

# First Grade Exploration Tubs

## Leaf Sorting

Book: *Autumn Leaves* by Ken Robbins (Scholastic)

Materials: laminated leaves, hand magnifying lenses

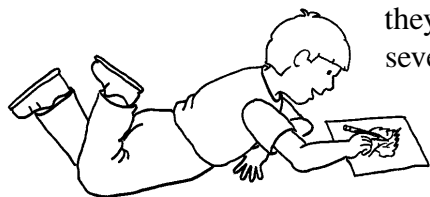
Press leaves till dry, then laminate a variety of leaves onto cards (card stock weight). Mount several of each kind of leaf. Students will sort leaves by color, number of leaf points, outside shape of leaf (heart shaped, star shaped, fan shaped, circular, toothed, lobed), and veins (branched, parallel, alternate). To facilitate sorting, one card could be labeled with the name of the plant from which the leaf was taken.

## Leaf Rubbings

Book: *Look What I Did with a Leaf!* (Walker and Company)

Materials: fresh leaves, peeled crayons, blank paper

Lay a leaf under a sheet of blank paper (newly picked leaves work the best), then rub a peeled crayon over the top. Remind students that holding the crayon lengthwise (horizontally) on the paper creates the most detailed rubbings. After students become adept at making leaf rubbings,



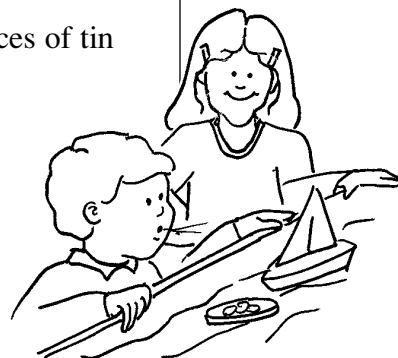
they enjoy creating leaf creatures by laying several leaves down to make arms, legs, ears, etc. Leaf creatures can be made by making a rubbing or cutting out rubbings and gluing them together.

## Water Trough Boats

Books: *Who Sank the Boat?* and *Mr. Archimedes' Bath* by Pamela Allen

Materials: tub of water, a variety of lids, counting bears, pieces of tin foil to create boats, items to place in buckets of water

Students experiment with each lid to see how many bears it will hold before tipping over. After comparing boats, the child takes a piece of tin foil and creates the shape of boat he thinks will hold the most counting bears. Children compare boats and the number of bears each boat holds. Water can also be placed in a bucket. Children mark the water level as they place various objects in the water. Students explore displacement.



## Water Exploration

Materials: trough with water basters, plastic flexible tubing, water wheels, siphons, hose, clamps, etc.

The water trough provides opportunities for tactile enjoyment such as pouring and squirting. Students observe the flow of the water and explore how it moves through flexible tubing, and the correlation of tube height to water flow.

## Sink and Float

Books: *What Will Float?; Is It Floating; Floating and Sinking* (Wright Group); *Sink or Float* (Harcourt Science)

Materials: offer a variety of objects (baby toys, wooden blocks, medicine bottles, containers, clips, rocks, oil clay, beads, spools, etc.) to experiment with the water trough

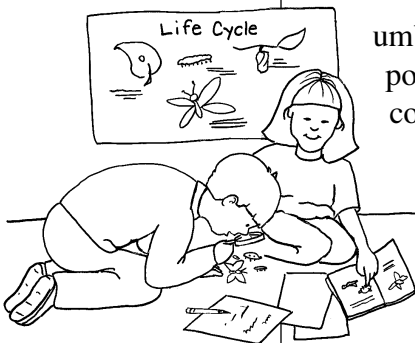
- Sort objects into labeled “float” and “sink” pie tins.
- Predict what you think will sink.
- Predict what you think will float.
- Document results on a large chart.
- Who can make things that float?
- Who can make things that sink?

