Mealtime: Making Ice Cream

DAILY ROUTINE EXPLORATIONS WITH YOUR YOUNG CHILD

Every child is different, and these are only suggested adaptations and activities. Do what works best for encouraging your child's independent exploration during this daily routine. Consult your pediatrician, physical therapist (PT), and/or occupational therapist (OT) first.

Did you know cooking is a great opportunity to support STEM learning? You can talk about STEM ideas and use STEM words as you prep and cook for mealtimes.

Children can learn about computational thinking concepts, like following a sequence of steps in a particular order, chemistry and mathematical concepts, like measuring & mixing ingredients, and physics like when a solid to changes to a liquid when melted!

Children learn new things when they practice them in everyday routines. Try one or two of the following activities. With a little bit of practice, cooking activities can become a natural place to talk and learn about STEM. Use these ideas to set up the environment and materials to best suit your child's needs

ACCESS/ENVIRONMENT
WHAT CAN I DO TO SUPPORT MY CHILD'S LEARNING?

- If possible, limit background noise and distractions so your child can be more engaged in the cooking activity
- Place materials within reach in a contained space for easier access
- Place an anti-slip/stabilizing mat below the plates/bowls so they do not move
- Using adjustable height table or adjustable chair if your child needs sit down or rest frequently

Follow your child's lead and interests. Enthusiastically ask your child questions about what they are doing and what they like.

Answer your child's questions. If you do not know the answer, work together with your child to discover the answer.

Encourage your child to participate in the activity as much as possible. Praise your child's efforts and successes.

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Adaptations

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MATERIALS
WHAT CAN I DO TO SUPPORT MY CHILD'S LEARNING?

- Have child's assistive technology ready and available, including augmentative & alternative communication (AAC) device and/or power wheelchair
- For easier grasping, adapt the utensils by building up the handles or creating grip straps using household items (e.g., masking tape, pool noodles)
- Use a container (and Velcro if needed) instead of bags
- Use mittens/towels to hold bags if child is sensitive to temperature
- Use an alternative "banana based" recipe (blended or mushed up frozen bananas) for children who may only have thickened liquids by mouth **(in consultation with feeding therapist or SLP)**

INTERACTIONS/INSTRUCTION
WHAT CAN I DO TO SUPPORT MY CHILD'S LEARNING?

***Note:* Communication may include the use of words, signs, gestures, and different types of cues (e.g., touch, object, movement, visual, etc.)**

- Provide hand-over-hand support to help your child explore ingredients and utensils better
- Narrate/sign your child's actions as they interact and experiment with the utensils and ingredients ("*Oh, you're scooping with the tablespoon*!")
- Adjust the number of steps as needed.
- Use a variety of methods of communication (e.g., sign language, gestures) to meaningfully engage your child
- Use pictures and/or icons to signal next steps and/or each step of the sequence
- Communicate with your child at eye level
- Speak/sign slowly, emphasize keywords, and wait for a response
- Praise your child's efforts (e.g., to try new foods) with words, facial expression, or body language

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INNOVATION FOR INCLUSION IN EARLY EDUCATION

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VISUAL CUES: FIRST/THEN BOARD
USE TO SIGNAL NEXT STEPS

First	Then

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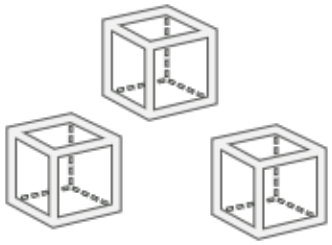
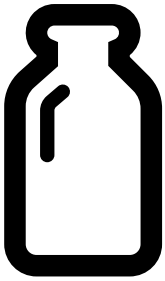
VISUAL CUES: USE TO PROMPT

Pick up small bag

Add vanilla to bag

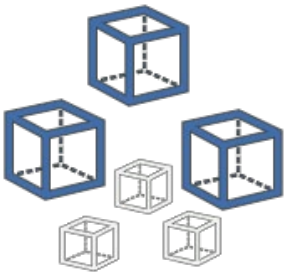


Add sugar



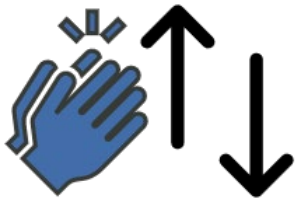
Add half & half

Pick up large bag



Add ice and salt

Add small bagg



Shake

Follow your child's lead and interests. Enthusiastically ask your child questions about what they are doing and what they like.

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VISUAL CUE
USE TO SIGNAL NEXT STEPS

MATERIALS

- 1 small plastic bag or container
- 1 large plastic bag or container
- ½ cup or course salt or rock salt
- Ice cubes
- ½ teaspoon of vanilla extract
- 1 cup of half & half (or non-dairy substitute such as almond milk, coconut milk, or oat milk)
- 2 tablespoons of sugar

DIRECTIONS

1. Place the vanilla extract, sugar, and half & half (or non-dairy substitute) in the small plastic bag and seal tightly.
2. Put the ice and salt in the large plastic bag.
3. Place the small plastic bag inside the large plastic bag and seal tightly.
4. Then shake, shake, shake! Within 5-10 minutes, the ice cream mixture should harden to the consistency of soft serve and be ready to eat.
5. Enjoy!

Follow your child's lead and interests. Enthusiastically ask your child questions about what they are doing and what they like.

