

Ice Treasures

WHAT'S THE
Big Idea?
Diversity

Enduring Understandings

- Healthy systems require diversity.
- Colors can be mixed to create a different color.

Objectives

- Children experiment with colors.
- Children understand that colors can be mixed and changed to make new colors.

Directions

With its colder temperatures and snow, winter is a great time to create “ice treasure.” Even if snow does not occur in your climate, students will enjoy making ice treasures and hiding and finding them outside.

- Review the water cycle through song or story. See “The Water Cycle Dance,” p.152, or read *The Water Cycle* by Helen Frost.
- Set up an experiment table where water can be poured without damaging anything. Set clear plastic cups on a tray or cookie sheet (the tray will collect any spilled water). Ask students to pour water in each cup until each is $\frac{3}{4}$ full. Let them experiment with adding drops of food coloring to the water and have them observe what happens. Ask students to predict what might happen to the original color if a second color is added. Add a second color and observe the results.
- Place your cups outside (if below freezing) or in a freezer until the water is frozen.
- Once frozen, pop the colored ice out of the containers (this will stain fingers), and take the treasures outside to hide in the snow or grass. Set your students loose to find them, or invent other ways to play with the treasures.
- Process and reflect on the experience with the children by engaging in a conversation guided by the discussion questions.

Discussion Questions

- What colors of food coloring did we use? How many different colors did we start with?
- How many different colors are in our ice treasures? How many colors did we start with? How did we get more colors?
- Are colors always just red or just blue?
- What do you predict will happen to the ice treasures if we leave them outside?

WHO ARE WE?

WINTER

Materials

- *The Water Cycle* by Helen Frost
- clear plastic cups
- food coloring
- water



Extensions

- **One Red Dot** by David A. Carter
- **Blue 2** by David A. Carter
- Using old ice trays instead of clear plastic cups, freeze the colored water and put the ice cubes in your water table with snow or water. If you put them in water, ask children to predict what will happen to the ice treasures.
- Continue to experiment with color variations using finger paint or water colors. Discuss findings. Any surprising results?