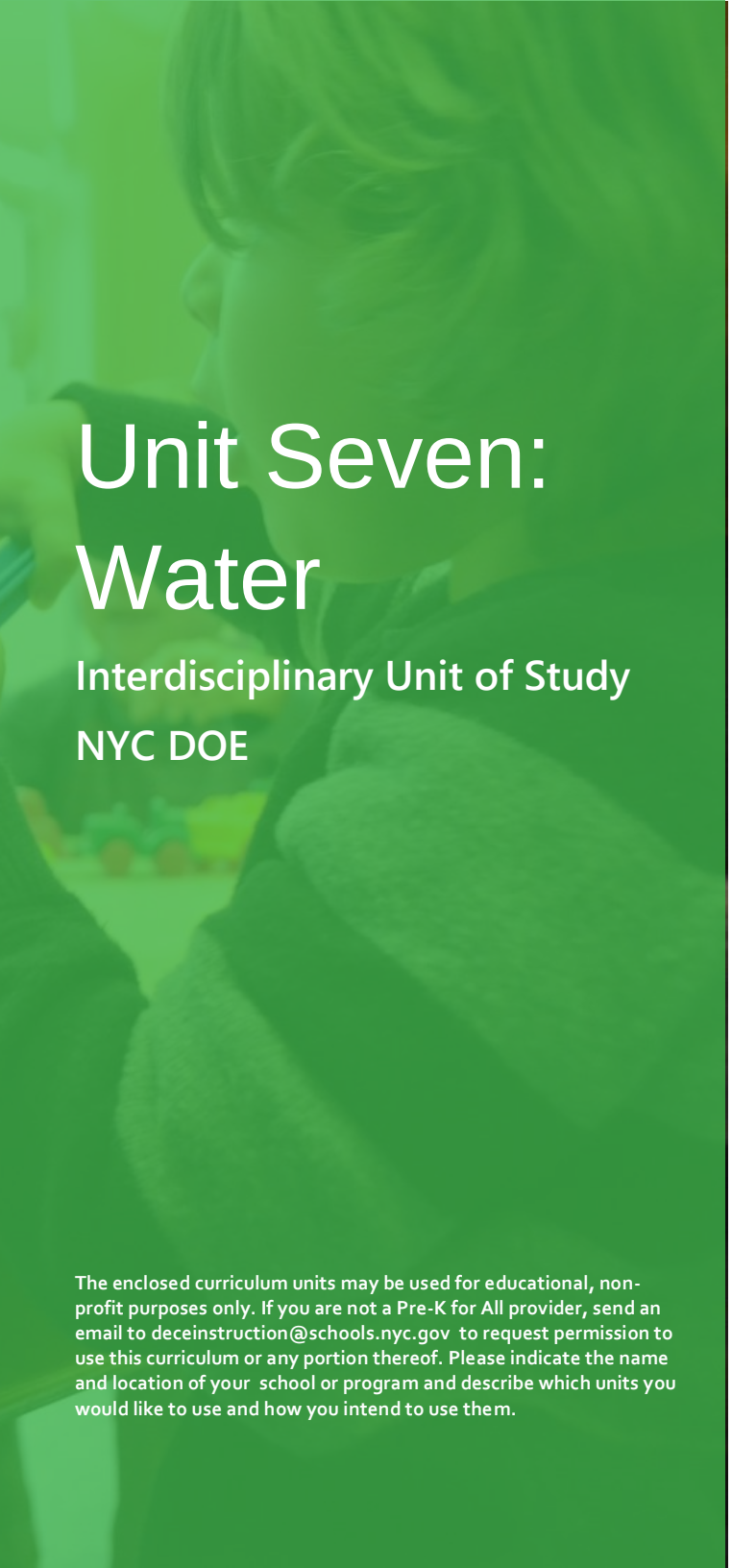


Unit Seven: Water

Interdisciplinary Unit of Study

NYC DOE

PRE-K FOR ALL

NYC Department of Education

Unit Seven: Water
Table of Contents

I. Unit Snapshot 2
II. Introduction 4
III. Unit Framework 6
IV. Ideas for Learning Centers 10
V. Foundational and Supporting Texts 27
VI. Inquiry and Critical Thinking Questions for Foundational Texts 29
VII. Sample Weekly Plan 332
VIII. Student Work Samples 37
IX. Supporting Resources 40
X. Foundational Learning Experiences: Lesson Plans 41
XI. Appendices 57

I. Unit Snapshot

Unit Topic
Water

Essential Question
What does water do?

Focus Questions
- Where can we find water?
- What happens to water when it changes temperature?
- What happens when we put things in water?
- How does water help us?

Student Outcomes
Enduring understandings that the student should have by the end of the unit:

- Water is all around us.
- Water changes depending on how warm or cold it is.
- Some things float in water and some sink.
- Some things change when you put them in water.
- All living things need water.

Connected Academic Vocabulary
This list should be adapted to best fit the needs of individual programs and classrooms.

absorb
beach
boat
boil
captain
conclude
condensation
clean
cloud
deep
dissolve
diver
drenched
drink
environment
evaporate
faucet
ferry
float
fog
form
fountain
freeze
frost
gas
gurgle
hail
hydrate
ice
island
lake
liquid
marsh
melt
meteorologist
mist
observe
ocean
perspiration
pond
precipitation
predict
puddle
quench
rain
raincloud
repel
river
sailor
saturate
sea
shallow
shore
sink
sleet
slosh
snow
soak
splash
sponge
solid
state
storm
stream
swamp
sweat
swim
temperature
thaw
thirst
umbrella
vapor
wash
water
water cycle
watered
waterproof
weather

Focus Standards

From the New York State Prekindergarten Learning Standards (NYSPLS)

Domain 1: Approaches to Learning:

PK.AL.5. Demonstrates persistence

Domain 2: Physical Health and Development:

PK.PDH.2. Uses sensory information to plan and carry out movements

PK.PDH.8. Demonstrates awareness and understanding of healthy habits.

Domain 3: Social and Emotional Development:

PK.SEL.1. Regulates responses to needs, feelings and events

Domain 4: Communication, Language, and Literacy:

Reading

PK.ELAL.5. [PKR.1.] Participates in discussions about a text (e.g., during whole or small group interactive read-aloud discussions, during peer sharing, within play scenarios)

Writing

PK.ELAL.15. [PKW.3] Uses a combination of drawing, dictating, oral expression, and/or emergent writing to narrate an event or events in a sequence

Speaking and Listening

PK.ELAL.19. [PKSL.1] Participates in collaborative conversations with diverse peers and adults in small and large groups and during play

Language

PK.ELAL.25. [PKL.1] Demonstrates command of the conventions of academic English grammar and usage when writing or speaking.

Domain 5: Cognition and Knowledge of the World:

Mathematics

PK.MATH.7. [NY-PK.CC.6.] Identifies first and last related to order or position

Science

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally

Social Studies

PK.SOC.5 Demonstrates knowledge of the relationship between people, places, and regions

The Arts

PK.ARTS.1. [DA:Cr1-3.PK] Creates Dance

II. Introduction

Welcome to Unit 7: Water, Pre-K for All's seventh Interdisciplinary Unit of Study. In Unit 7: Water, children move from thinking critically about light, darkness and shadows to an exploration of the properties and uses of water. This unit, like all Pre-K for All units, provides opportunities for children to observe objects and phenomena in their environment with increasing complexity. Activities throughout the unit prompt children to learn about water through hands-on explorations and provide opportunities to observe water in their immediate environment. As you prepare to teach this unit, consider how water is a part of your children's daily lives. Additionally, as the weather changes according to the season, use these changes to observe, draw, paint and discuss rain, snow, puddles, storms, etc. You may want to adjust your daily plan according to the weather, for example by reading ***Rain!*** by Linda Ashman on a rainy day. Through this type of flexibility and modification, you are engaging in responsive instruction as noted in the NYC DOE Division of Early Childhood Education Early Childhood Framework for Quality (EFQ) Element Three: High quality programs advance play-based learning and responsive instruction.

All Interdisciplinary Units of Study are structured around four focus questions. Each focus question is designed to take about one week to explore. In the Water unit, children begin by considering where we can find water. Children will have the opportunity to observe, discuss and explore water in their classrooms and throughout their environment such as bodies of water and weather related water (e.g. rain). In the second week, children will focus on changes in water temperature. They might explore and observe ice and water at different temperatures and perform experiments with water and ice. In the third week, children are invited to think about how objects respond when they are placed in water. This may lead them to think critically about why some items float and some sink. There are also opportunities in this week to learn about substances that dissolve or expand in water (like salt and sponges). In the final week of the unit, children will be invited to explore their understanding about how water helps living things.

Through these explorations, you are making science content and scientific thinking accessible and meaningful to children.

Through these explorations, you are making science content and scientific thinking accessible and meaningful to children. You are building on their curiosity and excitement about science and laying the foundation for continued scientific inquiry in Kindergarten and beyond. It may be necessary to do some research and learn more about water on your own before implementing this unit. One place to find additional information on scientific thinking and exploration of water is Section IX: Supporting Resources

Your water table will likely be a focal point in this unit. If a water table is not available, or if you would like to provide additional opportunities for children to explore water, you can use buckets or other containers of water. You may also want to create a water wall using recycled materials and containers to enhance children's exploration of water. See Section XI: Appendices for more information and ideas on how to create a water wall with recycled and/or easily attainable materials and Section VIII: Sample Student Work for some pictures of a water wall.

Throughout this unit, there are opportunities to develop children's literacy and language skills. Children may enjoy literature, engage in discussions around stories, and may want to retell and act out stories they have read. Children will build on what they know about water through informational texts. They might explore new vocabulary words such as "hydrate" and "condensation" to continue to develop their language skills as they engage in scientific explorations and thinking. In Unit 6: Light, there were opportunities to focus on different kinds of lines and notice how they form shapes and letters. In this unit, we encourage you to help children not only recognize and explore the shapes of letters, but also learn about the sounds they make. As they are ready, children are encouraged to identify and match various letters and sounds through games such as Alphabet Soup. Begin with

letters that are familiar to the children, such as the letters in their names, and letters that arise throughout the unit, such as "W." Remember, children will be in different stages of understanding and using letters and their sounds. Continue to use your authentic assessment data as you determine how best to support each student in your class.

Enjoy this study and the learning that unfolds! Please email deceinstruction@schools.nyc.gov with any questions or feedback.

III. Unit Framework

Essential Question
This is a child-friendly question that connects the knowledge and skills that children should develop throughout the unit.

Focus Questions
These represent the major inquiries of the unit. They build over time and require children to make connections across all content areas. Each focus question is designed to take about one week to explore.

These are key components of each Pre-K for All Unit of Study.

Foundational Learning Experiences
These are experiences (e.g., whole group, small group lessons, field trips, observations, center activities) for each subtopic that provide ample opportunities to deepen children's understanding of the Focus Questions.

Foundational Texts
PK.ELAL.9 [PKR.5] Interacts with a variety of genres (e.g., storybooks, poems, songs)

These are a combination of literary and informational texts that can be read throughout the unit. See Section XI for text-based critical thinking questions to support the read aloud experience.

