

2nd GRADE

FAST FOOD NUTRITION

Summary: Students take an imaginary field trip to a fast food restaurant. They place their imaginary order and then calculate the salt, sugar, and fat content in the meal they ordered. Daily recommended amounts of salt, sugar, and fat are explained and their meals compared to these recommendations. Students measure the amounts of salt, sugar, and fat in their meals and present them to their class. Students compare the difference between a 'healthy' and 'unhealthy' meal they can eat at McDonald's, Arby's, Subway, Wendy's, or Little Caesar's.

Intended Learning Outcomes for 2nd Grade:

Objective 1: Framing questions. Conducting investigations. Collecting data. Drawing conclusions.

Objective 2: Developing social interaction skills with peers. Sharing ideas with peers. Connecting ideas with reasons.

Objective 3: Ideas are supported by reasons. Communication of ideas in science is important for helping to check the reasons for ideas.

Preparation time: 30 min

Lesson time: 45 min

Small group size: works best with one adult for every 5 students

Materials:

1. make packets for each fast food restaurant group that contain an instruction page, the nutrition facts pages, a sample calculation page, and a blank calculation page ** Note that for Little Caesar's you need to add the Sierra Mist and Mugs Root Beer nutrition fact sheets.
2. containers of sugar and salt for each group
3. three Ziploc bags per group with a sharpie
4. one stick of Crisco for every 5 groups of students, plastic knife
5. measuring spoons for each group
6. one calculator per group

Preparation: It is helpful to use a yellow highlighter to mark down the columns of sugar, sodium, and fat on the nutrition tables. Then also mark across the rows for the food choices the students are to choose from. When the students are reading the table they can use the highlighted columns and rows to make it easier for them to read the values.

Background information:

The amount of sugar, fat, and sodium or salt eaten every day affects a child's health. Many students eat at fast food restaurants and make either

'healthy' or 'unhealthy' food choices there. This lesson provides the students with some knowledge about how much salt, sugar, and fat they need a day and also about how much is too much.

Children need about 1200 – 1500 milligrams of sodium a day. Sodium is needed to maintain the water balance in our cells. It is also used in muscle contractions and nerve impulses. But more than about 2300 mg of sodium a day can lead to high blood pressure. Most foods naturally have salt present and if table salt is added in addition that increases the salt intake. Many foods at fast food restaurants are processed foods that contain a high amount of sodium. As students calculate the salt in their chosen meals during the lesson they should be aware of the high content of salt in most fast food meals.

Poor Choices



Table salt, seasoning salt, garlic salt, bottled barbecue sauce, steak sauce, soy sauce



Fast food, frozen dinners, take-out, many restaurant foods



Potato chips, salted crackers, corn chips, pretzels, popcorn

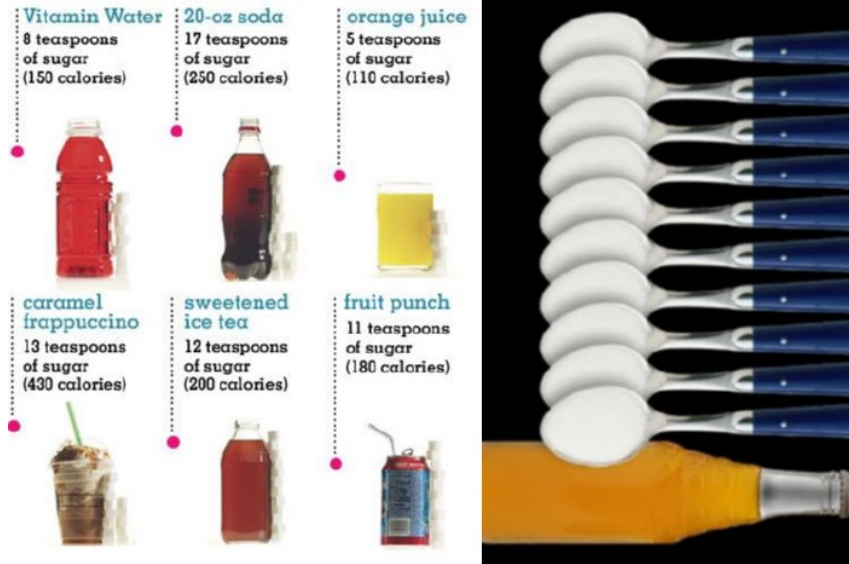


Cold cuts/deli meats, ham, bacon, sausage, hot dogs, bologna, regular corned beef, pastrami



Pickles, pickle relish, sauerkraut, olives

Children need about 135 – 195 grams of carbohydrates a day. Carbohydrates are the body's most important source of energy. Carbohydrates consist of simple sugars such as fructose in fruits, lactose in milk, and refined sugar that we add to foods. Complex carbohydrates contain starchy vegetables, and whole grains. Children should only get about 30 grams of their carbohydrates from the simple sugar category. The rest of their carbohydrates should come from whole grains and vegetables. The simple sugar in many fast food meals comes from refined sugars in drinking soda or putting sauces on the food. This lab demonstrates for students how much sugar is in soda and what a large contribution that sugar is to the amount of sugar consumed each day. For milk, it is important to show the students the difference between chocolate milk and low fat milk. The natural sugar in milk is lactose and it is a healthier sugar than the sugar that is added to make chocolate or strawberry milk.



Children need about 50 grams of fat a day. In children, fat is essential to the development of the brain and nervous system. Fats are also an important energy source. There are many types of fats. Saturated fats are fats that are solid at room temperature. Saturated fats are butter, cheese, lard and fatty meats. These fats should be limited in the 50 grams of fat a day a child eats but are a big contributor to the total fat from fast food restaurants. Unsaturated fats store less energy per molecule, which makes them a healthier fat to ingest. Examples of unsaturated fats are vegetable oils, nuts, and avocado. Fast food restaurants are getting better at using more unsaturated fats than saturated fats but it is still a problem. This lab demonstrates for students the amount of fat in fried foods and hamburgers.



Children who are generally active every day have less of a concern with meeting the maximums for sugar and fats. They will burn the energy they take in. However, students who are not active will not be able to use up all the sugar and fat consumed in a day and this excess is turned into fat in their bodies. Obesity in children has increased to nearly 20% in the United States. Having students measure out 45 grams of sugar found in one soda helps them visualize what they are drinking when they get a cup of soda at a fast food restaurant.

Showing them healthy choices in ordering gives them tools to make healthier decisions.

Pre-lab discussion: Ask students what a fast food restaurant is and list some examples. Tell the students they are going on an imaginary field trip to a fast food restaurant. They will order a meal and calculate the total salt, sugar, and fat in their meal. Ask students if they need salt, sugar, and fat everyday. Explain that they do but in moderation. Explain the daily-recommended amounts of salt, sugar, and fat and why we shouldn't go over those recommendations.

Instructional procedure: Since these calculations involve math use calculators and older volunteers to help the students with the calculations.

1. Students will be divided into groups and choose a meal they would eat at either McDonald's, Subway, Wendy's, Arby's, or Little Caesar's Pizza. Students will pick from selections at McDonald's, Arby's, and Little Caesar's Pizza that are 'unhealthy'. Students in the Wendy's and Subway groups will chose from selections that are 'healthier'.
2. Students will read nutrition fact tables for the meal they would eat and write down the gram amount of salt, sugar, and fat in their meal on the calculation sheet. (For salt, students will write down the sodium value.)
3. Add up the total salt, sugar, and fat in their meal. These values are then calculated into teaspoon or tablespoon values through the calculations found on the calculation sheet.
4. Students will measure out the total fat, salt, and sugar in their meal and place that amount into a Ziploc bag. For the fat, use the tablespoon markings on the stick of Crisco to make the transferring of it easier to the Ziploc bag. On the Ziploc bag write the amount of salt, sugar, or fat in grams (or milligrams for salt) that was in their meal.
5. Each group will present their findings to the class. Within the group have students: list what restaurant they went to and what they ordered, present their salt bag and the amount of sodium in their meal, present their sugar bag and the amount of sugar in their meal, and present their fat bag, the amount of fat in their meal, and give an overall healthy or unhealthy rating.
6. At the end of the presentations, give thumbs up to the lowest salt meal, lowest sugar meal, and lowest fat meal. Give thumbs down to the highest salt meal, highest sugar meal, and highest fat meal. Decide which was overall the best and worst meal chosen.