



STEM Day Lesson Plan

Title: Your Brain on Sugar

Subject Area: Science and Nutrition

Learning Activity Description: Lesson will cover definition and description of sugar, where it is found, the different types of sugar, and how sugars are digested in the body. Instructor will describe added sugars and explain what happens in the body when too much sugar is consumed. After lecture portion, students will break in to five (5) groups. Each group will receive a handout with a variety of foods listed as their “meal”. The nutrition label for each food will also be included. Students will work together to determine how much sugar is in their “meal” and physical measure out the sugar (using actual sugar and measuring spoons). Next, as a class, students will add the sugar totals from each meal together to see how much sugar would have been consumed in one day. The instructor will use a graph on the board to compare this amount to the recommended daily amount of sugar. The next part of the discussion will highlight how this sugar affects our brains. Finally, the class will discuss ways to cut back on sugar in and out of school. Using the chart from the board, students will identify food swaps to reduce the sugar from the meals measured. Students will taste zucchini brownies to show concrete example of swapping.

Lesson Activity Objective: *After this lesson, students will be able to:*

- Identify different types of sugar found within food;
- Determine how much sugar is in different foods by reading nutrition labels;
- Analyze total sugar consumed in one day compared to daily recommendations, and;
- Identify potential food swapping options for a variety of high sugar foods.

Lesson Activity Outcomes:

- Students will be able to describe the difference between added sugars and natural sugars.
- Students will be able to determine how much sugar is in different foods by reading nutrition facts labels.
- Students will be able to make healthier food choices by choosing foods that contain less sugar.

Materials/Supplies Listed: Sugar, bowls, measuring spoons, portion control Ziploc baggies, scrap paper, white board or large paper, and markers.

Teacher Procedures: Teacher will introduce sugar, the different types and how sugars are digested. Teacher will assist students in determining and measuring amount of sugar in the meals they are assigned. Teacher will demonstrate the first sugar measurement. Each group will use their own worksheet with “meal” on it to measure out sugar at their table. After

measurement are complete, about 10 minutes, teacher will move from group to group to get totals sugars. Each group total will be visually added to a graph at the front of the room. Teacher will discuss the impact of sugar on the brain and facilitate a discussion on how to reduce the amount of sugar eaten. After discussion of food swapping, teacher will provide a taste test of zucchini brownies and solicit student feedback on taste and if they noticed flavor changes.

Preparation Time for Learning Activity: 30 minutes

Room set-up: Room with projector for presentation, white board or large paper with markers, 5 tables or groupings for students. Each table should have a bowl of sugar, a baggie, measuring spoons, and scrap paper.

Group Strategies (example, group size, expected time for groups, etc.): Five (5) groups of 5-7 students. Groups will have about 10 minutes to work together.

Student Products/Artifacts/work pages: Worksheet comparing regular brownies to the zucchini brownies used in taste test.

Assessment Criteria/Rubric: None

Closing/Transition to next activity: Students will discuss ways in which they can reduce the amount of sugar they consume throughout the day and in their school.