Engaging, informative and literary texts provide opportunities for exploring content, expressing ideas using one's imagination and critical thinking that are enhanced through multiple readings of the same book. Reading books multiple times helps all children build a deeper understanding of content, make meaningful connections between content and other concepts or experiences and builds their confidence as learners and as future readers.

Key Vocabulary
These are academic vocabulary words that help children understand the unit focus questions and access complex texts. These words can be supplemented by vocabulary in read alouds.

Family and Community Engagement
These are ideas for inviting families to share their experience and knowledge with the class, or for extending learning outside of the classroom. They are aligned to the **NYC DOE Division of Early Childhood Education Early Childhood Framework for Quality (EFQ).**

See Section IX: Supporting Resources for more information about Family Engagement Practices.

Culminating Celebration
This is an opportunity to reflect on the unit with the children, as well as to note and celebrate the growth and learning that has occurred.

Unit Seven: Water
Essential Question: What does water do?

	Week One	Week Two	Week Three	Week Four
Focus Questions	**Where can we find water?**	**What happens to water when it changes temperature?**	**What happens when we put things in water?**	**How does water help us?**
Foundational Learning Experiences	**Foundational Text Read Aloud** Read the foundational text, ***Water Rolls, Water Rises*** by Pat Mora aloud to the class, pausing to ask the inquiry and critical thinking questions from Section IX. Use the questions as a guide for discussion and conversation. *PK.CKW.4 (Science): Observes and describes characteristics of earth and space.* See page 41 for lesson plan.	**Center Activity** Water and Ice: Invite children to explore water and ice. As they explore encourage them to share what they know about water, what they know about ice as well as what they know about the relationship between water and ice. Encourage children to think of ways to melt the ice and try/discuss strategies. Verbally recap their thoughts and observations at the conclusion of the activity. *PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid* See page 45 for lesson plan.	**Center Activity** Sink vs. Float Experiment: Invite children to consider what the words *sink* and *float* mean. Provide an assortment of objects that sink as well as some that float and invite children to place the objects in a tub of water and observe what happens. Before testing each object, children can predict and record whether they think each one will sink or float and then compare the results to their predictions. For more information about buoyancy, see Section IX: Supporting Resources. *PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences* See page 49 for lesson plan.	**Center Activity** Stalks and Water: Supply a container of colored water. Add a leafy celery stalk to the water. Invite children to predict what will happen if you leave the stalk in the water overnight. Record their predictions and invite them to monitor the stalks periodically. As the colored water becomes visible in the celery stalk or leaves, talk with the children about how the stalk transports the water. The following day, refer back to their predictions to summarize and draw conclusions. Tell children that water helps move nutrients through plants. This helps plants stay alive. Without water, plants will start to wilt and eventually die. *PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants*

	Week One	Week Two	Week Three	Week Four
Focus Questions	**Where can we find water?**	**What happens to water when it changes temperature?**	**What happens when we put things in water?**	**How does water help us?**
				and/or animals use their external parts to help them survive in the environment See page 53 for lesson plan.
Foundational Texts	***Water Rolls, Water Rises*** by Pat Mora	***Alfie: (The Turtle That Disappeared)*** by Thyra Heder	***Float*** by Daniel Miyares	***Ivy and the Lonely Raincloud*** by Katie Harnett
Key Vocabulary	beach, cloud, environment, faucet, fog, fountain, hail, lake, marsh, mist, ocean, pond, puddle, rain, river, sea, shore, sleet, snow, storm, stream, swamp, vapor, water, water cycle, weather	boil, conclude, condensation, evaporate, form, freeze, frost, gas, ice, liquid, melt, meteorologist, observe, precipitation, predict, solid, state, thaw	absorb, boat, captain, dissolve, diver, drenched, ferry, float, gurgle, island, repel, sailor, saturate, sink, slosh, soak, splash, sponge, swim, temperature, umbrella, waterproof	clean, drink, hydrate, perspiration, quench, sweat, thirst, wash, watered
Family and Community Engagement *EFQ 4: High quality programs promote families' role as primary caregivers, teachers, and advocates*	Invite children to create a paper boat with their families. Send home directions for folding a paper boat (see Section XI: Appendices). Families can create the boat at home, draw themselves in the boat, and send it back to school. Children can try floating their boats in the water table. Children who do not make a boat with their families can make a boat in the classroom with a teacher. Alternatively, children could	Invite families to determine if they can see their breath on the way to or from pre-K. They can keep a tally throughout the week and compare the numbers over the weekend. Provide basic background information for families on condensation and why it is possible to see your breath on some days and not others. See Section XI: Appendices for background information.	Invite families to try a "sink and float" experiment. They can gather an assortment of small items, predict which items will sink and which will float, and test their theories by placing each item in a container of water.	Ask families to consider whether there is water in the foods and beverages they eat and drink. If they cook together, they can consider each ingredient in the recipes they prepare.

	Week One	Week Two	Week Three	Week Four
Focus Questions	**Where can we find water?**	**What happens to water when it changes temperature?**	**What happens when we put things in water?**	**How does water help us?**
	look for somewhere near their home to try to float their boats or try this at home in the bathtub or sink.			
Culminating Celebration	Take a walking field trip to a nearby water source (pond, river, fountain, etc.) and invite the children to observe and discuss their observations together. If the weather permits, have lunch or a snack by the water. OR Create a class water wall (see Section XI: Appendices for directions). Invite children to bring empty, clean recycled containers from home to incorporate into the wall. Children can discuss where to add each piece and then play with the wall during Center Time. OR Create a class book about water. Include photos of children exploring water throughout the study. Ask them what they have learned about water and add their language to their photos.			

IV. Ideas for Learning Centers

Learning centers should advance the needs of your children and be used to support the unit's essential and focus questions, as well as the enduring understandings. The study of *Water* revolves around scientific concepts and explorations. In this unit, the interactions between adults and children offer an opportunity to model, encourage and facilitate the use of language to ask higher order thinking questions as well as create meaningful entry points into increasingly complex content. As you play with children in the various centers, encourage them to use their senses to observe the materials around them and then use their observations to make predictions about what might happen if they manipulate the materials. Provide scaffolds for the children as they test their predictions and provide assistance in drawing and communicating conclusions when needed. Refer to the *critical thinking questions* for each center to help guide these interactions.

The following suggestions supplement the standard materials you have in each center, such as blocks in the Blocks/Construction Area, assorted dress-up materials in Dramatic Play, paper and a variety of writing utensils in the Writing Center, etc. As you plan your learning centers, also consider how you will provide multiple entry points into the materials for all the children in your classroom. The suggested materials and activities are intended to be relatable and fun! This is not an exhaustive list of materials and can be supplemented by other materials relevant to the unit and your classroom.

Your water table will likely be a focal point in this unit. If a water table is not available, or you would like to provide additional opportunities for children to explore water, you can use buckets or other containers of water. Be sure to change the water in the table daily and as needed throughout the day, and have children wash their hands before and after using the water table. Monitor this area throughout Center Time to watch for spills and be sure to keep the floor dry in order to prevent slipping. Additionally, you may want to create a water wall using recycled materials and containers to enhance children's exploration of water. See Section XI: Appendices for guidance and pictures.

While the materials you select for centers are extremely important, learning is made richer through the interactions adults and children have during center time. When teaching staff interact with children in centers they can model language through initiating, joining and extending conversations, using self and parallel talk, and asking open-ended questions that deepen engagement and inquiry while developing problem solving and critical thinking skills.

Play is an important vehicle for developing a variety of skills outlined in the NYSPLS and is woven into the Early Childhood Framework for Quality (EFQ). Rather than detracting from academic learning, purposeful play supports the abilities that underlie such learning. When children have a sufficient amount of time to play and can access learning centers and the materials in them, they have some of the essential supports necessary for their play to continue developing in complexity. The play-based learning that happens in centers addresses NYSPLS Standard, PK.AL.1 *Actively engages in play as a means of exploration and learning*. This same play helps children develop the background knowledge of NYSPLS Standard PK.AC.2. (*Demonstrates they are building background knowledge*) which is essential for making connections and deepening understandings. For these reasons, teachers should ensure that children have access to and can choose from a variety of learning center materials for one-third of the pre-K day, and support children's engagement in play during center time, making adjustments to the daily schedule to weave in small and whole group activities without infringing on that time. NYSPLS standards are included for all of the activity suggestions here and opportunities for assessment are embedded. Text suggestions that complement these materials and activities are also included.

Blocks/Construction

Critical thinking questions/statements:

Tell me about your work.
I notice that you ____.
What are some other things you could add?
I wonder what would happen if ____.
How do you know?
How could you build ____?
What is your conclusion?

Suggested Text:

Water Land: Land Forms Around the World by Christy Hale

Use paper to create bodies of water and have them available for children to incorporate into their play as they build. For example, they may want to add bodies of water around their structures, or create structures that can be found near bodies of water.

PK.AL.1 Actively engages in play as a means of exploration and learning

Ice Castles:

Add pictures of ice castles to the Blocks/Construction Center. Invite children to refer to these pictures and build their own ice castles. Consider covering the blocks with white paper and adding clear plastic cups for children to use in their structures.

PK.AL.1 Actively engages in play as a means of exploration and learning

Boats:

Post some pictures on the wall of bodies of water, including some local bodies of water such as the Hudson River, Atlantic Ocean, etc., as well as an assortment of boats. Pretend the center is a river, lake or ocean, and invite children to create their own boats.

PK.SOC.5 Demonstrates knowledge of the relationship between people, places, and regions

√ **Opportunity for Assessment:** What bodies of water is the child familiar with? What can they share about them?

Tunnels:

Supply empty, clean cardboard tubes such as paper towel, toilet paper, and wrapping paper tubes. Invite children to pretend the tubes are tunnels and to use them as they build. If children are interested, talk about how tunnels can help people navigate bodies of water.

PK.AL.1 Actively engages in play as a means of exploration and learning

Bridges:

Add pictures of bridges, especially local bridges, to the center. Discuss how bridges are helpful and invite children to try to build bridges.

PK.AL.2 Actively engages in problem solving

Winter Landscape:

Cut out snowflakes from white pieces of paper and hang them from the ceiling. Add cotton balls to the Blocks/Construction Center for children to add to their structures to create a winter scene.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally

Car Wash:

Invite children to build car washes out of blocks Add car wash signs as well as small cars and invite children to pretend they are washing the cars. Discuss the role water plays in cleaning cars.

PK.AL.1 Actively engages in play as a means of exploration and learning

Signs:

Provide writing utensils and strips of paper. Encourage children to name the bridges, tunnels and other structures they build. As they are ready, help them in sounding out and writing the names of their structures on the strips of paper. If desired, children can add the labels they create to their structures.

PK.ELAL.3. [PKRF.3.] Demonstrates emergent phonics and word analysis skills

Dramatic Play

Critical thinking questions/statements:

Who are you going to be today?
I wonder what would happen if ____?
What will you do next?
What do you think about ____?
What does that remind you of?

