

We Skoolhouse



Ready-Made Curriculum: Water Exploration



Introduction: Water Exploration

This investigation invites children to explore the properties, behaviors, and forms of water. Through direct experience and observation, children engage in scientific thinking while building a sensory and conceptual understanding of water in their everyday world. They'll pour, mix, observe, test, and revisit materials—learning how water moves, transforms, and interacts with other materials.

There is no set timeline for how long to spend on this investigation. Let the children's engagement, curiosity, and conversations guide your pace. A slow, layered approach—where children revisit familiar materials, deepen their observations, and gradually build understanding—is more meaningful than rushing to the next topic.

The activities and suggestions included are not directives, but invitations—ways to meet all learners without pressure or expectation. Avoid directing or redirecting. Trust in each child's natural drive to explore, and allow learning to unfold with authenticity and joy.

This guide includes daily prompts, journal ideas, suggested vocabulary, recommended books, and ways to incorporate the unit into centers. Use what fits, adjust what's needed, and let the children lead the way.

Books Used Throughout the Unit:

- Hey, Water! by Antoinette Portis
- Water Can Be... by Laura Purdie Salas
- All the Water in the World by George Ella Lyon
- A Drop Around the World by Barbara Shaw McKinney
- Over and Under the Pond by Kate Messner

Vocabulary

water, droplet, splash, pour, soak, drip, absorb, repel, flow, stream, current, ripple, wave, puddle, cycle, evaporate, condensation, precipitation, vapor, mist, cloud, freeze, ice, melt, buoyant, density, dissolve, permeate, viscosity, surface tension, erosion, temperature, transparent, translucent, translucent

Week 1: What is Water?

Focus Concept: Water as a material

Weekly Objective: Children engage their senses and scientific curiosity to observe how water feels, moves, and behaves. They begin to describe water using precise language and explore how it interacts with their environment.

Monday – Introducing Water

Morning Meeting

- Book: Hey, Water! by Antoinette Portis
- Discussion prompts:
 - “What is water?”
 - “Where do we see water around us?”
 - “What do you notice about how it moves or feels?”

Follow-Up Investigation

- Offer clear water in trays and bins with cups, ladles, small pitchers, and basters, so children can explore through pouring, scooping, and dripping
- In journals, draw a water or a water droplet and label it with describing words (optional if a child is currently writing).

Closing Circle

- Reflect: “What surprised you about water today?”
- Begin your Wonder Wall—a shared display where children’s questions, ideas, and discoveries are collected and revisited throughout the investigation. Add a few thoughts or drawings from today’s exploration.



Tuesday – Drip, Pour, Splash

Morning Meeting

- Book: Hey, Water! (revisit)
- Discussion prompts:
 - “What happens when we drip or pour water?”
 - “Does it always sound or look the same?”

Follow-Up Investigation

- Children explore how water behaves when dropped, poured, or splashed from different heights and tools:
 - Provide pipettes, spoons, cups, funnels, and pitchers
 - Offer trays or shallow bins lined with different materials (plastic, foil, felt, sponge)
- Encourage slow, careful pouring and fast, messy splashing. You may ask:
 - “Do different surfaces make different splash shapes or sounds?”
 - Children draw their favorite water action in journals.

Closing Circle

- Reflect: “What was your favorite way to use water today?”

Wednesday – Soak or Slide?

Morning Meeting

- Book: Water Can Be... by Laura Purdie Salas
- Discussion prompts:
 - “What are some things water can do?”
 - “Can water soak into everything?”

Follow-Up Investigation

- Create an absorption station with some of these materials: towels, foil, sponges, felt, wax paper, plastic lids, and tissue. (Optional: can pair with watercolors)
- Children test which materials absorb or repel water.
- Offer a chart for sorting: “Soaks up” / “Slides off”
- Children make predictions and document results with sketches or symbols.

Closing Circle

- Reflect: “Which materials surprised you?”
- Add new discoveries to the Wonder Wall



Thursday – How Does Water Move?

Morning Meeting

- Book: Water Can Be... (revisit)
- Discussion prompts:
 - “Does water always move in a straight line?”
 - “Can we change the way water moves?”

