

Bake a Chocolate Mug Cake!

For this activity, you will bake your own chocolate mug cake. A mug cake is a cake that you can make in the microwave. This worksheet includes the cake recipe and some fun activities to do while you bake.

You should have parental permission and supervision for this activity.

Remember to wash your hands before you begin!

Materials List:

Chocolate Mug Cake Ingredients:

- 1/4 cup flour
- 2 teaspoons cocoa powder
- 1/4 teaspoon baking soda
- 1/8 teaspoon salt
- 2 tablespoons sugar, honey, or maple syrup
- 1/2 tablespoons vegetable oil, melted butter, or melted coconut oil
- 3/4 teaspoon white vinegar or apple cider vinegar
- 1/4 teaspoon vanilla extract
- 1 1/2 to 3 tablespoons water or milk
- Cooking spray



Equipment:

- Microwave
- Microwave safe mug
- Measuring cups and spoons
- Bowl for mixing
- Silverware for mixing and eating



Part 1: Exploring Your Ingredients

As you can see in the recipe, there are a lot of ingredients that go into a cake! What is the purpose of these different ingredients? How do they work together to create a cake? We will explore this idea!

What tastes do you know about?

There are 5 main tastes:

- Sweet
- Savory
- Sour
- Bitter
- Salty

What does a cake taste like?

Which ingredient(s) do you think makes a cake taste like a cake?

Have you ever wondered what each ingredient in the cake tastes like by itself?

Using a clean spoon for each, have a small taste of each ingredient (except the uncooked flour), then mark what each ingredient tastes like. If you think it has multiple flavors, you may check multiple boxes.

Ingredient Name	Tastes				
	Sweet	Salty	Sour	Bitter	Savory
Cocoa Powder					
Baking Soda					
Vinegar					
Vanilla Extract					
Sugar, Honey OR Maple Syrup					
Salt					
Vegetable Oil, Melted Butter OR Coconut Oil					
Water OR Milk					

Now that you have tasted each ingredient, which ingredient do you think gives the cake its flavor?

What purpose might the other ingredients have if they do not add to the flavor of the cake?

Part 2: Making Your Mug Cake

After tasting the ingredients and making your prediction, follow the recipe to make your cake. Once you have made your cake, continue with this worksheet.

Chocolate Mug Cake Recipe:

- 1/4 cup flour
- 2 teaspoons cocoa powder
- 1/4 teaspoon baking soda
- 1/8 teaspoon salt
- 2 tablespoons sugar, honey, or maple syrup
- 1/2 tablespoons vegetable oil, melted butter, or melted coconut oil
- 3/4 teaspoon white vinegar or apple cider vinegar
- 1/4 teaspoon vanilla extract
- 1 1/2 to 3 tablespoons water or milk
- Cooking spray

Instructions:

1. Grease the inside of your mug with cooking spray.
2. Mix together the flour, cocoa powder, baking soda and salt in a bowl. These are the “dry” ingredients.
3. In a separate bowl, mix together the sugar, oil, vinegar, vanilla extract and water. These are the “wet” ingredients.
4. Mix the wet and dry ingredients until just combined.
5. Spoon the batter into the greased mug and then place the mug into the microwave.
6. Microwave at 50% power for 3 minutes or 100% power for 1 minute.
7. Allow mug cake to cool for 1 minute in the microwave.
8. Carefully remove mug from the microwave, it still may be hot!
9. Top the cake with your favorite toppings such as whipped cream, ice cream, or chocolate sauce.
10. Eat and enjoy!

Part 3: Extending Your Knowledge

Some ingredients in baked goods have special purposes. They do not always add to flavor, sometimes they add to the texture, consistency, or volume of a dish. We saw that our cake went from a small amount of batter to a large, fluffy cake in a mug! How did this happen? What ingredients were involved?

What ingredient(s) do you think caused the cake to rise?

Make a prediction!

We added baking soda and vinegar to the cake. Vinegar is considered an acid and baking soda is considered a base. What do you think will happen when you mix vinegar and baking soda together?

Mix a small amount of vinegar with baking soda in a bowl and record what happens. What happened when you mixed the vinegar and baking soda?

Was your prediction correct?

What was your favorite part about making your mug cake?