Katy Szalay: Assignment #13 - B July 16, 2017

I teach third grade health. My curriculum, CATCH, focuses a lot on processed foods as well as hidden fats sugars. I would like to implement information from chapters 1-3 of The Happiness Diet in my teaching, as there is a lot of supplemental, beneficial information my students could gain.

Building Background Knowledge (BBK):

1. Review with my students what they know about their brains—neurons, synapses, neurotransmitters, and it is our body’s command center.
2. Introduce new information
* Your brain accounts for 2% of your body’s weight.
* It burns 20% of your body’s fuel.
* It is made out of the food we eat.
1. Introduce facts about the history of the MAD diet (chapter 2 of The Happiness Diet); primarily focusing on sugar consumption (pages 19-22). Make sure to share how sugar consumption per year has drastically changed over 300 years.
2. Explain that sugar is the biggest change to the human diet since the invention of fire. And, it is the driving force behind the obesity epidemic, depression, heart disease, strokes, diabetes, and dementia.
3. Inform students that eating too much sugar can shrink their hippocampus and amygdala in their brains (show them an image of where these are on a brain). Explain that these are the regions that regulate mood, memory, anxiety, and cognition.
4. Tell students that our bodies like sugar so much because it thinks it’s getting a safe form of energy. And, our brains cannot always recognize that we’ve had enough, so we keep eating more because it makes us feel happy. However, we can control how much sugar we put in our bodies.
5. Tell students that they will be learning more about hidden sugars in beverages today. During our last meeting, we watched a video with our CATCH super heroes shopping for beverages in the grocery store. Today and tomorrow, we will further investigate how much sugar is actually in the beverages by conducting an experiment.

Learning Targets

Students will be able to:

* Compare the sugar content in a variety of drinks
* Use graphs to display data based on their experimental results
* Read and interpret a nutritional facts label to determine sugar content in beverages
* Calculate sugar amounts based on quantities and serving sizes
* Draw conclusions about how to evaluate whether or not foods and drinks are healthy
* Understand that it is important to make healthy food choices

Teacher Resources:

CATCH Grade 3 Curriculum (http://catchinfo.org/resources/)

*The Happiness Diet: A Nutritional Prescription for a Sharp Brain, Balanced Mood, and Lean, Energized Body* by Tyler Graham and Drew Ramsey, MD

How Much Sugar Is in Your Drink? (Slideshow) <http://fit.webmd.com/kids/food/slideshow/slideshow-sugardetective?ecd=cpl_dsc_lnk_1890_vid6>

Student Materials (for each group):

 1 spoon 1 double pan balance

6 labeled clear cups 1 small (school-size) carton of unflavored milk

1 small (school-size) carton of chocolate or strawberry milk

1 20 ounce bottle of water 1 20 ounce bottle of soda

1 juice drink box 5 cups of sugar (placed in a container)

Chart paper Science notebooks, one per student

Lesson:

Engagement/Hook:

 1. Show the students a bottle of water. Tell them that you drink this every day. Use slide 4 of the Sugar Detective PowerPoint. Explain that water is one of your favorite beverages. Have students brainstorm their favorite beverages/drinks. Record the list of favorites on the Interactive White Board. The list of favorites can be recorded slide 5.

 2. Next, pull out a bag of sugar and asks student what the sugar might have to do with drinks. Then show them slide 6 of the PowerPoint.

3. Explain that many drinks have a lot of sugar in them.

4. Organize students into small groups and pass classroom Chrome Books. Have each group of students log-in and visit the slide show using the web address/link. They will then view the “How Much Sugar is in Your Drink?” slideshow.

 5. As students view each screen, groups should list the types of drinks that are mentioned (soda, fruit punch, juice, smoothie, sports drink, juice box, chocolate milk, energy drink, water).

 6. When they are done viewing the slideshow, have each group try to put the drinks in order from the lowest to the highest amount of sugar.

