Learning Plan

Name: Renee Pierre	**Age of Children**: Preschool (3-5)	**Date**: 6/20/2021
Title: Ice Cube Painting		

Learning Standards and Outcomes

Learning Standard:

Teaching Strategy Gold

The Arts
33. Explores the visual arts
Physical
7. Demonstrates fine-motor strength and coordination
   b. Uses writing and drawing tools
Science and Technology
24. Uses scientific inquiry skills
26. Demonstrates knowledge of the physical properties of objects and materials
27. Demonstrates knowledge of Earth's environment

Child Outcome:

The student will be able to:

- Explore the visual arts
- Use writing and drawing tools
- Make discoveries and ask questions
- Demonstrate knowledge of water's physical properties
- Understands that ice melts with heat

Learning Experience

Describe the Learning Activity/Opportunity:

Ice Cube Painting allows children to explore the visual arts by using their own creativity and exploration of mixing colors. Children will use tools to simulate writing while drawing with the ice. They will explore and questions the different methods of creating friction to melt the ice. The children will develop their understanding of the properties of water by experimenting through hands-on interaction of making and melting ice through different techniques.

In this activity, the children will use scientific inquiry to explore water and ice. This builds an understanding of water's changing properties as it melts from a liquid to a solid and back to a liquid. For example, the children will make ice paint from water. Then they will move the colored ice quickly across the paper, increasing friction creating more liquid paint.

During the activity, the children explore the visual arts through hands-on exploration. The children will use a stick inserted into the ice cube as a tool that enables them to practice writing skills through drawing building fine-motor muscle. This activity encourages children to be creative and explore their self-expression.

Materials Needed:

- Water
- Food coloring

- Ice cube tray, small cup, or popsicle molds
- Wooden craft stick or used popsicle stick
- Paper

Procedures:

1. ***ENGAGE:***

I will begin this activity by finding out what the children already know about the properties of water by asking, "What would happen if you put a cup of water in the refrigerator? Water is a **liquid**; it flows and moves easily." I will continue to expand on the children's knowledge and understanding of how the water can change by asking, "What would happen if you put a cup of water in the freezer? The water will change from a liquid into a **solid**, a strong block of ice. This solid block of ice is **frozen,** which is super cold and hard." Providing the process and terms of how water changes allow the children to build their knowledge about water and ice before experimenting.

I will capture the children's attention by saying, "Let's paint with colored ice cubes. We have yellow, red, and blue food coloring." I will prompt thought through open-ended questions of how the children can make secondary colors using primary colors by asking, "Tell me, how do you think you can make the color orange?"

2. ***EXPLORE:***

Once the ice is colored and formed, I will pose a question about how ice melts by asking, "Over time, what will happen to the ice when it is out of the freezer?" I will further the children's language by defining melt as "The ice **melts** from a solid-state to a liquid returning to the water." Before allowing the children to explore the ice on paper, I will create an opportunity for them to ponder the processing of the melting by asking, "Tell me, what do you think will happen if you rub the ice on paper? When you rub the ice on the paper, you create **friction,** making heat. The warmth causes the ice to melt."

3. ***MAKE SENSE:***

To make sense of this activity, I will ask the children to recall the properties of water by explaining their thinking on how they are getting the ice to melt. I will pose questions to expand on the children's curiosity about creating secondary colors with the primary ones by asking, "How do you think you made the color green?" Having the children verbally explain their thinking allows them to process the experience and solidify it in their memory.

4. ***CLOSE:***

To bring this activity to an end, I will review the process that water goes through to make and melt ice by asking, "What is the process, the beginning, middle, and end results of making ice?" To make this activity a more personal and meaningful experience, I will ask the children what they enjoyed by asking, "What was your favorite part of painting with ice cubes?" This allows the children to gather their thoughts and express their learning based on their interests.

5. ***FOLLOW UP:***

I will build on this lesson in the future by asking the children, "What else can you freeze?" I will use this information to create new activities and experiences for the children to expand their understanding of water and its properties. This creative expression activity can be extended to other painting mediums to enhance the children's experiences based on their interests and needs.