Suggested Text:

Alfie by Thrya Heder**.**

Add some toy turtles and turtle habitats to the materials in this center. Invite children to use the turtles as they play.

PK.ARTS.13. [TH:Pr4-6.PK] Performs Theatrical Arts

Boats:

Add large cardboard boxes big enough for children to sit in and invite them to pretend the boxes are boats.

PK.AL.3. Approaches tasks and problems with creativity, imagination and/or willingness to try new experiences

Rain Gear:

Add raincoats, hats, boots, and other waterproof clothing to the dramatic play area. Invite children to pretend they are playing in the rain.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

√ **Opportunity for Assessment**: What does the child know about changes in weather? What weather related vocabulary does the child use as they pretend to play in the rain?

Laundromat:

Add to your Dramatic Play center by incorporating materials to make a laundromat. Use cardboard boxes to create washers and dryers; add clothing, empty bottles of detergent and pretend money for children to use at the laundromat. Invite them to do the laundry and talk about the role water plays in cleaning clothes. If desired, children can design and set up the laundromat scene.

PK.ARTS.12. [TH:Cr1-3.PK] Creates Theatrical Arts

Beach:

Add to your Dramatic Play center by incorporating materials to make a beach. Create a place for children to pretend they are playing in the sand and an area for them to pretend to swim and play in the water. Add beach chairs, towels, toys for building sand castles and playing in the water, and a picnic basket or cooler of pretend food so children can pretend to spend a day at the beach. If desired, children can design and set up the beach scene.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

Meteorologist:

Invite children to pretend to give the weather forecast. Provide clothing for children to use to pretend they are meteorologists on TV, a large map, pictures of various types of weather, and weather charts for children to read. Invite children to look for "*W*s" and other letters on the maps; help them read the weather maps, and ask them questions about what they see. If desired, children can design and set up the meteorologist scene.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

Art

Critical thinking questions/statements:

Tell me about your art.
What did you notice about ____?
I notice that you ____. How did you do that?
What will you try next? Why?
How does this picture, painting, drawing, etc. make you feel? Why?

Suggested Text:

What Do You See at the Pond? by Anastasia Suen

Provide open –ended art materials and invite children to create a pond and some of the things at the pond. Consider including mirrors and inviting children to add their reflections.

PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants and/or animals use their external parts to help them survive in the environment

Markers and Water:

Invite children to use markers to create a picture. After they have finished with the markers, provide spray bottles of water and invite children to lightly spray their papers. After they have sprayed their papers, encourage them to watch and describe how the water has changed their work.

PK.AL.3. Approaches tasks and problems with creativity, imagination and/or willingness to try new experiences

Paint on Ice:

Make large pieces of ice by freezing a shallow layer of water in a cookie sheet. Remove the ice from the container and invite children to paint on it with watercolors. Discuss what will happen when you put the water in the freezer and why the ice becomes water again after it is out of the freezer.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Snowflakes:

Provide white paper and scissors. Model folding the paper and cutting carefully then unfolding to reveal a snowflake. Invite children to create their own snowflakes. Discuss the relationship between snowflakes and water with the children as they do this activity.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Ice Cube Painting:

Make colored ice cubes out of water and food coloring. Insert a Popsicle stick into the water as it freezes to create a handle for children to hold while painting. When the cubes are frozen, invite children to use the colored ice paint. Before they begin painting, ask them to predict how the paints will work and what will happen as they use them.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Crayons and Watercolors:

Invite children to draw a water related picture with crayons. For example, they may choose to draw an underwater or rainy day scene. After their drawings are complete, provide watercolor paints and invite children to use large paintbrushes and lightly paint over their crayon drawings. Discuss the changes to the picture as children add the watercolor paint.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally

Liquid Watercolors:

Cover a table with paper. Provide liquid watercolor in various colors as well as small pipettes. Invite children to use the pipettes to drip water onto the paper and observe what happens when the liquid hits the paper.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Waterfalls:

Place pictures of waterfalls near the easel. Cover the easel with a large sheet of paper. Provide various shades of blue, grey and white paint as well as pipettes and basters. Invite children to hold a pipette full of paint at the top of the easel, point it down and gently squeeze to release the paint onto the paper. The paint will slowly flow down the paper and create a waterfall effect. Children can also explore color mixing as the paint mixes on the easel.

PK.SOC.5 Demonstrates knowledge of the relationship between people, places, and regions

√ **Opportunity for Assessment:** What details does the child notice in the waterfall pictures and include in their own work?

Science/Discovery

Critical thinking questions/statements:

What did you observe here/when ____?
What did your sense of ____ tell you about ____?
What will you try next?
I wonder what would happen if ____?
How do you know? How could we find out?

Suggested Text:

A Drop of Water: A Book of Science and Wonder by Walter Wick.

Invite the children to try some of the experiments in this book with you.

PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences

Absorption:

Provide an assortment of absorbent and nonabsorbent materials (e.g., cotton ball, paper towel, penny, spoon), as well as a dish of water and eyedroppers or pipettes. Invite children to place a few drops of water onto each item and note whether the item absorbs water. Provide a chart for children to record the results.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Salt and Ice:

Supply salt and ice. Invite children to explore how these materials react to each other. Children might want to pour the salt onto the ice, or use pipettes to squirt salt water onto the ice. Engage children in conversations to extend their thinking and support their understanding.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Which Holds More?

Supply two containers, one that is tall and thin and one that is short and wide. Invite children to consider which container will hold more water. Fill the container the children think will hold more, and then pour it into the container the children think will hold less. Discuss the results.

PK.MATH.10. [NY-PK.MD.1.] Identifies measurable attributes of objects, such as length or weight, and describes them using appropriate vocabulary (e.g., small, big, short, tall, empty, full, heavy, light)

Water Cycle:

Invite children to draw a sky scene (e.g., sun and clouds) on the outside of a small sealable plastic bag. Fill 1/6 of the bag with water and seal. Hang in the window. Invite the children to predict what will happen. Let the bag hang for several days and observe. The water should evaporate into vapor then change back into a liquid as it cools, forming drops inside the bag.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

√ Opportunity for Assessment: What does the child notice about the changes occurring inside the bag? How do they connect this experiment to changes in the weather?

Does It Dissolve?

Invite children to test how well different substances (e.g., sugar, salt
flour, oil, rice, etc.) dissolve in water. Provide containers, assorted substances, and water and invite children to explore. Before experimenting, ask the children to predict what will happen and record their results. Refer back to their predictions and summarize the results when they are finished working.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Land or Water:

Provide an assortment of small animal and sea creature toys (e.g., dog, cow, fish, shark, etc.). Invite children to sort the toys into two categories: those that live in water and those that live on land. Use a blue piece of paper as a base for the water animals and green for land.

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive

Bodies of Water:

Provide clay, playdough, or other type of dough and invite children to use it to make a landscape in a tray. When the landscape is complete, invite children to pour water over it, noting where water pools and creates bodies of water. Add small toy people, boats, etc., for children to use in their landscapes, if they would like.

PK.SOC.5 Demonstrates knowledge of the relationship between people, places, and regions

Crystals:

Invite children to add sugar, Epsom salt, or table salt to water and mix until the sugar or salt is dissolved. After mixing, invite them to pour the mixture into small dishes and then add a drop of food coloring. Place the containers in an area where they are unlikely to spill and let them sit for two to three days. The water will evaporate over time, leaving visible crystals of the sugar or salt in the container. Show the crystals to the children and invite them to share their thoughts on how the crystals formed and what happened to the water.

PK.ELAL.19. [PKSL.1] Participates in collaborative conversations with diverse peers and adults in small and large groups and during play

Stalks and Water

Supply a container of colored water. Add a leafy celery stalk to the water. Invite children to predict what will happen if you leave the stalk in the water overnight. Record their predictions and invite them to monitor the stalks periodically. As the colored water becomes visible in the celery stalk or leaves, talk with the children about how the stalk transports the water. The following day, refer back to their predictions to summarize and draw conclusions.

Tell children that water helps move nutrients through plants. This helps plants stay alive. Without water, plants will start to wilt and eventually die.

PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants and/or animals use their external parts to help them survive in the environment

See page 53 for lesson plan.

Toys and Games / Math Manipulatives

Critical thinking questions/statements:

I notice that you ____. What do you notice?
What happened when you ____?
Why do you think that happened?
If I want to ____, what should I do? Why?
Tell me about ____.
How do you know?
Tell me why ___.

Suggested Text:

The Big Umbrella by Amy June Bates

Create a paper umbrella. Supply small toy people and counting cards. Invite the children to select a card and place the corresponding number of toy people under the umbrella.

PK.MATH.3. [NY-PK.CC.3.] Understands the relationship between numbers and quantities to 10, connects counting to cardinality

Fish for a Number:

Provide small magnetic numbers, a magnetic wand or a pretend fishing pole with a magnetic end, and a set of dot cards. Invite children to draw a card from the set of cards, determine the number of dots on the card and then fish for the number.

PK.MATH.2. [NY-PK.CC.2.] Represents a number of objects (0-5), with a written numeral 0-5 (with 0 representing a count of no objects)

Letters:

Provide an assortment of small fish and/or other water related objects and tongs. Invite children to use the tongs to pick up the objects and explore.

PK.PDH.5. Demonstrates eye-hand coordination and fine motor skills

Seashell Sort:

Supply an assortment of shells as well as containers and invite children to sort the shells. As an extension, add a set of number cards and invite children match the correct number of shells to each number card.

PK.MATH.11. [NY-PK.MD.2.] Sorts objects and shapes into categories; counts the objects in each category.

Fish:

Add small plastic fish or other water animal manipulatives to the Manipulatives Center for the children to explore.

PK.AL.1 Actively engages in play as a means of exploration and learning

Drops on a Penny:

Provide a penny, a pipette, and a container of water. Invite children to see how many drops of water they can fit on the penny. Encourage children to count each drop of water as it drops onto the penny and occasionally note how many drops there altogether.

PK.MATH.3a. [NY-PK.CC.3a.] When counting objects, says the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. (1:1 correspondence)

√ Opportunity for Assessment: Does the child say the number names in order and pair one number with each drop of water? Do they understand that the last number name said tells the number of drops counted?

Drops of Water:

Provide a small dish of water, pipettes and Lego blocks. Invite children to try to place a drop of water on each of the raised circles on the Lego blocks.

PK.PDH.5. Demonstrates eye-hand coordination and fine motor skills

Sand and Water / Sensory

Critical thinking questions/statements:

What happens when ___? Why?
How do you think that works? Why?
How could you change that?
What does that remind you of? Why?
What would happen if ___? Tell me more.

Suggested Text:

Over and Under the Pond by Kate Messner

Invite the children to use the sensory table to recreate the pond. Be sure to consider what goes "over the pond" as well as what goes "under the pond."

PK.AC.3 Demonstrates understanding of what is observed

Note:

Children have varying levels of sensitivity to sensory experiences. Do not force children to touch materials. Invite children to participate and observe their behavior carefully. Respond to the cues they give you about their readiness to participate.

