

# HOW DOES ICE FORM?

## Objectives:

**Children will know:** Children will learn how ice is formed.

**Children will do:** Children will pour water over ice to see how it shapes and melts.

## Essential Questions:

- What is ice?
- How does ice form?

## Standards:

L10. Follows directions.

L21: Demonstrate eye hand coordination in different tasks.

PSH6: Engages in play as a means of self-expression and creativity.

SSC3. Asks questions and finds answers through active exploration of nature.



## Materials:

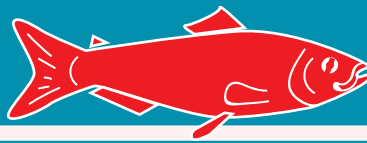
- Bucket or tote
- Blue food dye
- Twisty droppers
- Arctic Animals
- Paper cups
- Ice pictures

## Alaska Native Values:

Respect for the land and nature

## Promoting Culture Self Assessment:

- 1. I display pictures, posters and other materials that reflect the cultures and ethnic backgrounds of children and families served in my early childhood program or setting.
- 2. I select props for the dramatic play/ housekeeping area that are culturally diverse including those that reflect Alaska Native culture
- 4. I ensure that toys and play accessories that depict people are representative of the various cultural and ethnic groups both within my community and the society in general.



## Engage

Open Exploration. Encourage students to touch and share.

Ask, "What is this? How can we describe it? What does it feel like? "

"Today we are going to learn about ICE. What are some other forms of ice that you have seen? Does ice happen when it is hot or cold? How is it formed? What is ice made out of?"

"Ice forms in many different ways." Hold up a picture of a glacier. "Has anyone seen ice like this? This is a GLACIER." Do the same for the iceberg, frozen river, and frozen lake pictures. "These are all pictures of water that has frozen into ice. Ice forms and melts depending on how hot or cold it is. Let's see how we can make ice

## Explore:

**Activity: 30 Minutes**

Prior to this lesson, already have some bowls that have been left to freeze overnight so it will be ready for the next day.

To learn about the process of ice freezing, have students help you fill up different shaped bowls or tupperware and place them in the freezer. Explain to students that water needs to stay in the freezing cold for it to turn to ice. If you'd like, put some of the animal figurines inside of the water, that would add a fun element to this activity. While the ice is freezing, take a clear tote or bucket and fill it with lukewarm water. Add the little blue food dye to give it a blue coloring. Share twisty droppers, paper cups and various bowls amongst the students. Present fully frozen bowls to the students and allow them to help you pop the ice out with the students and place it in the water bucket. Comment on how the ice floats. Allow students to balance animal figurines on top of the ice formations. Have students fill the twisty droppers and cups with water. Instruct them to pour it over the ice. Prompt them to talk about how the ice is changing as they pour water on it. Discuss concepts of melting.

## Explain:

"We just saw how much ice can form and change shape." Use the following questions for a discussion about how ice forms around student's homes. "How does ice form where we live? How do you use ice? Have you walked on ice before? When does the ice start changing?" "Ice begins to form when it is very cold outside, and as we have learned today, can form in many shapes and sizes. When it begins to get warm outside, ice melts back into water. Where have you seen ice around your home?"

## Center Set Up:

### Whole Group:

Preparation: Need to prepare ice cubes or frozen water in bowls for students to explore.

~Display essential questions. Share ice cubes and have images of frozen water from the kit. Describe ice and how it changes over time by using cups and droppers to explore the process of melting.

### Sensory Play:

Preparation: Create ice cubes or blocks of ice. Gather small spoons and a cup of salt.

~Place ice into a sensory tub or bucket. Show students how to sprinkle salt onto the blocks of ice and see what happens. Encourage them to pick it up and explore how the salt changes the ice block. Ask students to describe noticings.

### Dramatic Art and Play:

Preparation: Pour tempura paint into some paper cups and add water to dilute the paint. Stick popsicle sticks into each cup and allow to freeze overnight to make painting pops.

~Set out paper and the created painting pops. Allow students to explore the frozen painting tools and create a fun piece of art by painting with ice.

# EVALUATION

<b>Emerging:</b>	<b>Developing:</b>	<b>Proficient:</b>	<b>Advanced:</b>
Student does not participate.	Student listens and participates	Student listens, participates, and follows directions.	Student listens, participates, and follows direction. Students actively engages in discussion and answers questions.