

Healthy Food is Good Food!

Grades 4-12

Lesson Summary

Students learn to identify healthy foods by comparing whole foods with junk foods.

Overview

In this lesson, students will:

- Define whole foods and junk foods
- Distinguish the difference between the flavor and sensations of whole foods and junk foods
- Learn about the benefits of eating healthy food

Time 

1 hour



Background

Food is one of our most basic survival needs. What we eat defines our culture and shapes our health. Foods in their natural state are called **whole foods**, which is what our ancestors have eaten for thousands of years. They are healthy because they are full of naturally occurring vitamins and minerals that are essential for us to develop and function properly. Whenever we eat a diet that contains many fresh, whole foods like fruits and vegetables, we can be sure we're getting the nutrients we need. We can also get these nutrients from whole foods in different forms, such as unsweetened applesauce and 100% fruit and vegetable juices. Doctors recommend that we eat at least five servings of fresh fruit and vegetables every day.

During the 1950s, food-manufacturing companies started to change the food we eat. They added **additives** or different ingredients and chemicals to flavor, color, preserve, and change the texture of food. Additives, like high fructose corn syrup (a sweetener that is much sweeter and cheaper than sugar), can change the way our bodies use food, and create "addictions" to certain unhealthy foods or **junk foods**. As a result, we crave these junk foods and buy more of them, which further feeds our addiction to them. Not only that, but eating too many junk foods can actually change our **metabolism**, or the rate at which our body burns energy. That, in turn, can lead to health problems like obesity and diabetes.

Some foods we think are healthy are actually junk food in disguise. Sugary drinks that appear as "fruit juice" often contain only a small percentage of true fruit. The rest of the ingredients are high fructose corn syrup and other unhealthy additives, and the resulting drink is more like soda than real juice. By understanding the value of healthy food, and learning to distinguish whole foods from junk foods, we can choose to eat foods that promote our physical and mental wellbeing. This in turn, will give us more strength, resilience and energy to live productive lives and do things like dance, play sports, study and have fun!

Vocabulary

- Whole Foods
- Junk Foods
- Additives
- Metabolism

Materials*

- Enough fresh oranges for each student to have half an orange
- Sharp knife
- Bottle of Sunny D fruit drink – enough for each student to have 2-4 oz.
- Small paper cups
- *Fresh Food for Everybody* Student Fact Sheet
- *Student Worksheet*

* *For class of 30 students, cost of materials will be approx. \$10*

CA State Standards

Nutrition & Physical Activity

- Grade 4** 2.1.N • 3.2.N • 6.1.N
7.1.N • 7.2.N
- Grade 5** 1.2.N • 1.3.N • 1.6.N
2.1.N • 2.2.N • 3.2.N
• 5.1.N
- Grade 7-8** 1.1.N • 1.2.N • 1.5.N
1.6.N • 1.10N • 2.2.N
- Grade 9-12** 1.5.N • 1.8.N • 2.1.N
3.3.N • 7.3.N

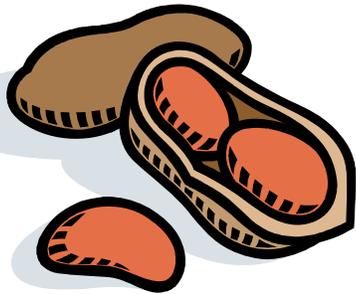
Preparation

- Cut oranges into quarters.
- Pour 2-4 oz. of Sunny D orange drink into small cups.
- Make copies of Student Fact Sheet and worksheet.
- Have Gr. 5-8 students read *Fresh Food for Everybody!* Student Fact Sheet. This can be done in class or as homework.