Follow-Up Investigation

- Offer trays slightly propped on one side, or clear lids on blocks.
- Provide flexible tubing, small stones, sponges, and plastic ramps.
- Children pour water and observe how it flows around or over obstacles.
- Document paths with arrows in journals: “Where did your water go?”

Closing Circle

- Reflect: “What helped the water move faster or slower?”
- Invite children to share changes they made to guide its flow.

Friday – Painting with Water

Morning Meeting

- Book: All the Water in the World by George Ella Lyon
- Discussion prompts:
 - “How can water become art?”
 - “What did the pictures in today's book remind you of?”

Follow-Up Investigation

- Set up a watercolor station with pipettes, coffee filters (or paper towels), brushes, trays, and salt.
- Children explore how water carries color & alters texture.
- Observe how it moves & spreads across different materials.
- Optional: provide ice cubes with food coloring for slow-release painting.

Closing Circle

- Reflect: “What did you notice about your watercolors?”



Week 2: What Can Water Do?

Focus Concept: Water in motion and transformation

Weekly Objective: Children investigate how water can change form, move through space, and interact with other materials. They build on prior experiences by testing water in new states and environments.

Monday – Moving Water

Morning Meeting

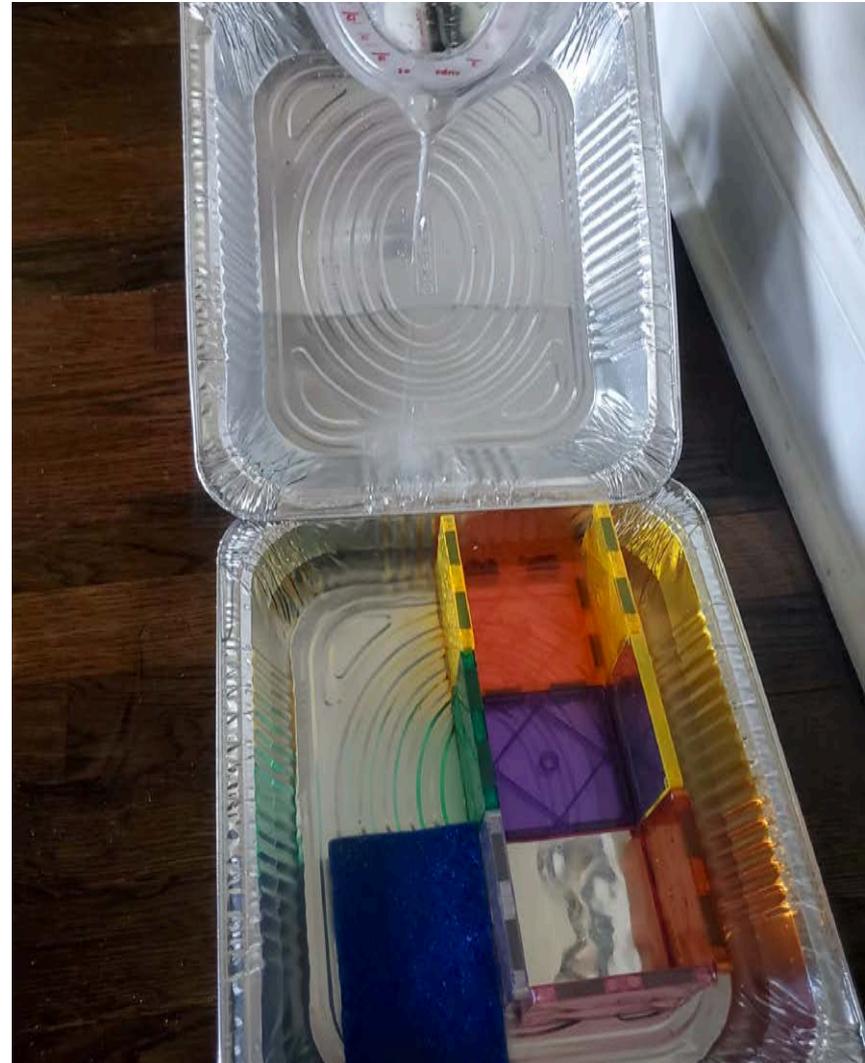
- Book: Water Can Be... by Laura Purdie Salas
- Discussion prompts:
 - “What are some things water can do?”
 - “Does water always move the same way?”