Water Play:

Throughout the unit, vary the items in the water table. Observe how the children are using the materials to ensure that there are enough materials to keep children engaged without overwhelming their play. Consider a combination of funnels, colanders, buckets, plastic containers, pipettes, various sponges, ladles, whisks, basters and pumps from hand soap containers.

PK.AL.1 Actively engages in play as a means of exploration and learning

Sand and Water:

Fill the table with dry sand. Provide spray bottles filled with water and invite children to explore the changes in the appearance and texture of the sand as they squirt water on it as well as what happens to the water when it is sprayed on the sand. Remember to leave the lid off the table at the end of the day so the sand can dry.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid.

ABC's:

Add a few small toy letters to the water in the sensory table and invite children to explore. Call attention to how the letters looks and feel in addition to the sounds that they make.

PK.ELAL.2. [PKRF.2.] Demonstrates an emerging understanding of spoken words, syllables, and sounds (phonemes)

Baby Bath:

Add child-friendly soap to the water in the sensory table as well as baby dolls and washcloths. Invite children to bathe the babies and talk about how people use water to stay clean.

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive.

Wash the Dishes:

Add child-friendly soap to the water in the sensory table as well as child friendly dishes and washcloths. Invite children to wash the dishes and talk about how water helps to keep things clean.

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive.

Sailboats and Wind:
Add small sailboats to the water in the sensory table. Ask children to put the boats in a line and discuss which one is first and which is last. Invite them to use straws to blow wind at the sails and watch the boats move around the table.

PK.MATH.7. [NY-PK.CC.6.] Identifies first and last related to order or position

Life in the Pond:
Turn the sensory table into a pond. Add water, rocks, sand, sticks, small plants, toy fish, frogs, toads, etc., and invite children to play in the pond. If desired, children can also help create the water habitat.

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive

Ocean Life:
Turn the sensory table into an ocean. Add water, sand, small plants, pieces of coral (if available) and shells as well as toy fish, sea creatures, etc. Invite children to play in the ocean. If desired, children can also help create the water habitat.

PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive

Laundromat:
Add child-safe soap to the water in the sensory table as well as doll clothes and invite children to wash the clothes. Hang a clothesline near the table and provide clothespins for the children to hang the clothes on to dry. Engage the children in discussions about how people use water to keep things clean and talk about where the items of clothing are on the clothesline. Which item is first? Last? What happens if you add another piece of clothing?

PK.MATH.7. [NY-PK.CC.6.] Identifies first and last related to order or position

Explore Ice:
Add ice cubes to the sensory table and invite children to explore.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Sink vs. Float Experiment
Invite children to consider what the words *sink* and *float* mean. Provide an assortment of objects that sink as well as some that float and invite children to place the objects in a tub of water and observe what happens. Before testing each object, children can predict and record whether they think each one will sink or float and then compare the results to their predictions. For more information about buoyancy, see Section IX: Supporting Resources.

PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences

See page49 for lesson plan.

Frozen Toys:
Freeze various small toys in ice cubes. Place the cubes in the sensory table. Challenge children to explore how to get the toys out of the ice. Encourage them to test their hypotheses.

PK.SCI.10. [K-2-ETS1-1.] Asks questions, makes observations, and gathers information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool

Pipes:
If available, add plastic tubing and/or plastic pipes to water in sensory table.

PK.AL.1 Actively engages in play as a means of exploration and learning

Water and Ice
Invite children to explore water and ice. As they explore encourage them to share what they know about water, what they know about ice as well as what they know about the relationship between water and ice. Encourage children to think of ways to melt the ice and try/discuss strategies. Verbally recap their thoughts and observations at the conclusion of the activity.

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid
See page 45 for lesson plan.

Library

Critical thinking questions/statements:

Tell me about this book.
What do you like about this book?
What is your favorite part of this book? Why?
What do you notice?
What do you think is happening?
What will happen next?
Does that remind you of anything? What?
Would you recommend this book to a friend? Why or why not?

Note:

Add a selection of books from the Supporting Text List in Section V for children to access and independently explore texts related to the study.

Turtles:

Add ***Turtles (National Geographic Readers Series Level 1)*** by Laura Marsh and ***Sea Turtles (National Geographic Readers Series Level 2)*** by Laura Marsh to the classroom library. Invite the children to compare and contrast the different types of turtles.

PK.AC.3 Demonstrates understanding of what is observed

√ **Opportunity for Assessment:** What similarities and differences does the child notice between the different types of turtles?

Hey Water:

In the classroom library, read ***Hey, Water!*** by Antoinette Portis, with the children. Compare the sources of water in this book with the list the children created in the Monday Whole Group Activity in Section VI Sample Weekly Plan.

PK.AC.2. Demonstrates they are building background knowledge

Itsy Bitsy Spider:

Write out the words to this song on large chart paper and display in the library. Place a couple of toy spiders in a basket near the chart; invite children to read the words and use the spiders to act out the song. As children are ready, point out some of the letters on the chart and discuss the sounds that they make.

PK.ELAL.9 [PKR.5] Interacts with a variety of genres (e.g., storybooks, poems, songs)

Cooking and Mixing

(as needed)

Critical thinking questions/statements:

Why do you think we are adding ____?
What would happen if ____?
What do you notice as we do this?
How does it smell/feel/look/sound/taste?
What does this remind you of?

Note:

Be mindful of children's food intolerances and allergies by connecting with families before you do cooking activities and explicitly teaching children how being aware of allergies keeps us safe.

Children must always wash hands before and after cooking experiences.

PK.PDH.7. Demonstrates personal care and hygiene skills

Snacks and meals must be of adequate nutritional value. When providing snacks and meals, supplement with other components of a healthy meal/snack according to appropriate meal guidelines in order to make sure children's nutritional needs are met.

Snow Dough:

Make snow dough. Invite children to play with the dough and pretend they are playing in the snow. Children could also use the dough to create letters and numbers. See Section XI: Appendices for a recipe.

PK.SCI.8. [P-ESS2-1.] Asks questions, makes observations, and collects and records data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

Pre and Post Water:

Invite children to use their senses to explore pasta and/or rice pre- and post-soaking or cooking in water. Discuss how water changes the pasta/rice

PK.PDH.1. Uses senses to assist and guide learning.

Water Taste Test:

Invite children to taste several different types of water such as tap, soda, seltzer and distilled. Chart their preferences and discuss the role of water in staying healthy.

PK.PDH.8: Demonstrates awareness and understanding of healthy habits.

√ **Opportunity for Assessment:** What does the child understand about how water helps to keep their body healthy?

Bubbles:

Invite children to make homemade bubbles (see Section XI: Appendices for directions). Write out the recipe on chart paper for children to follow throughout the process. Before making the bubbles, invite children to try to blow bubbles with plain water and a bubble wand. As you make the bubbles, talk about what you are adding to the water. When the bubble mix is complete, use it to blow bubbles outdoors.

PK.AL.3. Approaches tasks and problems with creativity, imagination and/or willingness to try new experiences

Computer/Technology

Content should be free of product placement/advertising. Children are not to use computers or other devices with screens more than 15 minutes per day, with a maximum of 30 minutes per week. Exceptions to this limit may be made for children with disabilities who require assistive computer technology as outlines in their Individualized Education Program. Prescreen images and videos to make sure they are appropriate for children and not frightening or explicit. Do not use personal devices and ensure that you have signed permission before taking photographs of children.

Critical thinking questions/statements:

I notice that you ____.
How did you figure that out?
What will you do next? What if you try ____?
How could you ____

Rain:

Invite children to use the computer to listen to the sounds of rain. After listening, ask children to share their thoughts and describe what they heard.

PK.PDH.1. Uses senses to assist and guide learning

√ **Opportunity for Assessment:** How does the child describe the sounds of rain?

Where Can We Find Water?

Enter this question into search engine and join the children in observing the images that are displayed. Ask them which ones they have seen before and which ones they have never seen.

PK.AC.2. Demonstrates they are building background knowledge

Snowflakes:

Look up images of snowflakes with the children. If possible, allow them to select an image to print. Invite them to look at the lines in the snowflakes and discuss the types and names of lines. Then bring the pictures to the Writing Center so other children can observe the lines as well.

PK.AC.3 Demonstrates understanding of what is observed

Islands:

Search for images of aerial views of Manhattan, Long Island, Staten Island, Roosevelt Island, and other local islands. Talk with children about the relationship between water and islands as well as the islands in the New York City area.

PK.SOC.5 Demonstrates knowledge of the relationship between people, places, and regions

How Does Water Move?

Ask children this question or another thought-provoking question about water. Provide time for them to think before asking them to share their answers. When children are ready to share, invite them to join an adult at the computer and engage with the adult as the adult uses typed dictation to record responses. Accept all responses. Display the responses. Later, invite the children to explore their ideas in the water table. Include various items that might make water move or support their exploration.

PK.AC.5. Demonstrates a growing expressive vocabulary

Ice Skating

Use a search engine to share a short video clip of Val Joe "Rudy" Galindo ice-skating. Invite the children to share their observations and discuss. If necessary, share that people can ice skate by wearing special skates on their feet and moving their bodies across a large ice surface such as an indoor arena or a frozen body of water (e.g. pond or lake).

PK.ARTS.3. [DA:Re7-9.PK] Responds to Dance

Outdoors / Playground

Critical thinking questions/statements:

I saw you ____.
What will you do next?
If you try ____, what do you notice?
How did you do ____?
How does it feel outside today?
What do you see?

Suggested Text:

Little Bird Takes A Bath by Marisabina Russo.

When there are puddles on the ground, invite children to search for their perfect puddle.

PK.SEL.1. Regulates responses to needs, feelings and events

Collect Rain:

Place a container such as a measuring cup or small pitcher outside on a rainy day to collect rain. When the rain has stopped, measure how much water is in the container. Record the results. Repeat this activity whenever it rains. After several rains, compare the results.

PK.MATH.10. [NY-PK.MD.1.] Identifies measurable attributes of objects, such as length or weight, and describes them using appropriate vocabulary (e.g., small, big, short, tall, empty, full, heavy, light)

Puddle Jump:

Invite children to use paper to create paper puddles. If children are able, invite them to add a letter, number, number of dots, or shape to the puddles. If children are not able, but are willing to let you write on their puddles, you can add a letter, number, dots or shape to the puddle for them. Invite children to jump on a letter, number, or shape puddle.

PK.PDH.3. Demonstrates coordination and control of large muscles

Fish, Fish, Shark:

Play *Duck, Duck, Goose*, replacing the words with *fish* and *shark.*

PK.PDH.2. Uses sensory information to plan and carry out movements.

Icicle Hunt:

Invite children to hunt for icicles and count how many they find. Note that children should not try to collect the icicles.

PK.MATH.1. [NY-PK.CC.1.] Counts to 20

Wet Chalk:

Soak several pieces of sidewalk chalk in water. Invite children to write or draw with the wet chalk, as well as dry chalk, and compare and contrast the way each piece of chalk writes. If children write letters, use this as an opportunity to discuss the sound(s) that each letter makes.

PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences

Bubbles:

Invite children to blow bubbles with the bubble solution you created in the Cooking and Mixing Center. Talk with the children about what the bubbles do and how they look.

PK.AL.1 Actively engages in play as a means of exploration and learning

Ice Skating

After implementing the Ice Skating activity in the Computer/Technology center, invite children to pretend to ice skate in the outdoors/gross motor space. They may want to try some of the movements they saw in the video clip, or create their own.

PK.ARTS.3. [DA:Re7-9.PK] Responds to Dance

Writing

Critical thinking questions/statements:

I notice that you ____.
That reminds me of ____.
What if you try ____?
How could we find out _____?

Suggested Text:

Why Do We Cry? by Fran Pintadera

After exploring this book with the children, invite them to share some of the reasons why they cry. They may want to draw, write, or dictate their responses to an adult.

PK.SEL.1. Regulates responses to needs, feelings and events

Alphabet Soup:

Provide a pot of water and small plastic letters. Invite children to add letters and stir to create a soup. They can also create a recipe by writing down the letters they add to the pot.

PK.ELAL.1. [PKRF.1.] Demonstrates understanding of the organization and basic features of print

Letter Ice:

Supply ice cubes and let children use them to create letters. Provide pictures of letters for them to reference as they work. Talk about the sounds that the letters make.

PK.CLL.2: Demonstrate an emerging understanding of spoken words, syllables and sounds (phonemes).

Stuck in the Rain:

Invite children to draw, dictate, or write a narrative of a time they were caught in the rain or snow, and how they felt about the experience.

PK.ELAL.15. [PKW.3] Uses a combination of drawing, dictating, oral expression, and/or emergent writing to narrate an event or events in a sequence

Lines in Snowflakes:

Provide pictures of snowflakes or the pictures of snowflakes that children printed at the computer and invite them to look at the lines in the snowflakes. When they are ready, ask them to share their observations.

PK.AC.5. Demonstrates a growing expressive vocabulary

Where Can We Find Water?

Invite children to think about this question, then draw or write their answers on an index card or small piece of paper. Display the answers.

PK.ELAL.14. [PKW.2] Uses a combination of drawing, dictating, oral expression, and/or emergent writing to name a familiar topic and supply information in child-centered, authentic, play-based learning

What Happens When…?

Ask a question about what happens when you try different things with water, such as "What happens when you put a sponge in water?" or "What happens when you tip over a cup of water?" Ask children to think about the answer, and then write it down (with words or pictures) on a piece of paper. At a later group time, show the children what happens when you try these different actions and help them reflect on their answers.

PK.CLL.2 (Writing Standards): With prompting and support, use a combination of drawing, dictating, or writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

Invisible Names:

Invite children to write their names with a white crayon on white paper. After writing, they can add a layer of watercolor paint over their work. While it will be challenging to see the white writing on white paper, it will be easy to read each child's name after the paint has been applied.

PK.ELAL.25. [PKL.1] Demonstrates command of the conventions of academic English grammar and usage when writing or speaking.

Music and Movement

Critical thinking questions/statements:

I see you moving like this.
I heard you ____.
I saw you ____.
Tell me about that.
Let's try playing the music loud (or soft, fast, slow).
Can you try this?
How does this music make you feel?
Have you heard music like this before? Where?

Suggested Text:

Singing in the Rain Based on the song by Arthur Freed and Nacio Herb Brown

Play this song aloud for the children and invite them to sing and/or dance along.

PK.Arts.9. [MU:Pr4-6K] Performs Music

Share a Puddle:

Place a hula hoop on the floor and ask children to pretend it is a puddle. Play music and invite a small group of children to walk around the puddle. When the music stops, have the children stop walking around the hula hoop puddle and jump into it.

PK.PDH.2. Uses sensory information to plan and carry out movements

Water Xylophone:

Create a water xylophone. Fill small glass jars with various amounts of water. Invite children to gently tap the sides of the jar with a spoon and listen to the different tones produced.

PK.SCI.3. [P-PS4-1.] Plans and conducts investigations to provide evidence that sound is produced by vibrating materials

Melt:

Invite children to consider what they would look like if they were melting and try to act this out. Play music and invite them to dance as though they were melting. Some children can be the audience while others dance. Invite children to alternate roles and reflect on what they notice and observe.

PK.ARTS.1. [DA:Cr1-3.PK] Creates Dance

Snowflake Waltz:

Play Tchaikovsky's "Snowflake Waltz" (or another musical piece related to water that may be more responsive to your classroom community) for the children, and invite them to listen to the music.

PK.ARTS.10. [MU:Re7-9.PK] Responds to Music

Freeze Dance:

Play different kinds of music on a radio, CD player, or computer and encourage the children to dance freely or copy movements. Pause the music at various points and encourage students to "FREEZE!" when they hear the music stop.

PK.PDH.2. Uses sensory information to plan and carry out movements.

Snowflakes:

Invite children to consider what their bodies would look like if they were falling snowflakes. Play music and invite them to dance like snowflakes. Some children can be the audience while others dance. Invite children to alternate roles.

PK.ARTS.1. [DA:Cr1-3.PK] Creates Dance

Water Dance:

Play music that evokes thoughts of water such as Ravel's "Jeux d'eau" or Handel's "Water Music" (or another musical piece that may be more responsive to your classroom community). Invite children to listen to the music and use dance to show how the music makes them feel.

PK.ARTS.1. [DA:Cr1-3.PK] Creates Dance

√ **Opportunity for Assessment:** What does the child do with their body while dancing?

Water Music:

Introduce instruments such as rain sticks and wood blocks and encourage children to make the sounds of a rainstorm, waterfall, ocean waves, or other water-related sounds.

PK.ARTS.8. [MU:Cr1-3.PK] Creates Music

V. Foundational and Supporting Texts

Books are essential to a well-planned unit and ground the learning experiences for children. Engage children with books throughout the day. Read alouds can occur in large group and small group as well as in centers. Books can be incorporated throughout the room and enhance children's learning through play. Some books are read repeatedly throughout the unit. Some books will be read only once or twice throughout the unit; these are supporting texts. Supporting texts compliment focus questions and areas of interest or may be related to the essential question or enduring understandings of the unit. Select the books that seem most relevant to your classroom community. Additionally, the following list is not exhaustive and can be supplemented by similar books. Not only can these books be read aloud both formally and informally, but children should also be able to access and read these books on their own. Allowing children access to classroom books encourages children to display emergent reading behaviors and address *PK.ELAL.4. [PKRF.4.] Displays emergent reading behaviors with purpose and understanding.*

**Books with an asterisk are also available in languages other than English*

Foundational Texts

****Water Rolls, Water Rises*** by Pat Mora: A poetic ode to the beauty of the natural world as expressed by the movement and moods of water on Earth.

Alfie: (The Turtle That Disappeared) by Thyra Heder: Nia loves Alfie, her pet turtle. But he's not very soft, he doesn't do tricks, and he's pretty quiet. Sometimes she forgets he's even there! That is until the night before Nia's seventh birthday, when Alfie disappears!

Float by Daniel Miyares: A boy's small paper boat- and his large imagination- fill the pages of this wordless picture book.

****Ivy and the Lonely Raincloud*** by Katie Harnett: Everyone loves the warm sunshine--except the lonely raincloud.

How to Use Foundational Texts

When you have a text that draws the interest of the children in your class, consider one or more of the following techniques for reading the book multiple times to extend children's thinking:

- Take a "picture walk" through the book the first time you read it by just showing the pictures and asking the children what they see and what they think the book is about.
- Consider reading the book once without pausing so that children hear the cadence of the words and hear the story in its entirety.
- Model skills readers use to gain greater understanding of content by thinking aloud about the meaning of a word in context or drawing a conclusion based on prior knowledge.
- Write down and post children's responses to questions with more than one possible answer.
- Ask children to make predictions based on what they know so far and ask them to explain their thinking.
- Pause throughout the book and ask children to share a new word or idea they heard and explain it using familiar words or contexts.
- Invite children to make connections between the book and their own life experiences.
- Brainstorm potential solutions to a problem a character might be facing.
- Ask children what the character could do differently or ask them what they might do if they were in the place of the main character.
- As the book becomes familiar to the children, ask for volunteers to "read" it to you or small groups of children, letting them describe the pictures and the story in their own words.
- Compare and contrast books with similar content, themes or structures.
- Preview or review texts or parts of texts (particularly vocabulary) for children who need additional language or learning support.
- As children become more familiar with the story or information, use this as the beginning of extension activities like acting out a story, painting or drawing something inspired by the text, or creating puppet shows.

Supporting Texts

A Drop of Water: A Book of Science and Wonder by Walter Wick: Examine a drop of water as it falls from a faucet, watch as it splashes on a hard surface, count the points of an actual snowflake, and contemplate how drops of water form from clouds.

All The Water In The World by George Ella Lyon: Where does water come from? Where does it go?

Anna Carries Water by Olive Senior: Anna fetches water from the spring every day but can't carry it in the same way her older brothers and sisters can.

Boats Float! by George Ella Lyon and Benn Lyon: Set sail into the world of boats.

Change It!: Solids, Liquids, Gases and You (Primary Physical Science) by Adrienne Mason: Explore the physics of matter.

Come on Rain! by Karen Hesse: Experience a summer downpour after a sweltering summer heat wave.

Float by Daniel Miyares: A boy's small paper boat—and his large imagination—fill the pages of this wordless picture book.

Hey, Water! By Antoinette Portis: Join a young girl as she explores her surroundings and sees that water is everywhere.

I Know the River Loves Me by Maya Christina Gonzalez: Listen... Can you hear the river calling you? Rushing and bubbling, splashing or still, the river has so much to teach us.

Jabari Jumps by Gaia Cornwall: Working up the courage to take a big, important leap is hard, but Jabari is almost absolutely ready to make a giant splash.

Little Bird Takes a Bath by Marisabina Russo: A little bird in the big city searches for the perfect puddle.

Over and Under the Pond by Kate Messner: Discover the plants and animals that make up the rich, interconnected ecosystem of a mountain pond.

Over the Ocean by Tarō Gomi: A young girl gazes out to where the water meets the sky and wonders what lies beyond the waves.

Rain by Robert Kalan: Take a trip through the countryside, where rain falls on the green grass, the black road, the red car and the purple flowers.

Singing in the Rain Based on the song by Arthur Freed and Nacio Herb Brown: I'm singing in the rain, just singing in the rain, Oh, what a glorious feeling!

The Big Umbrella by Amy June Bates: By the door there is an umbrella. It is big. It is so big that when it starts to rain there is room for everyone underneath.

The Snowy Day by Ezra Jack Keats: The adventures of a little boy in the city on a very snowy day.

Water Is Water: ***A Book About the Water Cycle*** by Miranda Paul: Drip. Sip. Pour me a cup. Water is water unless...

Water Land: Land Forms Around the World by Christy Hale: An exploration of the relationship between bodies of water and land masses.