Answer your child's questions. If you do not know the answer, work together with your child to discover the answer.

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Exploration 1

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Hand Washer

Description: Help your child recognize that there are ***steps in daily routines***. Encourage your child to ***follow the steps. "First,*** *handwashing,* ***then*** *making ice cream."* Use cues to help your child ***follow the steps*** if needed.

What My Child Is Learning!

Children learn best by interacting with people and objects. Introduce STEM words, ask questions, and encourage them to recognize patterns in their daily routines. Help your child make a connection between words and real-life experiences and develop fundamental critical thinking and problem-solving skills.

Talk about the importance of following steps, a type of ***sequence.*** *"By washing our hands* ***first,*** *we will know the food we make is safe to eat.."* Ask, *"What do you think will happen if we miss a step?"*

Ask *"****What should we do first? Next? Then what? Last?"*** It might be fun to do one step out of order (e.g., dry your hands before you turn on the water) and see if your child notices. Having pictures to show each step (turn on water, run hands under water, get soap, lather soap, rinse hands, turn off water, get towel and dry hands) can also be really helpful.

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Exploration II

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Volume Measurer

Description: Help your child recognize ***volume*** by ***measuring and/or counting how much*** of each ingredient is needed to ***fill*** a measuring cup. While following the steps of the ice cream recipe, encourage your child to ***measure out and count*** ingredients needed for making ice cream.

What My Child Is Learning!

Children learn best by interacting with people and objects. Introduce STEM words, ask questions, and encourage them to recognize patterns in their daily routines. Help your child make a connection between words and real-life experiences and develop fundamental critical thinking and problem-solving skills, as well as math skills.

Talk about the importance of accurate ***measurements*** of ingredients using measuring cups and spoons. "*Accurate measurements of vanilla extract, sugar, and half & half help achieve the correct consistency and flavor of the ice cream.* ***Too much or too little*** *of each ingredient can change the look and taste of the ice cream.*"

Ask, "***How many*** *tablespoons of half & half do you think will* ***fill*** *a cup? (16 tablespoons = 1 cup)*"

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Exploration III

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Matter Mixer

Description: Help your child understand that ***states of matter can change***. After adding ingredients to the small and big bags, encourage your child to shake up the ingredients while observing the ***change*** of the ingredients freezing and turning into ice cream.

What My Child Is Learning!

Children learn best by interacting with people and objects. Introduce STEM words, ask questions, and encourage them to explore various ingredients. Help your child make a connection between words and real-life experiences and develop fundamental critical thinking and problem-solving skills.

Talk about how ***states of matter can change***. *"The salt in the ice lowers the temperature of the ice and creates a super cold environment around the smaller bag, causing the cream mixture to lose heat rapidly. As the mixture loses heat, it begins to freeze and turn into ice cream. The constant shaking of the bags prevents large ice crystals from forming, resulting in ice cream."*

As you child shakes and observes the ice taking form, ask:

- *What do you think will happen when we shake this all up?*
- *If our ice cream gets runny, what can we do to make it more solid?*
- *What are some other materials that melt and/or freeze?*

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Exploration IV

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Recipe Follower

Description: Help your child recognize that there are ***steps in daily routines***. Encourage your child to ***follow the steps of the recipe.*** Use the recipe cues to help your child ***follow the steps.***

What My Child Is Learning!

Children learn best by interacting with people and objects. Introduce STEM words, ask questions, and encourage them to explore various ingredients. Help your child make a connection between words and real-life experiences and develop fundamental critical thinking and problem-solving skills.

Talk about the importance of following a recipe, a type of sequence. *"By following this homemade ice cream recipe and completing each **step in order**, we can make sure are successful in making ice cream."* Ask, *"What do you think will happen if we miss a step?" "What do you think the ice cream taste like?"*

MATERIALS

- 1 small plastic bag or container
- 1 large plastic bag or container
- ½ cup or course salt or rock salt
- Ice cubes
- ½ teaspoon of vanilla extract
- 1 cup of half & half (or non-dairy substitute such as almond milk, coconut milk, or oat milk)
- 2 tablespoons of sugar

DIRECTIONS

1. Place the vanilla extract, sugar, and half & half (or non-dairy substitute) in the small plastic bag and seal tightly.
2. Put the ice and salt in the large plastic bag.
3. Place the small plastic bag inside the large plastic bag and seal tightly.
4. Then shake, shake, shake! Within 5-10 minutes, the ice cream mixture should harden to the consistency of soft serve and be ready to eat.
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Additional Activity Ideas

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- Build a catapult together with the measuring spoons and any left-over ice cubes. Challenge your child to build a catapult out of different materials with the goal of sending the ice further.
- Put some of the freshly made ice cream on a cone and have your child run to a tree and back. Challenge your child to keep the scoop balanced but run fast enough to keep the scoop from melting.
- Check out these books about ice cream:
  - *The Ice Cream Vanishes* by Julia Sarcone-Roach
  - *Ice Cream Man: How Augustus Jackson Made a Sweet Treat Better* by Glenda Armand & Kim Freeman
  - *From Milk to Ice Cream* by Stacy Taus-Bolstad

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The contents of this resource were developed under a Cooperative Agreement between the U.S. Department of Education, Office of Special Education Programs (OSEP) and the University of North Carolina at Chapel Hill. #H327G180006. These contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government.