Follow-Up Investigation

- Set up a “moving water station” using propped trays, shallow containers, and plastic tubing (optional).
- Children pour water from various heights, tilt trays to redirect flow, and experiment with obstacles like sponges, stones, small blocks, or magna tiles.
- Encourage them to notice: “Where does the water go?” “Can you stop it or redirect it?”
- Children document their paths or barriers in journals using arrows and labeled drawings.

Closing Circle

- Reflect: “How did you make water move today?”
- Add a few strategies or surprises to the Wonder Wall.



Tuesday – Freezing water

Morning Meeting

- Book: Water Can Be... (revisit)
- Discussion prompts:
 - “What happens when water gets very cold?”
 - “What do you think will happen if we put water in the freezer?”

Follow-Up Investigation

- Invite children to fill ice cube trays with water and loose parts (flowers, buttons, pom-poms, natural items).
- Children make predictions about what they think will happen.
- Chart ideas as a class: “What will the water look like tomorrow?”
- Optional: Journal drawing of their tray and what they expect to see.

Closing Circle

- Add any predictions to the Wonder Wall.



Wednesday – Melting Ice

- Morning Meeting
- Book: A Drop Around the World by Barbara Shaw McKinney
- Discussion prompts:
 - “What do you think our trays will look like today?”
 - “What might help the ice melt faster?”

Follow-Up Investigation

- Children explore their frozen trays from the day before using droppers of warm water, salt, or tools.
- Encourage them to observe how the ice melts and how the trapped materials emerge.
- Ask: “Where does the water go as it melts?” “What helps it melt faster or slower?”
- Journal: Draw your ice and what you saw change. Use vocabulary like melt, cold, slippery, drip.

Closing Circle

- Reflect: “What surprised you about ice today?”
- Add new discoveries to the Wonder Wall



Thursday – Soapy Water

Morning Meeting

- Book: A Drop Around the World
- Discussion prompts:
 - “Can water change when we add something to it?”
 - “What does soap do when it mixes with water?”

Follow-Up Investigation

- Set up shallow trays or bins with water and a small amount of child-safe soap.
- Provide whisks, sponges, and large pipettes or straws (for blowing bubbles).
- Encourage exploration of texture, foam, bubbles, and how the water feels and looks different than plain water.
- Invite imaginative play, such as washing toy animals or making “bubble potions.”

Closing Circle

- Reflect: “What did soap do to the water?”



Friday – Washing with Water

Morning Meeting

- Book: Hey, Water! by Antoinette Portis
- Discussion prompts:
 - “Why do we use water and soap?”

Follow-Up Investigation

- Extend Thursday's setup with a “washing station.”
- Offer baby dolls, toy animals, or pretend dishes with basins of warm soapy water, soft cloths, and sponges.
- Invite children to narrate their play and share what they're doing—language-rich and collaborative.
- Journal: Children draw something they helped “clean” today and describe how they did it.

Closing Circle

- Reflect: “What did you notice when you cleaned with water?”



Week 3: Float, Sink, Boats, & Bridges

Focus Concept: Exploring what stays above water and what does not

Weekly Objective: Children observe and test materials in water, design boats, and explore balance and structure.

Monday – Floating & Sinking

Morning Meeting

- Book: Hey, Water! by Antoinette Portis (revisit – focus on water's properties)
- Discussion prompts:
 - "What do you think it means to float?"
 - "Why do some things sink?"

Follow-Up Investigation

- Children test materials (blocks, sponges, shells, rocks, coins, toys) in bins of water.
- Predict, test, and chart what floats and what sinks.
- Journal: Draw one item that floated and one that sank.

Closing Circle

- Reflect: "What helped something float?"
- Vocabulary: float, sink, heavy, light, surface, test



Tuesday - Can You Build a Boat?

Morning Meeting

- Book: Over & Under the Pond by Kate Messner
- Discussion prompts:
- "What floats on the pond in this story?"
- "How do you think we can build a boat that floats?"

Follow-Up Investigation

- Children use loose parts: corks, foil, bottle caps, and small containers to design a boat and test in water
- Journal: Draw your boat. Did it float?

