COACH ART connect | starlight children's foundation

In partnership with

Baking Part 2 of 2

ages 11-18

Captain Starlight, here!

I just landed on Earth with some exciting news:

Starlight Children's Foundation has partnered with the organization **CoachArt** to work together to add fun STEAM (Science, Technology, Engineering, Art, Math) lessons into all the activities! How cool is that?!

Over the next few weeks, I will lead you and your student through four action-packed lessons using these nifty curriculum guides!

Did you know kids learn best when they are having fun? That's why I have thoughtfully sprinkled in a **STEAM** learning moment into each exciting lesson. Make sure you highlight those as you work your way through this curriculum guide.

If you have any questions throughout your mission, check out the Coach Corner website or email ***match@coachart.org.***

Now, buckle up and get ready to blast off in *3...2...1!*

Fun With Food: Lesson 5

Bring the chill with a frozen snack

What you need:

- 6 paper cups
- 1 cup of yogurt
- 2 cups cut-up fresh fruit such as blueberries, bananas, cherries, grapes, papaya, peaches, oranges, or raspberries
- 1 tablespoon honey
- OPTIONAL - ice pop molds

What to do:

1. Wash and dry hands. Place all ingredients in blender. Cover and blend until smooth.

2. Divide mixture among six 5-ounce paper cups. Cover cups with foil; insert craft stick into center of each pop. (Or fill ice pop molds according to manufacturer's directions.) Freeze about 6 hours or until frozen.

Fruit tip!

You can puree naturally-sweetened fruit with lemon or lime for some acidity to reduce the overly icy texture. Fruit juice such as orange, lemon, guava, grape, or apple makes the most reliable pops that melt more slowly. A combination of fruit puree and juice results in a nice variety of flavors. To add texture and visual appeal, you can finely chop fruit like watermelon, strawberry, mango, pineapple, or kiwi and add these small chunks to the mixture that you already blended.

DID YOU KNOW?

Space is c-c-cold!

The "cosmic background temperature" in outer space is minus 455 degrees Fahrenheit. How cold is that? In 1983, the temperature in Vostok, Antarctica was minus 128.6 Fahrenheit -- the coldest ever recorded on Earth. Space is more than 3 times colder!

Bean Nice: Lesson 6

Flourless Black Bean Brownie

- Skill Level: Moderate
- STEAM: Science, Math
- Serving Size: 12 Brownies
- Adult Helper Required: As needed.

Prep Time: 10 minutes / Baking Time: 25 minutes / Lesson Length: 10 minutes

These brownies have no flour. Flour is one of the key ingredients in baking, but did you know it is not always needed? Remember, baking involves chemistry, and creating the right formula can produce results with textures and tastes similar to baked treats that have flour.

Ingredients:

- 1 15-ounce can of black beans
- 1/2 cup maple syrup (honey works too!)
- 3 eggs (for a more cake-like consistency, add a fourth egg)
- 2 tablespoons coconut oil, melted & cooled
- 1 teaspoon vanilla extract
- 1 tablespoon brewed coffee, optional (enhances the chocolate flavor)
- 1/2 cup high-quality unsweetened cocoa or cacao powder
- 1 teaspoon baking powder
- 1/4 teaspoon salt
- 1/3 cup dark chocolate chips, plus 2 tablespoons for sprinkling on top.

Tools:

- Colander
- Food processor (a high-power blender will work too!)
- Measuring cup
- Measuring spoons
- Muffin tin (spray with nonstick spray or line with baking liners)
- Serving plate
- Small bowl

What to do:

Adult helper:

- Preheat oven to 350 degrees
- Wash and dry hands.

Note: When baking it is always best to pre-measure your ingredients, and let your refrigerated ingredients (eggs, milk etc.) reach room temperature, so all ingredients have similar temperatures when added. Remember, baking involves chemistry!