What Do You See at the Pond? by Anastasia Suen: A boy and his mother see all kinds of animals in the pond. But there's something else the boy sees in the pond too—his own reflection!

When the Storm Comes by Linda Ashman: What do you do when the clouds roll in? When the wind chimes clang and the weather vanes spin?

Why Do We Cry? by Fran Pintadera: Mario asks, "Mother, why do we cry?" And his mother begins to tell him about the many reasons for our tears.

VI. Inquiry and Critical Thinking Questions for Foundational Texts

Critical thinking skills are foundational to learning and educational success.

These questions are based around Webb's Depth of Knowledge Wheel[1], which provides a vocabulary and critical thinking frame of reference when thinking about our children and how they engage with unit content.

Re-read foundational texts throughout the unit, starting with Level 1 questions, and adding more complex questions each time you read them.

Water Rolls, Water Rises by Pat Mora

PK.AC.3 Demonstrates understanding of what is observed

Level 1: Recall

What are some of the ways water moves?

This book talks about places we can find water. What are some of those places?

Level 2: Skill/Concept

On the page with the boat, the wind is blowing the water and making big waves. It looks like the boat is tossing and turning in the waves. How do you think the people on the boat might be feeling? Why?

Let's look at the page with the river. The book says the river slithers and snakes. What does it mean if a river is slithering and snaking?

Level 3: Strategic Thinking

Let's take a look at the page with the well. What is happening in this picture? What are we looking at?

On the page about frost, the children are wearing coats, hats, and mittens, and the leaves on the trees are red, orange, yellow, and brown. What do you think that might tell us about frost? When might there be frost outside?

Level 4: Extended Thinking

What do you notice about the people and places in this book? What does that tell us about water?

This book shows water all around the world. What are some places near us where we can find water?

[1] *http://schools.nyc.gov/NR/rdonlyres/522E69CC-02E3-4871-BC48-BB575AA49E27/0/WebbsDOK.pdf*

Alfie: (The Turtle That Disappeared) by Thyra Heder

PK.ELAL.7 [PKR.3] Develops and answers questions about characters, major events, and pieces of information in a text

Level 1: Recall

When did Nia get her turtle, Alfie?

What are some of the things Nia did with Alfie?

Why did Alfie leave his aquarium?

Level 2: Skill/Concept

At the beginning of the book, Nia is telling us the story. Half way through the book, Alfie is telling us the story. Why do they both tell the story?

How long was Alfie in the pond? How do you know?

What happened to the water while Alfie was in the pond?

Level 3: Strategic Thinking

How do you think Nia felt when Alfie disappeared?

Nia taught Alfie to dance. He said he practiced wiggling in his shell. What do you think it looks like when a turtle dances? Let's try it!

Why do you think Alfie wanted to get Nia a birthday present?

Level 4: Extended Thinking

Alfie was asleep in the pond for one whole year- from Nia's seventh birthday all the way to her eighth birthday. How do you think it would feel to sleep all the way from one birthday to the next one? Why?

Why do you think Alfie thought his birthday present for Nia was perfect?

Float by Daniel Miyares

PK.ELAL.5. [PKR.1.] Participates in discussions about a text (e.g., during whole or small group interactive read-aloud discussions, during peer sharing, within play scenarios)

Level 1: Recall

What did the boy make out of newspaper?

What did the boy play with outside in the rain?

How did the boy's boat get into the river?

Level 2: Skill/Concept

The boy put his boat in puddles outside. Where did the puddles come from?

Why did the boy have to chase his boat?

Level 3: Strategic Thinking

How did the boy feel when his boat was wrecked in the river? How do you know?

How can you find out if something floats in water?

What are some things that float?

Level 4: Extended Thinking

Why do you think the author of this book, Daniel Miyares decided to give it the title, Float?

The boy's boat floated in the puddles but when it went in the river it fell apart. Why?

Why do some things float and some things sink?

Ivy and the Lonely Raincloud by Katie Harnett

PK.ELAL.7 [PKR.3] Develops and answers questions about characters, major events, and pieces of information in a text

Level 1: Recall

Why was the raincloud sad at the beginning of the book?

Where did the raincloud look for a friend?

Level 2: Skill/Concept

No one wanted to be friends with the raincloud. Why?

Ivy was grumpy for most of the book. Why was Ivy so grumpy?

How did the raincloud help Ivy?

Level 3: Strategic Thinking

Why can it be nice to have friends?

How did Ivy and the raincloud grow beautiful flowers together?

Level 4: Extended Thinking

At the end of the book, it looks like the raincloud was inside the flower shop with Ivy. What would you think if you went in a store and there was a raincloud there? What would you do?

Rain from the raincloud helped Ivy grow beautiful plants, how does water help you?

VII. Sample Weekly Plan

On the following pages you will find a sample weekly lesson plan. Use the additional information included in the unit to create detailed weekly plans for each focus question in the unit. Plans will reflect individual schedules, students' and families' needs, school context, etc. Please note, for this unit we are introducing the daily schedule and rules development in Week Two. You may want to address one or both of these activities in Week One, depending on your children's needs.

Quick Tips for Small Group:

1. Use exciting language and affect to describe the small group activity.
2. Use hands-on materials that children are encouraged to explore.
3. Preview small group activities in whole group.
4. Link the activity to children's previous experiences

If children decline…

Have a private conversation with the child as s/he plays to understand why s/he did not want to join. Take that into consideration and adjust the small group materials to reflect the needs of the child.

Modify the small group activity so that you can do it with the materials that the child is using in the center of his/her choice.

Facilitate a conversation between the child and a friend who enjoyed the small group activity so that the hesitant child will be more likely to join.

WEEK ONE

Essential Question: What does water do?

Focus Question: Where can we find water?

Focus Vocabulary: beach, cloud, environment, faucet, fog, fountain, hail, lake, marsh, mist, ocean, pond, puddle, rain, river, sea, shore, sleet, snow, storm, stream, swamp, vapor, water, water cycle, weather

Week 4	Monday	Tuesday	Wednesday	Thursday	Friday
Greeting Routine	Continue to supply a table with child-sized pencils, crayons or other writing tools, half sheets of paper or large chart paper, and a basket of name/picture cards for each child (laminated cards with each child's picture and first name, with the first letter in red). Remind children to sign in (if necessary) and continue to encourage any mark children make according to each child's needs, but be ready to help children who are ready for an additional challenge by adding their last name or encouraging them to look closely at the model letters on their name card to improve accuracy. Observe children's writing and refer to the stages of prewriting (in Unit 3: All About Us) to determine what to expect next and how to best support the continued development of the child. This activity can be done as children arrive, or later in the day. If children seem uninterested in signing in in this manner, consider encouraging them to write their names throughout their play in Learning Centers. For example, children can add their own names to their artwork or create their own name				

	cards to save their structures in the Block/Construction Center *PK.ELAL.25. [PKL.1] Demonstrates command of the conventions of academic English grammar and usage when writing or speaking.*				
Large Group Meeting *In order to reduce the amount of time that children spend in large group and ensure that children have enough time to engage in meaningful play, teachers should think strategically about other large group activities and whether they are essential to the day.*	Cut out a drop of water from blue paper for each child in the class. Ask the children to walk around the classroom and put their drop on something that has to do with water. Discuss children's responses, and then move the discussion on to include places outside of the classroom, especially those in the area, where there is water. Create a list of children's ideas and add to the list throughout the week. *PK.AC2. Demonstrates they are building background knowledge*	Invite children to help you make the sounds of a storm. If needed, suggest elements of a storm (e.g., rain, thunder, etc.) as well as actions such as tapping fingers on the ground lightly, then faster and harder, then gradually slowing down when the storm is over. *PK.CKW.4 (Science): Observes and describes characteristics of earth and space.* Teacher tip: This is a good activity to repeat during transitions, adding variations such as using feet instead of tapping with hands.	Introduce the book ***Water Rolls, Water Rises*** *by Pat Mora* by showing children the pictures and asking them what they see, and what they think the book is about. *PK.ELAL.11 [PKR.7] Describes the relationship between illustrations and the text (e.g., what person, place, thing or idea in the text or illustration depicts)*	*Foundational Text Read Aloud:* ***Water Rolls, Water Rises*** *by Pat Mora* See page41 for lesson plan and Section VI for Inquiry and Critical Thinking Questions *PK.ELAL.5. [PKR.1.] Participates in discussions about a text (e.g., during whole or small group interactive read-aloud discussions, during peer sharing, within play scenarios)*	Slowly drop ice cubes into a hard container such as a metal bowl. Hide your hands so the children cannot see them as you drop the cubes into the bowl. Encourage the children to listen and count how many ice cubes you drop. *PK.CKW.3 (Counting and cardinality): Understand the relationship between numbers and quantities to 10; connect counting to cardinality.*
Foundational Text	***Water Rolls, Water Rises*** by Pat Mora				
Supporting Text	***All The Water In the World*** by George Ella Lyon	***Hey, Water!*** By Antoinette Portis	***I Know the River Loves Me*** by Maya Christina Gonzalez	***Jabari Jumps*** by Gaia Cornwell	***Water Is Water: A Book About the Water Cycle*** by Miranda Paul

Small Groups Implement at least two of the three small group activities per week. *Small groups can be implemented during center time or at another time during the day. Invite 2-4 children to participate at a time. Although children are typically excited about the opportunity to work closely with a teacher, children may decline the opportunity to participate. Each small group should not exceed 10 minutes in length. Work with a couple of groups per day and spend the remainder of the time engaging with children in centers.*	LITERACY SMALL GROUP Sing the song, *Willoughby Wallaby Woo*, highlighting the /w/ sound as well as the initial sounds in each child's name. Invite the children to choose a letter and work with their group to see how many words they can generate that start with that letter. Write down the words and enunciate the initial sound in each word. Allow children who are ready for a challenge to create their own list of words that start with a letter of their choosing. This is an opportunity for children to explore and play with letters. Be mindful of where children are in developing these early literacy skills and accept all work. Note, this activity will likely work better in English than other languages. *PK.CLL.2 (Reading Standards: Foundational*	MATH SMALL GROUP Create umbrellas and raindrops out of paper. Choose a target number appropriate for the group. Children can roll a die and try to add the corresponding number of drops to their umbrellas. Invite children to continue playing until they have placed the target number of drops on their umbrella. *PK.CKW.4 (Counting and Cardinality): Count to answer "how many?" questions about as many at 10 things arranged in a line, a rectangular array, or a circle, or as many as 5 things in a scattered configuration; given a number from 1-10, count out that many objects.* Write children's initials below: Group 1: Group 2:	SMALL GROUP #3 Pour a couple of inches of hot water into a glass jar. Tell children the glass is very hot and be sure they do not touch. Place a paper bowl or plate on top of the jar. Add ice cubes to the bowl. Observe. Drops of water should form and fall into the glass. Discuss with the children what happened and help them consider why the raindrops formed. *PK.CKW.4 (Science): Observes and describes characteristics of earth and space.* Write children's initials below: Group 1: Group 2: Group 3:	Between Monday and Thursday, implement two to three small group activities. Write children's initials below: Group 1: Group 2: Group 3: Group 4: Group 5:	CATCH-UP DAY Use this as an opportunity to complete small groups with children you may have missed throughout the week. Children to work with today (initials):

	Skills): Demonstrate an emerging understanding of spoken words, syllables and sounds (phonemes). Write children's initials below: Group 1: Group 2: Group 3: Group 4: Group 5:	Group 3: Group 4: Group 5:	Group 4: Group 5:		
Outdoors	See Section IV, Ideas for Learning Centers.				
Lunch	Talk with children about the water available to them at lunch. Discuss how the water looks, tastes, makes them feel, and why it is important to drink water. *PK.PDH.8: Demonstrates awareness and understanding of healthy habits.* Note, per the NYC Food Standards, all programs are required to offer water at meals and snack times.				
Centers	See Section IV, Ideas for Learning Centers.				