7. Invite a student representative from each group to share the order they came up with. Discuss the similarities and differences among students’ answers. Using the Interactive White Board and Slide 9 of the PowerPoint, you can record their guesses.

8. Ask students, “What are the effects of too much sugar?” As students share their answers, create a list on the Interactive White Board. Use Slide 10 of the PowerPoint to record their answers. Use information learned from chapters 1-3 of The Happiness Diet.

9. Using slide 11, ensure that students understand that eating and drinking too much sugar can lead to cavities, obesity, and diseases.

10. Explain that students are going to conduct an experiment to determine how much sugar is found in a variety of drinks. Explain that choosing healthy drinks is an essential part of a healthy lifestyle.

Explore & Explain:

1. Keep students in their groups.

2. Hand out the materials to each group. Demonstrate to students how to use the balance you provided for them.

3. Show students how to read and interpret a Nutrition Facts Label. The U.S. Food and Drug Administration’s website “How to Understanding and Use the Nutrition Facts Labels” can be used to assist with this. This website is hyperlinked on slide 13 for convenience.

4. Once students know how to read a Nutrition Facts Label, have them work in their groups to determine the amount of sugar in each drink. They should read the label on the box or bottle and calculate how many total grams of sugar are in each drink. In their notebooks, have students record the total mass (grams) of sugar in each drink. An example of a data table is given on slide 15 of the PowerPoint.

 5. So that students are able to visually see how much sugar is in each drink, they will measure out each quantity of sugar into the 6 clear cups that you labeled prior to class. Have students use the balance and labeled cups to measure out the appropriate amount of sugar in each drink. Remind students that the cup they are putting the sugar into has a mass that they must consider when measuring.

6. When the 6 cups are filled with appropriate amounts of sugar, students should place them in order from least to greatest. They should place the bottle or box directly behind the cylinder it represents.

 7. Have students use their data to create a bar graph to display the differing amounts of sugar in the drinks. Use the example on slide 14 of the PowerPoint as needed.

8. After students have completed their graphs, discuss the results from the experiment as a full class. Discuss any differences in the results among the groups and reasons for those differences. Compare students’ findings to the guesses they developed in Step 5 of Engage.

9. Ask students, “Based on this experiment, what conclusions can you draw about which drinks are healthy and which ones aren’t?” Use the Interactive White Board and Slide 15 of the PowerPoint to record student responses.

10. Ask students, “Did anything come to your attention while doing the experiment that might concern you?” (The sugar was based on differing sizes of boxes and bottles.)

11. Using slide 18 of the PowerPoint, ask students to brainstorm and write answers to the following questions:

What information on food labels is important to consider when you’re trying to figure out how much sugar is in a drink?

 How much sugar in a drink is too much? Why?

 17. Discuss students’ answers. Make sure that students understand that they should look at sugar quantity as well as portion size and container size. Explain that among the drinks they tested, water and milk are the healthiest choices because they have the least sugar. (Slide 18)

18. Ask students (individually or in small groups) to develop an action plan based on the information they have learned in class. See slide 26 of the PowerPoint. One option might be to create posters to display around the school illustrating the data from students’ experiments. Posters can also offer tips on how to read food and drink labels. Another option might be to review the drinks that are served in the cafeteria and work with the administration to determine whether it’s necessary and/or possible to introduce healthier options.

Extension:

Students can use one or both of the following Fit Kids resources to learn more about healthy and unhealthy drink options. These resources are hyperlinked on slide 24 of the PowerPoint for convenience.

Fizzy Fruit (Video): http://fit.webmd.com/kids/food/videos/food-videos?vid=vd-1876-kids0010&ecd=cpl\_dsc\_lnk\_1890\_vid14

The Life of a Soda (Slideshow): http://fit.webmd.com/kids/food/slideshow/slideshowsoda?ecd=cpl\_dsc\_lnk\_1890\_vid5