1. Line muffin tin with baking liners and spray the inside of each with nonstick cooking spray.
2. Crack 1 egg into a separate bowl, check for shells, then add the egg to the food processor.
3. Carefully open the can of black beans and remove the lid. Place the colander in a clean sink and pour in the black beans to drain, then rinse the beans (this helps to remove any metallic taste from the can as well as any excess starch and salt).
4. Using the mixing blade, process until well-blended. Adult helper assistance may be needed.
5. Crack the other 2 eggs into a separate bowl, check for shells, then add to food processor.
6. Using the measuring cup, measure the maple syrup, vanilla, and coffee and place them in the food processor.
7. Measure, melt, and cool the coconut oil; add it to the food processor; process until smooth.
8. Measure the cocoa powder, baking powder, and salt and add them to the food processor; process until smooth.
9. Remove the food processor bowl and carefully remove the mixing blade. This is your batter.
10. Measure and fold 1/3 cup of chocolate chips into the batter.
11. Place the muffin pan in your work area and divide the batter evenly among the muffin cups.
12. Sprinkle the remaining 2 tablespoons of chocolate chips evenly on top of each brownie.
13. Bake in a preheated oven at 350 degrees for 25 minutes or until you can insert a toothpick into the middle and it comes out clean. Adult helper assistance may be needed.
14. Let the brownies cool in the pan for 10 minutes, then transfer them to a wire rack or flat surface to cool completely.
15. Eat and enjoy!
16. The leftover brownies can stay at room temperature for 24 hours. After that, transfer them to an airtight container and place it in the refrigerator.

Coaches Notes – To flour, or not to flour?

Baking Term of the Week:
Divide(d): Refers to the total amount of an ingredient needed for a recipe, while also indicating that it will not be used all at once.

Lesson: What's all the fuss about gluten?
Gluten is a protein mainly found in wheat. Some people are allergic to it. Fortunately, wheat flour is not the only flour that yummy baked treats can be made from. Flour can also be made from nuts, like almonds and other grains like corn and oats.

STEAM Science Word of the Week:
Gluten: A protein complex made of two main parts -- a glutenin protein and a gliadin protein.

Muffvelous: Lesson 7

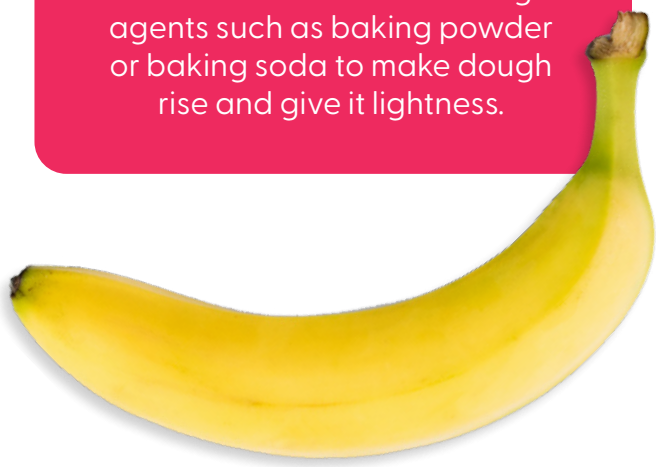
Banana Oat Muffins

- Skill Level: Beginner
- STEAM: Science, Math
- Serving Size: 12 Muffins
- Adult Helper Required: As needed.

Prep Time: 5 minutes / Baking Time: 15 minutes / Lesson Length: 10 minutes

Baking Science

Several chemical reactions happen during the baking of cakes, muffins, and breads. Quick breads use leavening agents such as baking powder or baking soda to make dough rise and give it lightness.



Ingredients:

- 2 cups oats (old fashioned or quick cooking)
- 2 large very ripe bananas (you can ripen bananas by placing them on a baking tray in a 300 degree oven until they turn black)
- 2 large eggs
- 1 cup plain nonfat Greek yogurt
- 2 tablespoons honey
- 1-1/2 teaspoons baking powder
- 2 teaspoon baking soda
- 1/2 teaspoon pure vanilla extract
- 1/8 teaspoon kosher salt
- Optional: 1/2 cup of add-ins such as chocolate chips mini or regular, chopped dark chocolate, nuts, dried cranberries, or blueberries (fresh or frozen and rinsed)
- Baker's note: if using blueberries, toss them in flour first, to prevent them from sinking.