Opportunities for differentiation and integration of goals for children with IEPs	To be completed as needed by teachers.

VIII. Student Work Samples

Below are examples of student work from activities in this unit. Note the alignment to standards and the relationship to the focus question and NYSPLS standard. Some examples may fit under more than one standard and/or focus question.

Example 1: Water Wall

Activity Type: Culminating Experience

NYSPLS Standard: PK.AL.1 Actively engages in play as a means of exploration and learning.

"Look! If I move my cup really quickly after I put the water in I can catch it when it comes out!"

Example 2: Bridges

Activity Type: Center Time

NYSPLS Standard: PK.AL.2: Actively engages in

"The water is going to squirt in my face!"

"Oh wait, no it's not.

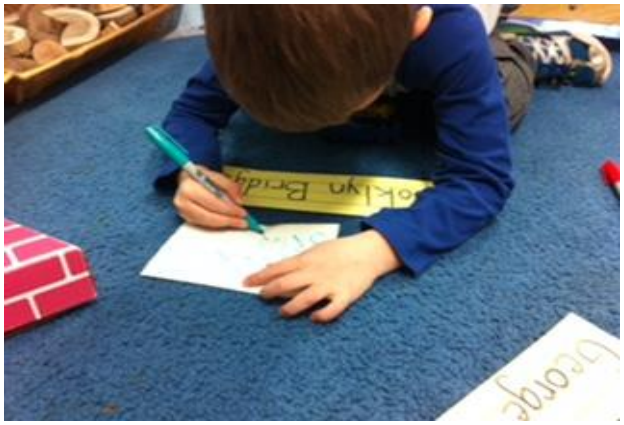
It has to go this way.

The straw has to go down."

"The water is coming out down here!"

"If cars go in water they can't drive so they need bridges."

"The George Washington one is by us."



IX. Supporting Resources

Teacher Texts

Exploring Water with Young Children by Ingrid Chalufour and Karen Worth

Promoting Children's Science Inquiry and Learning Through Water Investigations by Cindy Hoisington, Ingrid Chalufour, Jeff Winokur and Nancy Clark-Chiarelli

Worms, Shadows and Whirlpools: Science in the Early Childhood Classroom by Karen Worth

Teacher Websites

Brooklyn Children's Museum
http://www.brooklynkids.org/
Clean Water Clear Choice
http://www.cleanwaterways.org/kids/fun_facts.html
NY Aquarium
http://nyaquarium.com/
Staten Island Children's Museum
http://sichildrensmuseum.org/
What is Buoyancy?
http://www.phillyseaperch.org/uploads/9/1/0/6/91 06381/_buoyancy_for_hs.pdf
Play in a Puddle on a Rainy Day
https://www.naeyc.org/our-work/families/play-in-puddle

Music: Songs with Lyrics

These are common preschool songs sung by teachers throughout New York City and the world. Where possible, tunes and lyrics are included. If you don't know the tune, you can make one up that works for you or chant the words to a beat. Disclaimer: the lyrics provided are only for use by classroom teachers and are provided for the specific, non-profit educational purpose of supporting interdisciplinary learning in your classroom.

Water, Water

Water, water, keeps us clean (pretend to wash body)
Washes our clothes (tug on clothing) in the washing machine
Water, water, quenches my thirst (pretend to drink from a cup)
And fills the balloons I like to burst! (throwing motion)
Water, water, fun for swimming (swimming motion)
Feeds the grass that always needs trimming
Water, water, fun for play (big smile)
But keeps us inside on a rainy day (frown).

Rain, rain, go away

Rain, rain, go away
Come again another day
Little _____ wants to play (fill in the blank with a child's name).

Row Your Boat

Row, Row, Row Your Boat
Row, row, row your boat,
Gently down the stream.
Merrily, merrily, merrily, merrily
Life is but a dream.

Additional Song Titles

Baby Beluga
Cleano
Down by the Bay
I Had a Little Turtle
It's Raining it's Pouring
Jack and Jill
Rub-a-dub-dub Three Men in a Tub
There's a Hole in my Bucket
Three Little Fishies

X. Foundational Learning Experiences: Lesson Plans

Documentation: Based on the Focus Question, Objective, and Focus Standard as well as the Authentic Assessment items, teachers will determine what they hope to see children do in an activity. They should take notes as children are working to record the skills and growth children demonstrate. For the lesson plans included in this unit, a note-taking form is included. Please note the NYSPLS standards and assessment items listed in each lesson plan. Keep in mind that you may be addressing additional assessment items and standards.

Lesson: *Water Rolls, Water Rises* by Pat Mora

Type: Read Aloud

Unit of Study: Water	**Focus Question: Where can we find water?**
Objective: Children will use the text to consider and discuss water sources.	
NYSPLS Focus Standard: *PK.ELAL.5. [PKR.1.] Participates in discussions about a text (e.g., during whole or small group interactive read-aloud discussions, during peer sharing, within play scenarios)* **Additional NYSPLS Standard:** *PK.ELAL.9 [PKR.5] Interacts with a variety of genres (e.g., storybooks, poems, songs)*	**Link to Authentic Assessment Systems** WSS: IV.D.2: Explores rocks, water, soil, and sand TSG: 7: Demonstrates knowledge of Earth's environment COR: BB: Observing and classifying
Materials: *Water Rolls, Water Rises* **by Pat Mora**	**Vocabulary:** cloud, fog, frost, gurgles, marsh, sea, shore, sloshes, storms, thirst
Procedure: **Hook:** Show the children the cover of the book. **Beginning:** Share the title of the book. Share the author's name as well as the illustrator's name.	

Unit of Study: Water	Focus Question: Where can we find water?
Remind the children you took a picture walk through this book yesterday. Ask them what they remember. **Middle:** Read the book to the children. Pause throughout the book to ask the questions suggested in Section VI. Use these questions to engage in discussion with the children. **End:** Summarize the lesson by asking children to restate a few places where there is water. Ask any additional questions from Section VI as applicable.	
Assessment: How does the child respond to the questions and discussion about the book? What do they say, do, and contribute?	
Differentiation: Consider multiple entry points for all children to be successful. How do I/we plan to meet individual student needs? For example, repeat directions, extend time, adapt materials, preview questions, and provide 1:1 support. **For children who need additional support:** Read a few pages in the story rather than reading the entire book. Also consider inviting children to sit next to a teacher. **For children who are ready for a challenge**: Invite children to create their own books about where people find water in the city.	
Children with IEPs: How will I incorporate individual children's IEP goals into this lesson? What specific accommodations or modifications will I make? How will I collaborate with SEIT and/or related service providers?	
Teacher Tip: This book highlights many places in the environment where water can be found. Help children consider water in the city. Where is it found? Where does it come from?	
Teacher Reflection: What went well? Why? What will I do differently given what I have learned from observing children during this activity? Which children needed differentiation during this activity and how will I meet their needs moving forward?	

Assessment Opportunity

Read Aloud Experience: ***Water Rolls, Water Rises*** by Pat Mora

PKFCC Focus Standard:

PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants and/or animals use their external parts to help them survive in the environment

Authentic Assessment Alignment:

WSS: IV.D.2: Explores rocks, water, soil, and sand
TSG: 7: Demonstrates knowledge of Earth's environment
COR: BB: Observing and classifying

Child's name	How does the child respond to the questions and discussion about the book? What do they say, do, and contribute?	Notes

Child's name	How does the child respond to the questions and discussion about the book? What do they say, do, and contribute?	Notes

Lesson: Water and Ice

Type: Center Activity

Unit of Study: Water	Focus Question: What happens to water when it changes temperature?
Objective: Children will explore water and ice.	
NYSPLS Focus Standard: *PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid* **Additional NYSPLS Standard:** *PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences*	**Link to Authentic Assessment Systems:** WSS: IV.B.1: Explores the properties of objects and materials, and how they change. TSG: 7: Demonstrates knowledge of Earth's environment COR: BB: Observing and classifying
Materials: Water, ice, tray or container (to hold melting ice)	**Vocabulary:** freeze, ice, liquid, solid, state, water
Procedure: **Hook:** Show children water and ice. Ask, "What do you know about water? What do you know about ice?" **Beginning:** Ask the following questions to elicit the ideas that ice is formed when water gets very cold and that ice can return to the liquid state (water) when it warms up: Where does ice come from? Where does water come from? How can you make ice? How can you turn ice into water? **Middle:** Facilitate a discussion between the children about how to melt the ice. If possible, allow the children to try to melt the ice using the strategies they suggested. **End:** Verbally summarize the children's discussions and strategies used to melt the ice.	
Assessment: What does the child notice and share about water and ice?	

Unit of Study: Water	Focus Question: What happens to water when it changes temperature?
Differentiation: Consider multiple entry points for all children to be successful. How do I/we plan to meet individual student needs? For example, repeat directions, extend time, adapt materials, preview questions, and provide 1:1 support. **For children who need additional support:** Some children may be uncomfortable touching ice and/or water. These children may observe rather than handle the ice and/or water. **For children who are ready for a challenge:** After discussing how to melt the ice to create water, engage these children in a discussion about how to turn water back into ice. Invite them to test their hypotheses.	
Children with IEPs: How will I incorporate individual children's IEP goals into this lesson? What specific accommodations or modifications will I make? How will I collaborate with SEIT and/or related service providers?	
Teacher Tip: Use a tray or container for the ice that is an appropriate size for children so they can interact with the ice and easily explore.	
Teacher Reflection: What went well? Why? What will I do differently, given what I have learned from observing children during this activity? Which children needed differentiation during this activity and how will I meet their needs moving forward?	

Assessment Opportunity

Small Group Experience: Water and Ice

PKFCC Focus Standard:

PK.SCI.1. [P-PS1-1.] Asks questions and uses observations to test the claim that different kinds of matter exist as either solid or liquid

Authentic Assessment Alignment:

WSS: IV.B.1: Explores the properties of objects and materials, and how they change
TSG: 7: Demonstrates knowledge of Earth's environment
COR: BB: Observing and classifying

Child's name	What does the child notice and share about water and ice?		Notes

Child's name	What does the child notice and share about water and ice?		Notes

Lesson: Sink vs. Float

Type: Small Group Activity

Unit of Study: Water	Focus Question: What happens when we put things in water?
Objective: Children will make and test predictions about whether an assortment of items sink or float.	
NYSPLS Focus Standard: *PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences* **Additional NYSPLS Standards:** *PK.AL.5. Demonstrates persistence.*	**Link to Authentic Assessment Systems:** WSS: IV.A.3: Makes meaning from explorations, and generates ideas and solutions based on their own observations of the natural and human-made worlds TSG: 24: Uses scientific inquiry skills COR: CC: Experimenting, predicting and drawing conclusions
Materials: Tub of water, various small items including some that sink and some that float (e.g., tin foil, wood block, plastic bowl, crayon), paper, marker	**Vocabulary:** sink, float, predict, conclude

Procedure:

Hook: Ask children what will happen if you drop a ____ (item that sinks) into a tub of water. Invite them to try.

Beginning:

Ask children what *sink* and *float* mean. Provide support if they struggle to define each term.

Share that you are going to invite them to test several items to see if they sink or float.

Middle:

Create a table to record children's predictions about whether an item will sink or float.

Show children an item and ask them to predict whether it will sink or float. Encourage them to share why they think the item will sink/float.

Record children's predictions on the table.

End:

Test each item by placing it in the tub of water.

Note whether each item sinks or floats and compare the results to children's predictions As you record the results, make connections to children's previous

Unit of Study: Water	Focus Question: What happens when we put things in water?
predictions, and summarize the discoveries and conclusions they draw. Support children in using this new information when making future predictions.	
Assessment: How does the child make and test predictions? How do they incorporate new information into their predictions?	
Differentiation: Consider multiple entry points for all children to be successful. How do I/we plan to meet individual student needs? For example, repeat directions, extend time, adapt materials, preview questions, and provide 1:1 support. **For children who need additional support***:* Provide simple pictures of items sinking or floating and post for reference to solidify vocabulary and concepts. **For children who are ready for a challenge***:* Invite children to collect additional items and predict whether they will sink or float.	
Children with IEPs: How will I incorporate individual children's IEP goals into this lesson? What specific accommodations or modifications will I make? How will I collaborate with SEIT and/or related service providers?	
Teacher Tip: Sinking and floating depends on buoyancy and density. While at this point, it is most important for children to note that there is consistency in the way objects behave: the same items always sink or float; children will bring various levels of knowledge to this activity. Be sure to have an understanding of buoyancy and density in order to support children who have previous knowledge of these concepts. See Appendix IX. Supporting Resources to access more information on buoyancy. Be sure children wash their hands before and after hands-on water experiences. Children are likely to get wet during hands-on water experiences. Be sure they have smocks and/or dry clothing available to change into if necessary. Ask children about their predictions, for example, "why do you think that will happen?"	
Teacher Reflection: What went well? Why? What will I do differently, given what I have learned from observing children during this activity? Which children needed differentiation during this activity and how will I meet their needs moving forward?	

Assessment Opportunity

Small Group Experience: Sink vs. Float

PKFCC Focus Standard:

PK.AL.4. Exhibits curiosity, interest, and willingness to learn new things and have new experiences

Authentic Assessment Alignment:

WSS: IV.A.3: Makes meaning from explorations, and generates ideas and solutions based on their own observations of the natural and human-made worlds

TSG: 24: Uses scientific inquiry skills

COR: CC: Experimenting, predicting and drawing conclusions

Child's name	How does the child make and test predictions?	How do they incorporate new information into their predictions?	Notes

Child's name	How does the child make and test predictions?	How do they incorporate new information into their predictions?	Notes

Lesson: Stalks and Water

Type: Small Group Activity

Unit of Study: Water	Focus Question: How does water help us?
Objective: Children will understand that water travels through a plant.	
NYSPLS Focus Standard: *PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants and/or animals use their external parts to help them survive in the environment* **Additional NYSPLS Standard:** *PK.SCI.4. [P-LS1-1.] Observes familiar plants and animals (including humans) and describes what they need to survive*	**Link to Authentic Assessment Systems:** WSS: IV.C.2 Explores the needs of living things TSG: 24: Uses scientific inquiry skills COR: CC: Experimenting, predicting, and drawing conclusions
Materials: Celery stalk with leaves, clear container(s), water, food coloring (at least one color), scissors, paper, marker	**Vocabulary:** drink, conclude, observe, water

Procedure:

Hook: Show children the celery stalk. Share that the stalk is part of a plant and ask children what plants need in order to live. Highlight the need for water (or help children generate this response if necessary).

Beginning:

Invite children to join you in an experiment with the celery.

Fill the clear container with water; add a few drops of food coloring. Repeat with additional containers and colors if desired.

Trim the bottom of the celery stalk.

Place the stalk into the container. Repeat with additional stalks if desired.

Middle:

Ask children to predict what they think will happen if you leave the celery in the colored water overnight, and why they think that will happen. Record their responses.

Tell children you will revisit the celery stalk together tomorrow but in the meantime, they may stop by and observe it on their own.

Place the stalk in an area where children can observe.

Unit of Study: Water	Focus Question: How does water help us?
End: The following day, invite children to observe the celery stalk again. What do they notice? Refer back to their predictions from the previous day. Compare their predictions to the results. Share that plants draw water up from their roots through their stalks and into their leaves through their capillaries. Capillaries are hollow and water travels through them similar to the way water travels through a straw. Water helps move nutrients throughout a plant. This helps the plant to stay alive. Without water, plants will start to wilt and eventually die.	
Assessment: What does the child understand about how water travels through a plant?	
Differentiation: Consider multiple entry points for all children to be successful. How do I/we plan to meet individual student needs? For example, repeat directions, extend time, adapt materials, preview questions, and provide 1:1 support **For children who need additional support:** Invite these children to do additional observations of the celery stalk(s) with you throughout the day. Help them to note the changes in the celery stalk(s) at each observation. **For children who are ready for a challenge:** For children who are ready for a challenge: Invite these children to use a science observation notebook to record their independent observations.	
Children with IEPs: How will I incorporate individual children's IEP goals into this lesson? What specific accommodations or modifications will I make? How will I collaborate with SEIT and/or related service providers?	
Teacher Tip: Consider having a straw available to help demonstrate how water moves through the capillaries of a plant. For classes with children who may be especially interested in the way water moves through a plant, consider doing additional research so you are prepared to provide specific answers to the children's questions.	
Teacher Reflection: What went well? Why? What will I do differently given what I have learned from observing children during this activity? Which children needed differentiation during this activity and how will I meet their needs moving forward?	

Assessment Opportunity

Small Group Experience: Stalks and Water

PKFCC Focus Standard:

PK.SCI.5. [P-LS1-2.] Plans and conducts investigations to determine how familiar plants and/or animals use their external parts to help them survive in the environment

Authentic Assessment Alignment:
WSS: IV.C.2 Explores the needs of living things
TSG: 24: Uses scientific inquiry skills
COR: CC: Experimenting, predicting, and drawing conclusions

Child's name	What does the child understand about how water travels through a plant?	Notes

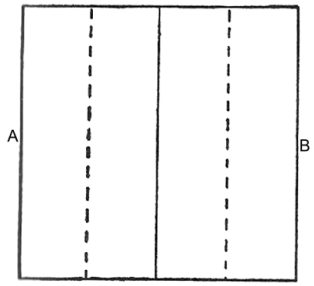
Child's name	What does the child understand about how water travels through a plant?	Notes

XI. Appendices

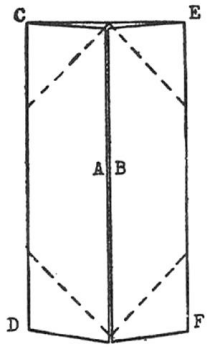
Appendix A: Paper Boat Folding

Step 1. Fold a square in half and crease then unfold.

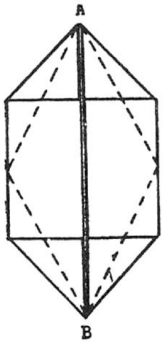
Step 2. Bring lines A and B to center fold and crease.



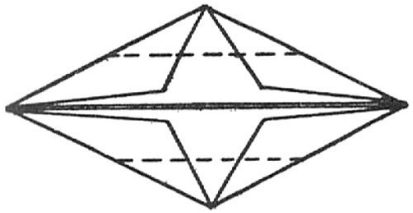
Step 3. Fold on diagonal dotted lines, bringing points C, D, E and F to the center line, and crease.



Step 4. Fold on dotted lines.



Step 5. Fold again on dotted lines.



Step 6. Turn boat inside out, holding folds carefully to prevent tearing.

Step 7. Finished boat, ready to float!

http://www.artistshelpingchildren.org/kidscraftsactivitiesblog/2012/03/how-to-make-origami-boats/

Appendix B: See Your Breath

Q: Why can you see your breath when it is really cold out?

A: *Sometimes it looks like you can see your breath when it is very cold outside but it is not really your breath you see. You are actually seeing the water vapor in the air. The inside of your body is very damp, and when you breathe out there is a lot of water in your breath. When it is very cold outside the water vapor in your breath will condense and change from a gas into tiny droplets of water. The droplets are what you see.*

Appendix C: Water Wall

A water wall is a structure created by attaching a variety of plastic containers and/or plastic piping to a surface. Water is poured into containers at the top of the wall and flows down to the bottom. A water wall can be created in many different ways. Any sort of containers can be used as long as water can flow through them. Be creative when considering where to build a wall. The only requirements are that containers can be attached to the surface and that the children can reach the top. The water wall shown in Section VIII: Student Work Samples was created by attaching Velcro strips to an empty aquarium. The aquarium was placed in the classroom water table. Velcro was also added to the recycled materials and children were able to move the containers on their own.

To create a water wall you will need:

Something to mount the wall on such as:

Lattice
Piece of wood
Peg board
Pallet
Window or glass door

Materials for water to flow though such as:

Recycled plastic bottles
Recycled plastic containers
Flexible piping
PVC piping

Supplies for attaching such as:

Zip ties
Electrical or duct tape
Velcro
Screws
Suction cups

Directions:

Prepare the containers and bottles so that water can flow through them. Consider adding holes or cutting each container in half. Attach these materials to the mount. Place the water wall in a water table or place a waterproof container under the wall. Fill the waterproof container with water, supply cups or containers that do not have holes and invite children to pour water through the containers.

Appendix D: Snow Dough

Ingredients:
1 cup baking soda
½ cup cornstarch
1 tablespoon vegetable oil
½ cup + 1 tablespoon water

Directions:
Pour all ingredients into a pan and mix well. The mixture may look dry; continue to mix until the consistency is soupy.
Heat mixture over medium heat stirring constantly for about five minutes until it begins to thicken.
Stir until the mixture is thick.
Pour the mixture out of the pan onto a sheet of waxed paper to cool. The mixture will be very hot.

Appendix E: Bubble Solution

Ingredients:
½ cup dishwashing solution
2 cups water
2 teaspoons sugar

Directions:
Mix all ingredients together in a shallow pan.
Dip bubble wands in the mixture and blow bubbles.