New vocabulary words that children will develop as part of this learning plan:

1. **Frozen**: super cold and hard; a solid
2. **Friction**: rubbing of objects against each other creating heat or making it warm
3. **Liquid**: flows or moves easily; water is a liquid
4. **Solid**: sturdy and strong; ice is a solid
5. **Melt:** to change from a solid to a liquid state; ice melts from a solid-state to a liquid returning to water

Open-ended questions for each lesson phase that you can ask children as part of this learning plan:

Before the activity:

1. What would happen if you put a cup of water in the refrigerator?
2. What would happen if you put a cup of water in the freezer?
3. Tell me, how do you think you can make the color orange?

During the activity:

1. Over time, what will happen to the ice when it is out of the freezer?
2. Tell me, what do you think will happen if you rub the ice on paper?
3. How did you make that green color?

After the activity:

1. What is the process, the beginning, middle, and end results of making ice?
2. What was your favorite part of painting with ice cubes?
3. What else can you freeze?

This activity is developmentally appropriate for preschool-age children:

Age-appropriate:

- This activity is age-appropriate for preschoolers because children are naturally curious. The children are active learners exploring the properties of how water can change from a liquid to a solid. The children explore their creative expression by engaging in hands-on interactions of melting primary color ice cubes to create secondary colors.

Individually appropriate:

- This activity is individually appropriate because it is open-ended. Children can explore using the materials at their own levels of development. The materials can be adapted to meet the individual needs of the children to ensuring everyone can participate. There is no right or wrong way to engage or implement this activity making all children succeed in their learning experience.

Culturally appropriate:

- This activity is culturally appropriate because it can be implanted in the children's home language. The children are familiar with the materials as they are common everyday items that can be found in their home environment.

Describe how in this activity you promote the following:

Promoting Analysis and Reasoning:

Why and how questions:

- Support children's understanding of the properties of water changing from a liquid to a solid and back to a liquid. "Why does the water change to ice and return water?"
- Question the children's thinking to be creative in developing more colors to use in their artwork. "How can we create different colors of paint when we only have three primary colors?"

Problem-solving:

- Ask the children open-ended questions that promote higher-order thinking by saying, "How do you think you will get the ice paint to work?"
- Redirect the children's intentions by figuring out how to use the melted ice to continue painting. "How can you continue to paint without the ice?"

Prediction and experimentation:

- Create curiosity about what would happen if they did something different to make the ice melt. "What do you think will happen if we rub the ice paint on our hands?"
- Pose questions to encourage experimentation. "How do you think salt will affect the melting of the ice?"

Classification and comparison:

- Classify the differences between being a primary or secondary color. "How did you get that color?"
- Compare the different speeds of creating friction. "What would happen to the ice paint if you moved it slowly compared faster?"

Promoting Opportunities for Creating:

Brainstorming:

- Make a chart that explores the mixtures of colors, such as making secondary colors from primary.
- Create a list with the children of other liquids that can be frozen.

Planning:

- Encourage children to plan on what they want to paint on their paper.
- Include children in making the different color paints based on the mixing of the primary colors.

Authentic production:

- Keep this activity open-ended, allowing children to have enough time to explore the paints and the changing properties of water.
- Provide enough materials for children to create as many projects as they want based on their interests.

Promoting Opportunities for Integration:

Connecting concepts:

- Create opportunities for children to explore plain ice and how it melts using their hands. "What do you think will happen if you hold the ice in your hand?"
- Provide primary-colored paint for children to experience the mixing of colors. "What will happen if you mix two colors?"

Previous knowledge:

- Ask open-end questions that provide an opportunity to express their current knowledge of the properties of water and ice. "Tell me something you know about water."
- Observe the children and their understanding of mixing colors by offering primary paint colors. "How did you create that color?"

Promoting Opportunities for Connections to the Real World:

Real-world application:

- Make connections that the sun is hot and can melt ice allowing them to try to paint on outdoor surfaces. "What else can we use to create heat to melt the ice?"
- Provide children with a popsicle for them to experience the melting process. "How does the popsicle feel in your mouth? What do you think is happening?"

Relation to children's lives:

- Use common everyday items such as water and ice. "How do you make your drinking water cold?"
- Encourage children to use their home language to describe what they observe. "How would you say that in your language you speak at home?"

I certify that the lesson I am submitting does not utilize a worksheet or rote learning experience. My lesson focuses on promoting concept development through high-quality interactions and everyday materials easily obtained in a family's home or surrounding outdoor environment. The outcome of my lesson is not a "cookie-cutter" product.

✔ ***Yes***

__ ***No***