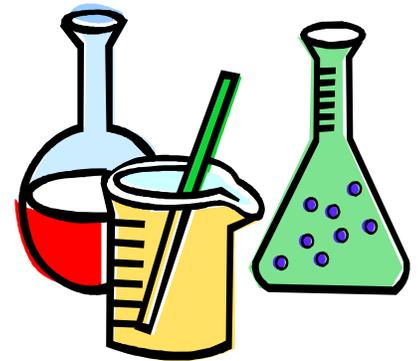


Pre-Activity Questions

1. What three things do we absolutely need to survive? (*Air, water, food*)
2. Let's talk about food. Why do we need food to survive? (*Food provides fuel or energy for our bodies to function. Depending on what we eat, we can often notice which foods feel like they're giving us energy, and which feel like they're taking away our energy and making us tired.*)
3. How do your family's traditions and cultural background affect your food choices? (*People tend to like foods they are brought up with and choose to eat them more often. We have learned to prepare these foods from our family, and eating familiar foods can remind us of happy times with our families and make us feel closer to our culture.*)
4. What does healthy food mean? (*Food that is good for our bodies. These are foods that contain vitamins, minerals, and other nutrients that build our muscles, support our growth, and promote our mental and physical well-being.*)
5. What are the nutrients that our body needs to be healthy and what are some of the foods that provide these nutrients? (*Protein from eggs, dairy, meats, nuts and seeds; complex carbohydrates from fruits, vegetables and whole grains like rice, corn and wheat; essential fats from plant sources like olives, nuts, seeds and avocado; vitamins and minerals from a variety of whole foods, like mango, kiwi and papaya and vegetables like broccoli, spinach, and sweet potato.*)
6. Foods that are good for us can help us think clearly, be in a better mood, feel relaxed or energized. What is your favorite healthy food? Can you think of a time you ate healthy food and felt the positive effects afterward? (*If students have trouble with this, ask for a specific example, i.e., ask how they felt after eating their favorite fruit or a salad.*) Note: It's important for students to understand that eating healthy food gives us enough energy to enjoy doing the things we love, whether it's dancing, sports, or hanging out with our friends. Healthy foods can improve our mood and make us better at things we love to do.
7. What is junk food? Give three examples. (*It's food that doesn't have much nutritional value. It might taste good, but it doesn't provide nutrition your body needs to function well and be fully healthy. It also can contain chemicals that may be harmful to your health. Examples include: chips, soda, donuts, candy, cookies, snack pastries, etc.*)

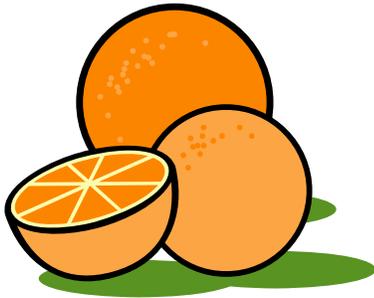
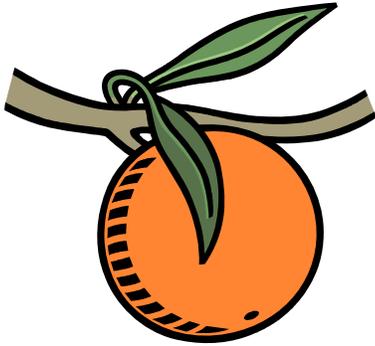


8. One of the main ingredients in junk food is high fructose corn syrup, a sweetener that is cheap to produce and is much sweeter than cane sugar. High fructose corn syrup can show up in sodas, candies, cookies, and even in things like crackers, soup and other salty foods. Does anyone know why it is unhealthy to eat foods that contain a great deal of high fructose corn syrup? *(Because high fructose corn syrup is so sweet, our taste adjusts to that level and we therefore tend to “crave” much sweeter, sugar-filled foods. High fructose corn syrup is so processed that it can also change the way our bodies metabolize food, or burn energy. That means it could make it easier for us to gain weight and harder for us to lose weight, which can lead to health problems like obesity and diabetes.)*
9. How is junk food similar to polluted air and polluted water? *(Polluted air and water can put dangerous chemicals into your body and may not give you the oxygen or hydration that you need to survive. Junk food can also put dangerous chemicals into your body and not give you the nutrition that you need to live a healthy life. If you eat a lot of junk food, you will crave that kind of taste and will probably not eat enough healthy food. As a result, illness can occur.)*
10. Think back to the last time you had junk food. Maybe it was a candy bar or a can of sugary soda. How did your body feel after eating that junk food? *(Low energy, tired, depressed or sad; unclear thought processes, hard to concentrate on schoolwork, antsy.)*
11. If whole foods are what we all need to be healthy, then why are junk foods made and advertised to us so heavily? *(They are manufactured and advertised so that companies can sell them and make a large profit. By manufacturing a wide variety of junk foods, companies have more product to sell. By adding certain chemicals to foods that promote “addictions” to them, people are more likely to keep buying that product. Additionally, many of these additives, such as high fructose corn syrup, are much cheaper than their “natural” counterparts. As a result of these combined factors, food manufacturing companies make a large profit from making and selling junk foods.)*



Classroom Activity

1. Tell students they will now do a taste test with a fresh orange and a glass of orange drink.
2. Distribute *Student Worksheet* and two slices of orange to each student. Ask them to taste, or eat just one slice of the orange and to take one minute to fully experience the flavor. On a scale of 1 – 10, (10 is the sweetest) have the students rate the sweetness of the orange on their handout, and to record any other tastes and sensations they experience.



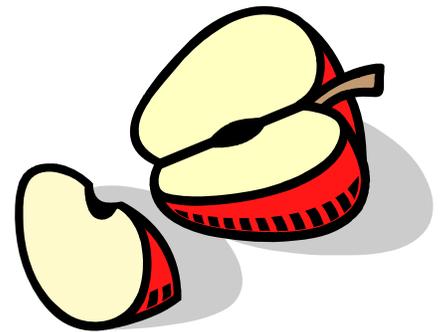
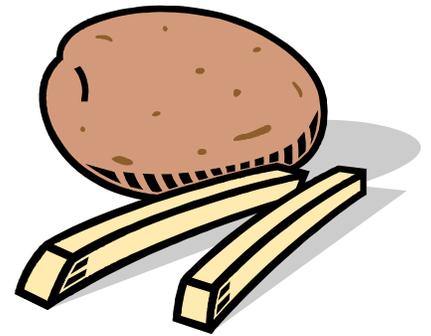
3. Take a couple of minutes to have students share their observations, and how they rated the sweetness of the orange.
4. Now give each student a small cup of Sunny D orange drink. Ask them to drink the juice and to take one minute to fully experience the flavor. On a scale of 1 – 10, have the students rate the sweetness of the orange drink on their handout, and to record any other tastes and sensations they experience.
5. Take a couple of minutes to have students share their observations, and how they rated the sweetness of the orange drink.
6. Did they prefer the orange or the orange drink? Why?
7. Now have the students eat the second piece of orange. Have them rate the sweetness of this second orange slice on a scale of 1 – 10 and to record any other tastes and sensations they experience.
8. Does this orange slice taste differently than it did the first time? Is it sweeter or less sweet?
9. Ask students why they think the flavor of the second orange slice is different. *(The orange probably tastes less sweet because the high fructose corn syrup in the Sunny D is so much sweeter, our taste became accustomed to the sweetness of the high corn syrup and now interprets that level as “sweet”. When the real orange was tasted afterwards, it was comparatively much less sweet, almost tasting sour.)*
10. Ask students to look at the nutrition comparisons on their worksheet. Explain that ingredients listed on a label are written in order of the largest amounts used. For example, if water is listed first, that means that water makes up the largest percent of that product. Give students a few minutes to read and compare the data.
11. If students prefer the Sunny D orange drink, discuss why that food tastes the way it does, and how the ingredients might indicate why they like it better; i.e., high fructose corn syrup is the second listed ingredient, and a lot of people like sweeter tastings things.
12. Compare the nutritional values of the two foods including caloric value and vitamin content. *(One orange has 62 calories and one serving of Sunny D has 120 calories. The orange contains fiber, more vitamin C than Sunny D, calcium, riboflavin and other B vitamins. Sunny D is only 5% actual juice, has twice as much sugar, and only has vitamin C and thiamin as added vitamins.)*

13. How do you think eating each food will affect your health? *(Our bodies will get more nutrients when we eat the orange. We also won't be consuming any additives and should feel more energized and clear headed. If we drink Sunny D frequently, we will be consuming high fructose corn syrup and increasing the risks that go with that.)*



Discussion Questions:

1. Has this taste-test and comparison changed the way you now think about whole foods versus junk food? If so, how?
2. What kind of diet is the healthiest for our bodies? *(The healthiest diet is one that contains whole foods like fruits, vegetables and whole grains. This ensures that we are getting all of the nutrients we need. We should also reduce our consumption of foods with added sugar and other additives.)*
3. Do you think people who eat a healthy diet feel better, get along with each other in a more positive way and enjoy life more? Why?
4. Give three examples of a healthy, whole food alternative to a junk food. *(An apple versus an apple pastry, baked potato versus French fries; real fruit juices or water versus sodas.)*
5. Given the choice, would you be willing to eat these healthier foods?
6. If yes, what can you do to bring these foods into your daily or weekly diet? *(Ask family, go to local farmers markets, choose foods from the salad bar if school has it, be menu-wise when ordering at a restaurant.)*
7. What are the overall benefits that you could see by choosing to eat healthy food?
(A healthy body that is not prone to illness; a better working metabolism, better strength, resilience, clear-thinking, and greater energy for school, sports, family and friends.)
8. What are some strategies that you could use to make healthy food choices? *(Read nutrition labels, choose whole foods, when possible. Reduce the amount of food you eat that contains additives.)*



