Activity #5: The Glycemic Index

Cristina shares with her grandmother the information she has learned about reading nutrition labels and checking the total amount of sugar and fiber per serving. She is excited to help her family learn even more about making smart food choices. Abuela tells her about another tool her nutritionist shared with her—the glycemic index. Cristina wonders how the glycemic index helps her grandmother make smart choices about food.

Activity Overview:

In this activity, students will discover how eating different types of foods impacts their blood sugar by creating a class graph of foods that are categorized as low, medium, or high on the glycemic index scale.

Content Areas:

Life Science and Health Education

Activity Duration:

45 minutes

Objectives

- Use the glycemic index to classify foods as having a low, medium, and high impact on blood sugars
- Explain how the glycemic index can help people make smart choices about the foods they eat

Materials

- Glycemic Index (one for each group)
- Index cards
    - Alternative: 7 different colored sticky notes
- 7 different-colored markers or crayons
- Tape
- 3 sheets chart/poster paper, placed around room and labeled as follows:

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- Low < 55
- Medium 56–69
- High > 70

Procedure:

1. Say, "Cristina wondered if sugar in different types of foods affects the body differently. Today we are going to answer that question."
2. Ask, "Who remembers what happens in our bodies when we eat sugars? What happens when we eat too much sugar? Who remembers what fiber does when we eat it?" Make sure students recall that sugar provides energy and fiber slows down the flow of sugar into the bloodstream. Explain that when we eat too much sugar—or we eat foods that allow the sugar to race into the bloodstream—blood sugars rise quickly. Then, they fall just as quickly, leaving us feeling tired and hungry.
3. Say, "In this activity, you'll be exploring the glycemic index. The glycemic index tells us whether or not a food will make blood sugar spike or enter the bloodstream slowly. On the index, foods are assigned a number related to how fast the sugars you eat hit your bloodstream and make your blood sugar levels rise."
4. Say, "When we looked at foods last time, we looked at food labels. This time we are going to look at foods in a slightly different way. We know that we have to make smart choices about the kinds of foods we eat and how much sugar we consume. Knowing where foods are on the glycemic index can help us make those healthy eating choices."
5. Show the glycemic index scale and ask students, "Which end of the scale do you think we should aim for when choosing foods that will not spike our blood sugar?" Discuss. Help students conclude that we should primarily aim for foods that fall on the low-to-low medium range on the scale.
    - Low < 55
    - Medium 56-69
    - High > 70
6. Divide the class into 7 equal groups. Provide each group with 10 index cards (most groups will not use all of them) and a marker or crayon (each group should have a different-colored marker/crayon). Share the following directions:

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- Each group will receive a sheet of paper with a food category at the top and a list of foods in that category (e.g., dairy products). Each food is considered to be a single, average serving size. The glycemic index value of each food is also listed.
- Work with your team to determine whether each food is low, medium, or high on the glycemic index.
- Write the name of each food and its glycemic index value on index cards (one food per index card).
    - Model for students how to complete this part of the task: For example, if I have glazed donut on my list and it has a glycemic index value of 76, I would write glazed donut on an index card and write 76. Then, I look at the index and figure out how I should categorize that food. A food with a value of 76 is high on the glycemic index. That means the sugar in that food will speed right into my bloodstream and quickly increase my blood sugars.
- Show students the three labeled chart papers, placed around the room: Low, Medium, and High.
- When you're finished with your index cards, tape them to the appropriate posters—Low, Medium, or High—to help display our class data.
    - Model for students how to complete this part of the task: Walk over to the appropriate poster and tape your index card on the High poster.
- You have about 15 minutes to complete this activity.

7. Say, "Now that we have collected our data, let's do a gallery walk to analyze what kinds of foods appear on the Low, Medium, and High parts of the glycemic index." Allow time for students to walk around the room and review the types of foods on each sheet of chart paper.

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8. Regroup students and discuss the following questions as a group:

    1. What do the numbers on the glycemic index mean?
    2. How is the glycemic index helpful when we are trying to make smart choices about the kinds of foods we eat?
    3. If you were planning a healthy meal, what are some foods you might choose based on what you learned today? What are some foods you want to eat less often?

Starches

FOOD	GLYCEMIC INDEX
Bagel, white	72
White bread	75
Whole bread	69
Corn tortilla	52
Macaroni and cheese	64
Spaghetti	46
Black beans	30
Brown rice	50
White rice	72

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Cereal

FOOD	GLYCEMIC INDEX
Waffles, frozen	76
Corn flakes cereal	81
Oatmeal	55
Bran and raisin cereal	61
Bran flakes cereal	69
Oat circle cereal	74

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Beverages

FOOD	GLYCEMIC INDEX
Regular cola	63
Orange flavored soft drink	68
Apple juice, unsweetened	41
Cranberry juice cocktail	68
Orange flavored sports drink	89
Orange juice, unsweetened	50
Tomato juice, canned, no sugar added	38

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Dairy Products

FOOD	GLYCEMIC INDEX
Ice cream, regular	62
Milk, full-fat	31
Custard	43
Milk, skim	31
Chocolate milk	35
Reduced-fat yogurt with fruit	33

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Fruits

FOOD	GLYCEMIC INDEX
Apple	36
Banana	48
Grapefruit	25
Oranges	45
Peach	42
Peach, canned in light syrup	52
Pear	38
Pear, canned in pear juice	44
Raisins	64
Watermelon	72

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Snack Foods

FOOD	GLYCEMIC INDEX
Rolled fruit snack	99
Chocolate covered peanuts	33
Microwave popcorn, plain	65
Potato chips, average	56
Pretzels, oven-baked	83
Candy bar with nuts and chocolate	51
Graham crackers	74
Vanilla wafers	77

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods

Vegetables

FOOD	GLYCEMIC INDEX
Green peas	54
Sweet corn on the cob	48
Carrots	39
Baked russet potato	111
Boiled white potato	82
Instant mashed potato	87
Sweet potato	70
Yam	54

Source: Harvard School of Public Health, 2017. Retrieved from http://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods