each other).
- Include quiet activities, if possible, after an exciting one and don't expect immediate settling. For example..... "And all the animals went to sleep....." Suggest the use of guided imagery to gather and calm when switching from active lessons or use of a transition activity that brings them down to calmer levels.
- If children seem timid and quiet (especially at first), get them engaged. Set limits in a positive manner. "No" is an acceptable word to use.
- Expect the unexpected! Be prepared to switch the conversation temporarily or, if the comment does not involve the lesson, keep them on task.
- Do not expect preschoolers to sit for 15-20 min. without fidgeting. Instead, use alternating activities, from active to passive, active to passive.
- Be prepared for more, but be ready to accomplish less—especially with 3-4 year olds. Don't be too rigid in the plans. If children aren't engaged, it is time to switch gears and try something else.
- Some activities are best done as a group, some activities may be as centers or stations.
- If children are misbehaving or not interested, look first at yourself. Ask yourself: What can I do differently? Have they been sitting too long? Is my word usage too abstract?
- Lessons should either be concrete, or linked to something they can relate to. "What do you do in winter?" as a lead in to talking about seasons or snow.
- Always try to incorporate "touchy-feely" items or props. Just because it doesn't breath and move does not mean it won't grab their interest. Things as simple as a pine bough, a feather or nuts are things they probably have never held in their hands.
- When you tell them not to do something, tell them the converse. Ask, "What should you be doing instead?"
- Don't be afraid to correct them if they say something that you know for sure is totally false. Part of the goal in environmental education is to educate the general public (of which they will become) and make them aware of the world outside.

Project WET Water Literacy for Early Childhood Education

This is taken from the introduction of Getting Little Feet Wet.

Project WET's Water Literacy Framework is organized into seven principles. The same seven principles for water literacy apply to early childhood education, although ways of addressing the principles may be more basic to ensure they are developmentally appropriate. Each activity in Getting Little Feet Wet addresses one of these water literacy principles. Project WET's Water Literacy Framework is outlined below with early childhood sub-concepts.

Water has unique physical and chemical characteristics

- Liquids will take on the shape of their container.
- Some objects sink and some objects float.
- Water can freeze, be poured and evaporate (water exists in different states).
- Water forms drops.
- Water can be absorbed.
- Bubbles are made from air and water.
- Water dissolves some substances.

Water is essential for all life to exist

- People and animals need water to drink.
- Water and foods that have water in them are good for me.
- Living things have water in them.
- Plants need water to grow.
- Some animals and plants live in the water or near the water.

Water connects all Earth systems

- Rain, clouds, snow and frost are made of water and are part of weather.
- Water is different in all the seasons.
- Water is part of nature.
- Ponds, lakes, streams and rivers are different places to find water.
- The ocean is a large body of salt water which covers most of the Earth.

Water is a natural resource

- Everyone uses water.
- Water is used to produce the food I eat.
- Water is used to make things I use.

Water resources are managed

- It is important to not waste water.
- Water must be transported for use.
- Water is shared by people, animals and plants.

Water resources exist within social constructs

- My family and I use water in many ways at home, in school and at play.
- Boats and bridges help us live near water.
- I live near water.

Water resources exist within cultural contexts

- Water inspires music.
- People use instruments to make the sounds of water.
- People celebrate water in many ways.

Learning Centers and Active Learning Ideas

These ideas can be used in coordination with Project WET activities in Getting Little Feet Wet or as an add-on to the unit.

Water Wonders—this activity in *Getting Little Feet WET* easily fits as use with centers in classrooms and sets up well for a workshop demonstration of center use.

Water tables—frequently used in early childhood centers. These centers should include a collection of tubes, clamps, funnels, and containers for children to construct water movement systems.

Discovery Bottles—popular center activities that allows children to hold, shake, and observe what is happening inside a bottle. These are plastic bottles created to illustrate specific concepts or skills. Many examples are found on Pinterest and are common in early childhood rooms. Use these bottle ideas to illustrate water concepts of float and sink, density, mix and dissolve, and display colors for grouping or arranging. Sand and water is a very popular discovery bottle and you can hide small objects in the bottle that become uncovered when you shake and the sand falls away. This can be used with the activity “Water Wonders.”

Dramatic Play Center—when focusing on centers, dramatic play is important. Put together a box of objects that help students become water in different phases or uses of water (i.e., goggles and towel, snowflake hats, rain poncho with drops painted on it, paper clouds, mittens and scarves... fishing hat, play fishing rod, sailor hat, construction hat and tool belt, water bottles). This can be used with many Project WET activities including “It’s All Water,” “House of Seasons”, “Rainstick: Make it Rain!” and “Our Blue Planet.”

Paint with Ice—freeze ice cubes using food color and popsicle sticks. Great as an outdoor activity! Drag the ice cubes across paper to create designs. This would be a nice extension to the activity “It’s All Water.”

Professional Resources

Cindy Hoisington. (2010) *Picturing What’s Possible—Portraits of Science Inquiry in Early Childhood Classrooms*. University of Illinois at Urbana-Champaign, College of Education Early Childhood and Parenting Collaborative, (ECRP), <http://ecrp.illinois.edu/beyond/seed/Hoisington.html>

Chalufour, Ingrid, & Worth, Karen. (2005). *Exploring water with young children*. St. Paul, MN: Redleaf Press.

Duschl, Richard A.; Schweingruber, Heidi A.; & Shouse, Andrew W. (Eds.). (2007). *Taking science to school: Learning and teaching science in grades K-8*. Washington, DC: National Academies Press.