## Seeds

Books: *Seeds, Seeds, Seeds* (Wright Group); *Where Are The Seeds?* by Wright Group; *Fruits and Seeds* (Creative Teaching Press)

Materials: collect seeds from plants and trees (fruit, nuts, burrs, umbrella seeds, pods, beans, peas, dried corn, milkweed, chestnuts, poppy-seed pods, apricot pits, peach pits), a piece of velcro—to compare with the burrs, hand lenses, microscope, or jewelers loop

Students examine seeds, compare size, texture, hardness, and predict how they might travel. Students might identify some seeds by name, write labels, or draw representations of seeds and the plants they might grow into.



## Seed Exploration

1. How could we harvest this seed? What kind of plant did it come from?
2. How does it travel from the parent plant to grow a new plant?
3. What plant do you think it will grow into?
4. Sort seeds by size, shape, and color.
5. Ask each student to select a seed, make up a description of the seed, and see if a friend can identify which seed was described.
6. What other ways do plants reproduce? (Tubers, sprouting yams and pineapples)
7. List all the seeds you can think of. Which seed is the largest? Which is the smallest? Which seeds do we eat?
8. Provide cups and water for seed soaking, and hammers, nut crackers, and pliers for seed cracking. Examine the parts of seeds.
9. Using a magnifier, compare burrs with velcro. What aspects do they have in common?
10. Open pods and count seeds. Is there a uniform amount? Compare/contrast amounts.
11. What happens to umbrella seeds when you spray them with water? Are they still able to float in the air? Why would this be important?

## Snow Trough

Books: *The Water Cycle* (Capstone)

Materials: snow, trough, molds, mittens, gloves, paper cups

Fill trough with snow and encourage students to mold, shape, and explore snow.

- Who can melt snow the fastest? (Give each child a small cup full of snow)
- Who can keep their snow the longest?
- Who can guess which toy made the tracks? Students take turns walking or rolling toys across the snow. Students try to guess which toy made the tracks.
- How much water will the snow make? Fill cups with snow then predict how much water will be made when it melts. Draw a line on the cup to mark estimated water level.
- Who guessed the closest? Let the cups of snow melt and see whose estimation was the closest.



## ***Ice and Water***

Books: *Water As a Solid, Water As a Liquid* (Capstone)

Materials: ice cubes, chunks of ice, or icicles

- How long will it take the ice to melt?
- Will ice melt faster in the water trough or on a tray in the classroom?
- Will the ice float or sink?
- If we put water outside today would it freeze? In the shade? In the sun?
- Fill cup completely full of water and place it in the pie tin, and set it outside to freeze. What happens?
- What will happen if we put water in a jar with a lid on and freeze it?

## ***Color Mixing***

Books: *Mouse Paint*

Materials: eye droppers, styrofoam egg cartons, food coloring, water, blank cards, markers

Provide eyedropper, cups of water with food coloring added: red, yellow, and blue, white egg cartons with lids removed to make them more stable on the table.

- Students mix colors by dropping colored water into sections of the egg carton.
- Students write recipes for the colors they have created.  
(yellow + blue = green)

Note: perm squeeze bottles are also fun to use with either colored water or as squirters to “write” on the sidewalk outside.

## ***Bubbles***

Materials: Combine one cup liquid or powder detergent, two cups water, and one tablespoon sugar.

Cover solution and store several days before using. This makes an inexpensive but effective bubble solution. Add bubble wands, cans with both ends opened, canning jar rings, berry baskets, etc. Thread two drinking straws on a loop of string to make an interesting bubble wand. Bubble solution may be poured into a wading pool outside. Then seat a student on a chair in the wading pool and use a hula-hoop as a bubble wand to create a child in a bubble!

## ***Experiments with Dissolving***

Materials: salt, sugar, pepper, flour, corn starch, bicarbonate soda, cups of water, spoons

Students predict which items will dissolve in water. Students stir ingredients into cups of water then observe and describe how well they dissolve in water.