Tools:

- Blender (a food processor with a steel blade works too!)
- Measuring cup
- Measuring spoons
- Muffin pan (spray with nonstick spray or line with baking liners)
- Serving plate
- Small bowl

SHARE YOUR EXPERIENCE
Enjoy your time together, and email your photos & stories to photos@coachart.org at "original" (maximum) size.

What to do:

Adult helper:

- Preheat the oven to 400 degrees
- Wash and dry hands.

Note: When baking it is always best to pre-measure your ingredients, and let your refrigerated ingredients (eggs, milk etc.) reach room temperature, so all ingredients have similar temperatures when added. Remember, baking involves chemistry!

1. Line a muffin tin with baking liners and spray the inside of each liner with nonstick cooking spray.
2. Peel 2 bananas and place in the blender.
3. Using the measuring cup, measure the oats and place them in the blender.
4. Crack 2 eggs into a separate bowl, check for shells, then place them in blender.
5. Using the measuring cup, measure the Greek yogurt and place it in the blender.
6. Measure the honey and place it in the blender. Pro Tip: First lightly spray the tablespoon with nonstick cooking spray, and the honey will slide off the spoon more easily.
7. Measure the baking soda and baking powder and place them in the blender.
8. Measure the vanilla extract and salt and place them in the blender.
9. Blend on high for 1 minute, then turn off the blender.
10. Carefully remove the blender lid and scrape the inside of the blender to make sure all the ingredients are incorporated.
11. Replace the lid, and blend until the batter is smooth and the oats have been broken down almost completely. This process can take up to 3 minutes. Then turn off the blender.
12. Baker's Note: If you are using a high-powered blender, for example a Vitamix, blend on number 3-4, not 10, as you do not want to cook the batter.
13. If you are adding any of the optional add-ins, use a spatula to carefully stir those in.
14. Baker's Note: If the batter is warm from the appliance's motor, add-ins such as chocolate chips may melt and swirl as they are stirred. If you prefer the chocolate chips to remain whole (unmelted), then let the batter cool for 10 minutes before adding them.
15. Place the muffin pan in the work area, then divide the batter evenly among the muffin cups, filling them only three quarters full.
16. If desired, sprinkle additional add-ins on the muffin tops.
17. Bake in a preheated oven at 400 degrees for 15 minutes or until you can insert a toothpick into the middle and it comes out clean. Adult helper assistance may be needed.
18. Let the muffins cool in the pan for 10 minutes, then transfer them to a wire rack or flat surface to cool completely.
19. Eat and enjoy!
20. The leftover muffins can stay at room temperature for 2-3 days. If you want them to last longer, line an airtight container with paper towels, put the muffins in, cover, and refrigerate.

Coaches Notes – Rise up!

Baking Term of the Week:
Leavening agent: Ingredient that reacts to produce the gases that inflate your dough and batters.

Lesson: What are quick breads?
Yeast is a leavening agent that makes dough rise, but dough made with yeast rises slowly. Baking powder and baking soda are also leavening agents, and they make dough rise faster. That's why breads made with baking powder and baking soda are called "quick breads." When baking powder is added to a recipe it releases carbon dioxide twice during the baking process: once when it hits the water, and again when it reaches a certain temperature in the oven. The tiny bubbles of carbon dioxide make baked goods light and fluffy.

STEAM Science Word of the Week:
Chemical Leaveners: Chemical compounds such as baking powder and baking soda that react with other ingredients to produce carbon dioxide gas, which helps dough and batter rise as they're heated.

PUT YOUR BRAIN TO THE TEST

Riddle me this!

Use the clues below to see if you can figure out these foodie riddles.
Answers at bottom of page.

1. I'm the name of a big technology company, and delicious pies are made with me. What am I?

2. My name sounds like there might be two of me, and in a Christmas song there is a partridge in my kind of tree. What am I?

3. I am a bird, a fruit, and a person from New Zealand. What am I?

4. I have eyes but I cannot see. What am I?

1. An apple. 2. A pear. 3. A Kiwi. 4. A potato.

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