Elisabeth McClure, Ph.D. (2017). [Sowing the Seeds for Successful STEM Learning in Early Childhood](#). National Institute for Early Education Research, NIEER. Rutgers Graduate School of Education, a unit of Rutgers, The State University of New Jersey

Shannan McNair, Editor. (2006) *Start Young! Early Childhood Science Activities*. Arlington Virginia, NSTA Press

Minnesota Early Childhood Environmental Education Consortium, edited by Marcie Oltman. (2002). [Natural Wonders: A Guide to Early Childhood for Environmental Educators](#).





Name
Location
Date

- 2:00 - 2:15 Introductions
- 2:15 - 2:45 Icebreaker Activity: Our Blue Planet (*Math, Gross Motor Skills, Comparisons, Art*)
- 2:45 – 3:15 Overview of the **Getting Little Feet WET** guide
- Activity Format
 - Pre-K and K-2 options
 - Standards/ Sidebar content
 - “Swim Thru the Guide”
- 3:15--3:30 Break
- 3:30-4:00 Activity: Living Water or Water We Made Of?
- 4:00-4:45 Activity: Water Wonders (*Learning Centers, Math, Fine Motor Skills, Comparisons*)
(10 min rotations)
- 4:45--4:55 Resources for Early Childhood Outdoor Education
- 4:55—5:00 Evaluations/Certificates





Name
Contact
Location
Date

This workshop could combine Getting Little Feet Wet with Project WET 2.0 Activities

- 9:00 - 9:15 Sign In, Introductions
- 9:15 - 9:45 Icebreaker Activity: Our Blue Planet (*Math, Gross Motor Skills, Comparisons, Art*)
- 9:45 - 10:15 Overview of the **Getting Little Feet WET** guide
- Activity Format
 - Pre-K and K-2 options
 - Standards/ Sidebar content
 - “Swim Thru the Guide”
- 10:15-10:30 Break
- 10:30-11:00 Guide 2.0 Activity
- 11:00-11:30 Activity: Don’t Pass the Germs (*Hygiene, Math, Gross Motor Skills*)
- 11:30-12:30 Lunch
- 12:30-12:50 Activity: Thunderstorm (*Gross Motor Skills, Music, Connections to Nature, Emotional Health*)
- 12:50-1:30 Activity: Water Wonders (*Learning Centers, Math, Fine Motor Skills, Comparisons*)
(10 minute rotations)
- 1:30-1:45 Break
- 1:45-2:30 Activity: Guide 2.0 or Getting Little Feet Wet
- 2:30-2:45 Resources for Early Childhood Outdoor Education
- 2:45-3:00 Evaluations and Certificates





Getting Little Feet WET

Names, Location and date

- 8:45 Check In
- 9:00 Welcome and Introductions
- 9:15 Icebreaker Activity: Our Blue Planet (*Math, Gross Motor Skills, Comparisons, Art*)
- 9:45 Getting Little Feet WET Introduction PowerPoint
Exploring the Guide and the Audience
- Connecting Children to Nature
 - Developmentally Appropriate Practice
 - Nature Play / Natural Wonders
 - Math Connections
 - Language and Literacy Connections
 - Healthy Kids
 - Sparking Creativity
 - Scientific Inquiry
 - Assessing Children's Learning
 - Project WET Water Literacy for Early Childhood Education
- 10:00 Early Childhood "Cut-Sheet" Activity
- 10:30 Getting Outside! Activity: Living Water (*Connections to Nature, Art, Snack*)
- 11:00 Home Connections
Instructors will learn about activities that children and parents can do together at home or in their community
- (1) Letter to Parents (bilingual)
 - (2) Overview of Activities
- 11:30 Activity: Don't Pass the Germs (*Hygiene, Math, Gross Motor Skills*)
- 12:00 Lunch
- 1:00 Activity: Water Wonders (*Learning Centers, Math, Fine Motor Skills, Comparisons*)
(10 minute rotations)
- 2:00 **Guest Speaker:** Environmental Education and Underserved Populations
Utilizing classroom and cultural resources to stimulate environmental education in the early childhood classroom (*or other Early Childhood expert*)
- 3:00 Activity: House of Seasons
- 3:45 Resources for Early Childhood Outdoor Education
- 4:00 Wrap-Up and Evaluation

Early Childhood “Cut-Sheet” Activity for Facilitators—Read Directions Before Cutting!

1. Make copies of this sheet if necessary. You will need one sheet per 2-3 people. Keep an uncut sheet as your answer key.
2. Cut out each cell of the table below.
3. Put set of column headings and column items into an envelope.
4. Ask participants to work in teams of 2 or 3 people and arrange column items under appropriate column headings.
5. When all groups are done, discuss as a large group.
6. A note about answers: As with everything in early childhood, this exercise is intended to describe general characteristics of learners as a group, not as individuals. Therefore, some items may correctly fall into both columns. Refer group to page 22 of the *Natural Wonders Guide for Early Childhood Environmental Educators*.

| What You Need to Know About Children Under 6 | What You Need to Know About Children Over 6 |
|-----------------------------------------------------------|-----------------------------------------------|
| When in doubt, they make it up. | The World is opening to them. |
| They make sense of their world through play. | They are opening to the World. |
| They are learning about everything at once, all the time. | There is a “way” for everything. |
| They can do it themselves! | They can do it themselves! |
| Everything is about “Me!” | Talk, talk, talk. |
| They think differently from us. | Looking for recognition through productivity. |