

## Synopsis and Key Concepts

### ***WATER WATER EVERYWHERE***

Students participate in a brainstorm about water and its importance and then rotate to three different activity stations to explore some of the interesting properties of water. In Sink or Float, students have the opportunity to first predict and then find out what happens when a variety of objects are placed in a tub of water. In Boat Building, students explore what kinds of shapes make the best boats, and how much you can load in them before they sink. In Water Drops, students use water droplets and toothpicks to discover how water is attracted to itself. The Fill'er Up activity provides students the opportunity to apply what they have learned about predictions and how scientists work, as they discover the concept of volume.

- *Water is a very important and interesting liquid.*
- *Scientists make careful observations using their five senses.*
- *Some materials tend to float, other materials tend to sink.*
- *Whether or not something sinks or floats depends on the material, not on the size of the object.*
- *Water drops are attracted to one another.*
- *We can make predictions and then measure the amount of water that different shapes will hold.*

### ***POND HOMES***

Students listen to a story about ponds and participate in a whole class discussion about what they think they know about ponds and what they want to learn. The concept of habitat is introduced and the students work together in small groups to create desktop ponds. The students begin to use a science journal for drawing their observations and making predictions about what they think will happen as they add worms, snails and fish to the pond over the course of a few sessions. Students are introduced to the concept of adaptations as they observe the animals' structures and behaviors and use their journals to keep track of the changes they see.

- *The neighborhood where an animal lives is called a habitat and has everything an animal needs to survive.*
- *An animal's habitat must provide food, water, shelter and space.*
- *Our desktop ponds are models of real ponds.*
- *Scientists create models of organisms and habitats so that they can learn more about them.*
- *It is important to write down observations using words and drawings so we can tell others about what we have discovered.*

- *Animals have special parts or ways of acting that help them to survive in their habitat. These are called adaptations.*

### ***BUILD A POND***

Children use their imaginations and what they have learned about ponds to guess the names of an assortment of animals they encounter while pretending to live in a pond. Students are then introduced to a large construction paper pond, the center stage for the upcoming Pond Drama. They help to populate the pond by creating colorful 3-d paper and clay models of the plants and animals that live there. The Pond becomes the site around which the students hear stories and learn more about the life cycles and adaptations of these plants and animals. Students then act out their own pond dramas while adding the plants and animals they created to the classroom model pond.

- *A three-dimensional organism made out of paper is a kind of model.*
- *Pond organisms interact with each other in their pond habitat.*

### ***LIVING IN WATER HABITATS***

Students observe their living ponds again and are reminded of the diversity of pond organisms as they work in small groups to sort pond illustrations. If your school is participating in an Ocean Immersion, students are then told that the rest of the school is also studying water homes. But instead of studying fresh water ponds, they are studying salt water homes in the ocean. The students compare ponds and the ocean as they make a bulletin board. They then have the opportunity to visit other classrooms in the school and ask the “experts” on those habitats about the organisms that live there. The class comes back together to debrief their grade/habitat visits and discuss what the animals in one group or habitat have in common. The activity ends with a water homes bingo game to check for understanding and reinforce concepts.

- *Living things are called organisms. Organisms can be animals, plants or living things that look like plants.*
- *Plant-like organisms are called algae.*
- *The water in ponds is fresh water*
- *Many different organisms live in fresh water.*
- *Some animals live in fresh water and some animals live in salt water.*
- *The water in the ocean is salty.*
- *There are many different habitats in the ocean.*
- *Different kinds of organisms live in different ocean habitats.*

### ***ADOPT-A-PLAYGROUND***

Students are taken on a “virtual tour” of their teacher’s backyard as they look at a map of the teacher’s yard and listen to a narrative description of the map. Students then help make a map of their own schoolyard, adding all of the elements that they can remember to an outline of the schoolyard. They are taken on a trip around the school and additional items are added to the map, including litter if any is found. Students are also asked to think about the best place to add a pond to the schoolyard. The class then writes a letter to the principal, listing the reasons they would like to add a pond. In “Litter in Our Habitat”, students discover that someone has added litter to their 3-dimensional paper pond. A discussion and circle chat about litter they saw on the schoolyard ensues. Students then listen to a story, “The Day the Litter Came Out to Play,” and the students try to figure out what they could do to help make sure that litter doesn’t come out to play in their school and neighborhood. Students then investigate and help sort the contents of the “Teacher’s Room” wastebasket into recyclable, re-usable, compostable and other. The session ends with students removing the litter from the 3-dimensional pond and discussing how throwing a piece of litter on the schoolyard or street could affect animals living in ponds.

- *Litter may harm land animals or be carried by the wind to ponds where it can harm the animals living there.*
- *We need to take care of our own home and schools the same way we take care of all habitats.*