Closing Circle

- "What materials helped your boat float?"



Wednesday - Boat Races

Morning Meeting

- Book: Water Can Be...
- Discussion prompts:
 - "How can boats move on water?"
 - "What can we use to help them go faster?"

Follow-Up Investigation

- Children race their boats their boats in a water channel or bin.
- Use straws, basters, or small paddles to create current.
- Journal: Draw your boat in motion. How did it move?

Closing Circle

Reflect: "What made your boat move the farthest?"



Thursday - Sketch a Boat

Morning Meeting

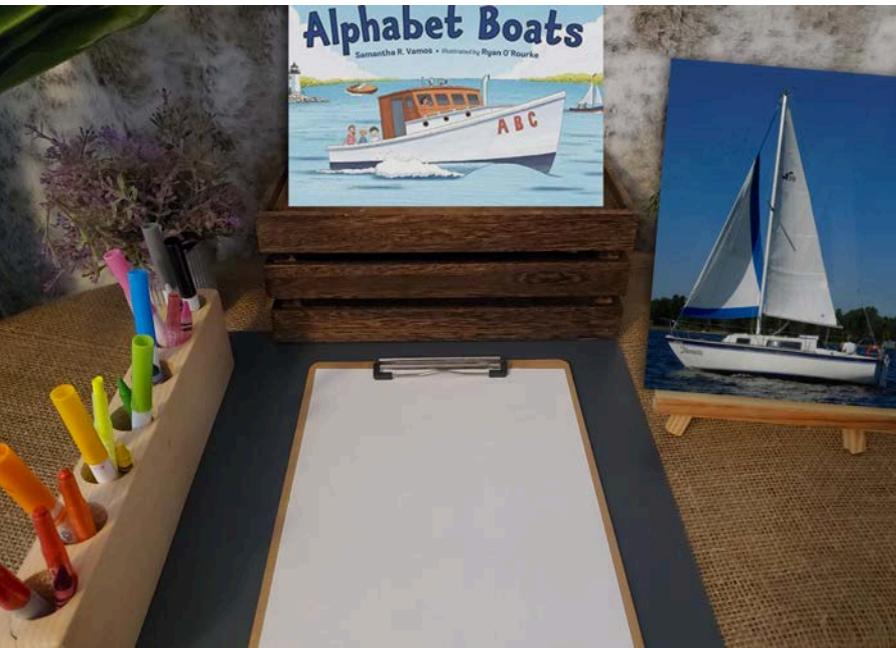
- Book: Hey, Water! by Antoinette Portis
- Discussion prompts:
 - "What shape do boats need to float?"
 - "Can we sketch what we see?"

Follow-Up Investigation

- Set up images or small boat models.
Children use coloring utensils to sketch their observations of boats.
- Support labeling parts like "sail," "hull," "deck."
- Journal: Sketch your boat. Give it a name or label one part.

Closing Circle

- "Tell me about your boat!"



Friday - Build a Bridge

Morning Meeting

- Book: Over and Under the Pond by Kate Messner
- Discussion prompts:
 - "What helps us cross water?"
 - "How strong does a bridge need to be?"

Follow-Up Investigation

- Offer a provocation that challenges children to build a bridge using blocks, tubes, cardboard, and/or other open-ended materials.
- Test with toy animals or figures.
- Journal: Draw your bridge and what crossed it.

Closing Circle

- "What helped your bridge stay standing?"
- Add any questions/observation to wonder wall



Week 4: Under the Water

Focus Concept: Exploring environments and creatures that live beneath the surface

Weekly Objective: Children investigate underwater life and represent it through sculpture, collage, and sound/movement.

Monday – Discovering What's Below

Morning Meeting

- Book: Over and Under the Pond by Kate Messner
- Discussion Prompts:
 - “What do you think is happening under the water’s surface?”
 - “What do you know about the animals that live there?”

Follow-Up Investigation

- Prepare a large water bin or shallow tray with materials for small world play. Include:
 - Toy aquatic animals (frogs, fish, turtles, whales)
 - Natural elements like smooth stones, seashells, driftwood, sea glass, real or fake aquatic plants
 - Optional: blue fabric or translucent paper along the base for depth and color
- Journal Prompt: Draw an underwater world.