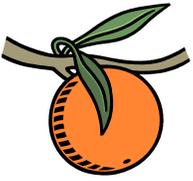
Extensions

- Plan a healthy menu with whole foods that family will like.
- Research nutrients of students' favorite fruit – and direct health benefits these nutrients promote – and report back to the class.
- Analyze print ads that advertise junk food. How do they “sell” the product? How do they appeal to the viewer? Do they show hip, social people having fun? Being cool?

Optional lesson plan: True Cost of Cool.

http://sfenvironmentkids.org/teacher/lesson_plans/True_Cost_of_Cool_6-12.pdf

Healthy Food is Good Food!



Answer the questions in the space provided.

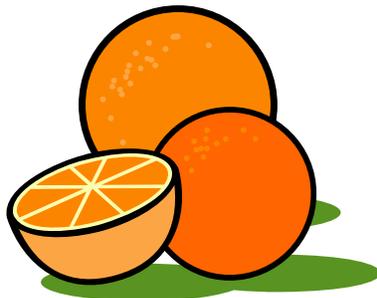
(On this scale, 10 is the sweetest)

1. How sweet is the first orange slice you tasted? **1 2 3 4 5 6 7 8 9 10**
What other tastes or sensations did you experience? Consider tartness, freshness, texture, aftertaste and overall flavor. _____

2. How sweet is the orange drink? **1 2 3 4 5 6 7 8 9 10**
What other tastes or sensations did you experience? Consider tartness, freshness, texture, aftertaste and overall flavor. _____

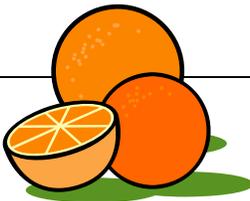
3. How sweet is the second orange slice you tasted? **1 2 3 4 5 6 7 8 9 10**
What other tastes or sensations did you experience? Consider tartness, freshness, texture, aftertaste and overall flavor. _____

4. Did the second piece of orange taste differently after tasting the orange drink? Did it taste sweeter, more sour, bitter or the same? Did the texture feel different? Explain: _____



ORANGE Nutrition Facts

Serving Size: 1 orange (130g = 4.6oz)



Amount per Serving

Calories 62

Calories from Fat 1

	% Daily Value *
Total Fat 0.2g	0%
Sodium 0mg	0%
Potassium 237.1mg	7%
Total Carbohydrate 15.4g	5%
Dietary Fiber 3.1g	12%
Sugars 12.2g	
Protein 1.2g	2%

Vitamin A	6%
Vitamin C	116%
Calcium	5%
Iron	1%
Vitamin D	0%
Vitamin E	1%
Thiamin (B1)	8%
Riboflavin (B2)	3%
Niacin (B3)	2%
Vitamin B6	4%
Vitamin B12	0%
Magnesium	3%
Zinc	1%
Copper	3%
Manganese	2%

ORANGE DRINK Nutrition Facts

Serv Size: 8 fl oz (240 ml)

Servings Per Container: 8



Amount Per Serving:
Calories 120

	% Daily Value
Total Fat 0g	0%
Sodium 190mg	8%
Total Carbohydrate 29g	10%
Dietary Fiber 0g	0%
Sugars 27g	
Protein 0g	0%
Vitamin C	100%
Thiamin	15%

Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A calcium, and iron.

ORANGE DRINK Ingredients

CONTAINS: WATER, HIGH FRUCTOSE CORN SYRUP AND 2% OR LESS OF EACH OF THE FOLLOWING: CONCENTRATED JUICES (ORANGE, TANGERINE, APPLE, LIME, GRAPEFRUIT), CITRIC ACID, ASCORBIC ACID (VITAMIN C), THIAMIN HYDROCHLORIDE (VITAMIN B1), NATURAL FLAVORS, MODIFIED CORNSTARCH, CANOLA OIL, SODIUM CITRATE, CELLULOSE GUM, XANTHAN GUM, SODIUM HEXAMETAPHOSPHATE, SODIUM BENZOATE TO PROTECT FLAVOR, YELLOW #5, YELLOW #6.

CONTAINS 5% JUICE