



SCIENCE FESTIVAL FACILITATOR'S GUIDE

Journey Through the Bloodstream BEFORE THE EVENT

1. Make sure you have the materials you need.

- Plastic table cover and paper towels to wipe up spills
- Clear plastic cups (two per student-adult pair)
- Corn syrup*
- Red food coloring
- White sugar
- Whole wheat flour
- Plastic teaspoons (one per student-adult pair)

NOTE: Do not pour the used oil/water down the drain the oil can clog sewer systems.

2. Quick “insider info” about this experiment:

- Carbohydrates are dissolved into the blood at different rates.
- Sugar and starch are both carbohydrates.
- This experiment will allow students to see that sugar is absorbed much quicker than a starch (flour).
- This helps to explain why we experience a “sugar rush” after eating candy.

3. Prepare your station.

- Cover your table with plastic to protect it from sticky spills.
- Distribute plastic cups and teaspoons for each student-adult pair.
- Place shared sugar, flour, and food coloring where they can be easily shared.

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DURING THE EVENT

Questions to ask participants before they start:

- Have you ever eaten a bunch of sugary food really quickly? How did you feel afterward?
- Any different from when you eat, say, a sandwich on wheat bread? (Younger students might enjoy demonstrating how they feel and act when they eat a lot of sugar!)
- Adults, what do you notice when the kids eat a lot of sugar? Why do you think that is?

Instructions:

Please read each set of instructions out loud. Make sure that you direct the correct person to complete each assigned task.

- **Student:** Fill two plastic cups halfway with corn syrup. (Adults, help as needed.)
- **Adult:** Add two drops of red food coloring to each cup and stir. This will make your “artificial blood.”
- **Student:**
 - Place one spoonful of sugar on top of the “blood” in one cup.
 - Place one spoonful of flour on top of the “blood” in the second cup.
- **Both:** Talk about what you observe.

How It Works:

Carbohydrates are absorbed into the blood at different rates. As you have seen, the sugar is absorbed faster than the flour. The sugar is made of small molecules that dissolve faster than the larger starch molecules in the flour. When we eat sugar, these small molecules pass quickly into our blood. When we eat starches, the larger molecules take longer to pass into our blood.

Vocabulary:

Carbohydrates: One of three main types of nutrients used as energy sources by the body, mainly consisting of sugars and starches.

Real-World Application:

The small size of sugar molecules is the reason you get that “sugar rush” when you eat a lot of sugar quickly. Whole grain foods have larger molecules and are higher in fiber. They are digested more slowly, leaving you feeling full longer. They are not absorbed like pure sugar, so they don’t spike your blood sugar. It is also important to understand how different food affect blood sugar for people who have Type I or II diabetes.

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