To turn water to Ice

1 Overall aims:

- Differentiate liquid and solid
- Convert water in ice.
- Making fruit ices

2 Vocabulary - keywords

Water, Ice, apple, banana, strawberries, liquid, solid

3 Sustainable abilities developed

- Anticipatory competency (Where does ice come from?)
- Strategic Competency (to experience change of state, from liquid to solid)

4 Pillars of sustainability included

- Ecological (healthy)

5 STEAM domains

S (water status changes); M (classification); T (hand control for making water to drop, without falling over the table)

6 Teaching methodologies/activity outline

Beginning

1- Asking questions to activate children's background: Where does ice come from? Who makes ice? That's mummy who does it? Or Dad? How do you feel about water? Have you ever touched ice? Which are the differences between water and ice? Which is the tool we can use to keep water in the refrigerator?

Development

2- Exploring water as a liquid falling from one container to another. Noticing that it always changes its form. Noticing how it always adapts on new containers.

3- Let's make ice!! Where can we find ice? In the refrigerator. So, we'll make some very funny ices with fruits.

4- We place children in a four- or five-members team. We have an apple, a banana, and some strawberries. First of all, we'll clean our hands. With the help of some adults (parents, support teachers, teachers in practice, etc.) we'll cut all these fruits in very small pieces. Children must place each little piece in a dish (one dish for every fruit). We'll classify by kind of fruit.

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5- Do you know the name of the utensil from which Mummy or Dad takes the ice cubes at home? Yes, it's an ice bucket! Like these 3 you have over your tables!
6- Now, we'll start making fruity ice cubes! Children must put a small piece of fruit on each empty cube. We'll put the same fruit in each ice bucket and thus have 3 types of ice.
7- When all the ice buckets are full of fruits, we'll go to the kitchen (school or at home)
8- There we'll take some water and carefully, we'll introduce the cubes. Children must observe how water adapts its form on the cubes. It's liquid.
9- Then, adults, we'll introduce the ice buckets at the freeze.

Closing
10- Explaining the activity: It's time to summarize the experience. Tell me what have we done? Which problems have I found? What do you think will happen? When can we check what happened?
11- Tomorrow, we'll check it, refresh our water and eat small pieces of fruit.

7 Expected learning outcomes

The child will be able to:

- Recognize liquid and solid characteristics
- Make a relation between water and ice
- Explain the processes

8 Assessment

1st aim. Differentiate liquid and solid

- Does he/she recognize the characteristics of liquids?
- Does he/she recognize the characteristics of solids?

2nd aim. Convert water in ice

- Can he/she explain or draw that ice comes from water?

3rd aim. Making fruit ices

- Does he/she get hand control?
- Does he/she make a good classification by kind of fruit? (One criteria)

9 Equipment and materials to be used in learning unit (tools, ingredients etc)

STEPS

1. Dialogue at classroom/home. Digital Blackboard
2. Different kinds of containers to put water on it. Water (liquid)
3. Dialogue

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	4. 3 kinds of fruits: apple, banana, strawberry (you can choose any other fruits). A knife to be used by an adult. 3 dishes for each group. 5. 3 ice buckets for each group. 6. Going to the kitchen 7. Water to fill in the ice buckets. 8. Adult help: support teachers, teachers in practice, parents, etc… 9. The freeze
10	**Kind of setting - lab, kitchen, outdoor etc.** 1. Classroom- making anticipations 2. Classroom / home /kitchen- to cut fruits 3. Outdoor – kitchen to introduce water and to leave it in the freezer 4. Classroom / home. To do the final reflection
11	**References - source:** https://totnens.cat/4-activitats-amb-gel-per-fer-a-casa/ https://www.recetin.com/ca/trucos-de-cocina-como-hacer-cubitos-de-hielo-con-fruta.html

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