Closing Circle:

- Reflect: “What stories did you imagine while playing?”



Tuesday - Sculpting Sea Creatures

Morning Meeting

- Book: Water Can Be... by Laura Purdie Salas
- Discussion prompts:
 - "What animals live in the water?"
 - "Can we make them with our hands?"

Follow-Up Investigation

- Children use clay to create a sea creature
- Offer natural materials and texture tools to enhance realism.
- **Optional:** Print out background images of ocean/water for children to sculpt over. You can then take a picture of their finished creations and hang them up as documentation to better preserve their sculptures (and experience).
- Journal: Can you draw your sea creature?

Closing Circle

- Reflect: "What does your creature need to survive underwater?"



Wednesday - Underwater Collage

Morning Meeting

- Book: Over and Under the Pond by Kate Messner (final revisit – visual focus)
- Discussion prompts:
 - "What colors do we see under water?"
 - "How can we create that with art?"

Follow-Up Investigation

- Children may explore and layer tissue, water-color, paint, and glue to make underwater collages (individual or collaborative artwork)
- Optional extension: Allow children to also draw and create sea creatures to go over the collage.

Closing Circle

- "Where would your animal live in your collage?"
- Be sure to add any new vocabulary words, new observations and questions to the wonder wall.



Thursday - Water Sounds and Movements

Morning Meeting

- Book: Hey, Water! by Antoinette Portis (final revisit – focus on movement and sounds)
- Discussion prompts:
 - “What does water sound like?”
 - “How can we move like water?”

Follow-Up Investigation

- Set up water instruments (jars with water, metal bowls, wooden spoons) & sound tools.
- Children dance with scarves or move like fish to soft music or recorded water sounds.
- Journal: “How did the water sound? How did it move?”

Closing Circle

- Reflect: “Which water sound or movement was your favorite?”



Friday – Thank You, Water!

Morning Meeting

- Book: Water Can Be... by Laura Purdie Salas (final revisit – reflection)
- Discussion prompts:
 - “What did we learn about water this month?”
 - “Why should we be thankful for water?”

Follow-Up Investigation

- Children create a collaborative underwater mural using paint, sponge prints, stencils, and recycled materials.
- Journal: “Thank you, water, for...”

Closing Circle

- Reflect: “What do you want to remember from our water exploration?”



About Centers, Provocations, and Materials

The following center setups and materials are designed to support the investigation across the unit. The intention is not to do everything at once—but to select, rotate, and adapt based on the children's interests, developmental needs, and the rhythm of the group.

These ideas should be seen as options to choose from, not a checklist to complete. Overloading the space with too many choices can overwhelm young children. Instead, offer a small number of materials at a time, and observe how children engage with them before introducing more.

You might choose to:

- Keep certain materials consistent for multiple weeks to allow for repetition and mastery.
- Rotate in new elements slowly to spark renewed interest or deeper thinking.
- Modify invitations to become more complex or more accessible as needed.

Children should be welcomed to:

- Make choices about how and where they work within the classroom.
- Move materials between areas (when appropriate) to support their ideas or projects.
- Combine materials across centers to create more layered and meaningful representations.
- Take responsibility for the tools they use by helping to return them when finished.

While autonomy is encouraged, a sense of shared care and responsibility is expected.

In all cases, the role of the adult is to:

- Observe how materials are used and what thinking is emerging.
- Document children's approaches, choices, and discoveries.
- Decide when to step back, when to scaffold, and when to offer something new.



Science & Discovery Center

Purpose: Encourage prediction, testing, and observation of water in action.

Materials & Setup Options:

- **Sink & Float Testing:** Clear bins of water with a tray of natural and synthetic objects (stones, corks, shells, bottle caps, sticks). Include prediction chart.
- **Water Movement Station:** Gutter ramps, plastic tubes, pipettes, and basters to explore flow and direction.
- **Freezing & Melting Setup:** Ice cubes within metal tins with cups and magnifying glasses for observations and exploration of different states of water.
- **Measuring Water:** Graduated cylinders, measuring cups, scoops, and sponges to explore volume and absorption.

Notes: Add vocabulary cards (float, sink, absorb, pour, flow, freeze, melt). Provide clipboards and pencils for documenting tests and observations.

Dramatic Play

Purpose: Support imaginative, role-based exploration of water's role in daily life and nature.

Materials & Setup Options:

- **Home Water Use:** Washbasins, dishes, towels, and drying racks to simulate cleaning and caring.
- **Practical Life:** Baby dolls with, sponges, and soap for bathing and care routines.
- **Weather Play:** Add raincoats, umbrellas, and boots to pretend play during "stormy" days.
- **Boats or Submarine Exploration:** Cardboard boxes can be transformed into a boat or submarine. Include hats, flashlights, goggles, sea animal images, paper oars, and a "control panel" made from recycled gadgets.
- **Water Delivery & Plumbing Service:** Toy water jugs, tubing, funnels, safety vests or tool belts, and notepads. Children deliver "clean" water to play areas or fix pretend leaks around the room.

Notes: Children may move props between areas, reinterpret roles, and invent their own stories. Follow their lead and trust that imaginative play.

Sensory Table

Purpose: Offer hands-on, embodied exploration of water's textures, temperatures, and sounds.

Materials & Setup Options:

- **Open Water Play:** Measuring cups, basters, bottles, and tubes for scooping, squeezing, and pouring.
- **Small World Pond Scene:** Toy aquatic animals, stones, shells, driftwood, and plants to spark story play.
- **Soap & Bubbles Bin:** Warm water, soap, sponges, and baby dolls or animals for washing and caring play.
- **Ice Exploration:** Add ice cubes to the sensory table to incorporate cold temperatures.
 - You can also add toy polar figurines for small world arctic water play.

Notes: Include vocabulary like temperature, slippery, dissolve, bubble, splash. Offer towels for cleanup and supervision for safety.



Art Studio

Purpose: Explore water as a medium and inspiration for visual expression.

Materials & Setup Options:

- **Watercolor Exploration:** Paints, droppers, pipettes, coffee filters, and thick paper to explore bleeding and blending.
- **Underwater Collage:** Blue and green tissue paper, sheer fabric, aluminum foil, natural textures, and animal stencils.
- **Clay & Water Play:** Air-dry clay with shells and pebbles to imprint or sculpt aquatic life.
- **Salt & Wax Resist:** Offer crayons and watercolors to explore repellence and absorption.
- **Ocean-Inspired Sketches:** Offer and display real images of different bodies of water or sea creatures for children to sketch.

Notes: Display reference images of water forms. Use language like ripple, blend, bleed, drip, and soak.

Blocks and Construction

Purpose: Encourage design thinking, spatial reasoning, and problem-solving through water-related building challenges.

Materials & Setup Options:

- **Bridge Building Challenge:** Use standard wooden blocks, arches, planks, and ramps to construct bridges over a “river” made from blue fabric or felt. Include animal or vehicle figures to test crossing.
- **Boat Dock & Harbor Scene:** Offer unit blocks, people figurines, boats, and signs to create a harbor, marina, or dock. Include clipboards for making maps or boat tickets.
- **Marine Life Block Build:** Print and tape real images of fish, coral, kelp, or underwater creatures onto wooden blocks. Invite children to create reefs, underwater scenes, or marine museums using familiar materials in new ways.

Notes: Invite children to draw plans before building and reflect on what worked or didn't. Add real photos of bridges, boats, and water systems for inspiration. Children may build cooperatively or independently.

Literacy Center

Purpose: Support observation, storytelling, labeling, and expressive language connected to water experiences.

Materials & Setup Options:

- **Water Observation Journals:** Small notebooks or stapled paper where children draw and write about their daily explorations—floating objects, ice melting, or experiments.
- **Underwater Story Prompts:** Laminated images of underwater scenes or aquatic animals with prompts like “Who lives here?” or “What do they do each day?”
- **Postcards from the Pond:** Blank cards with the sentence starter “Today I saw...” Encourage children to write or dictate a short message from the perspective of a diver, frog, or fish.

Notes: Include vocabulary word cards (e.g., pond, ripple, float, sink, deep, surface). Offer pencils, clipboards, and optional dictation support. Children should feel free to draw or write based on their own readiness.



"“Water is the driving force of all nature.”

— Leonardo da Vinci