Teacher's Guide for ODYSSEY

February 2014: S.A.D. What's Driving Your Diet?

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Teacher's Note:
This guide contains project ideas, short answer, extended response, fill-in, and true/false with correction. The variation is designed to have the students think critically, as well as to test their comprehension. An answer key to the short answer sections can be found at the end of the guide.

Extended Response: Comprehension & Critical Thinking
The questions below can be used as written, simply answered in complete sentences or easily transformed into longer essay (ELA) style questions, or even research topics. In any case, have the students support their answers with details from the text or use critical thinking skills to create a thorough and interesting answer. The questions, essays and projects have been aligned with the **Common Core Standards**. Consider the level of your students when deciding how to use the questions.

"What's For Lunch" p. 6-8

1. How did Zachary Maxwell document school lunch experiences?
2. What discrepancies did Zachary report between the claimed 'delicious and nutritious meals' and what is actually being served?
3. What are some of the general students' complaints about the school lunches?
4. What do the new federal lunch guidelines mandate regarding school lunches?
5. How are the new school lunches designed?

"Building Your Plate" p. 9-11

1. What is "MyPlate"?
2. Explain similarities and differences between MyPlate and the Healthy Eating Plate.
3. Why does the Healthy eating Plate emphasize whole grains?
4. Explain the differences in proteins.
5. What are considered 'healthy oils'?
6. What does the Healthy eating Plate remind people that half the secret to weight control is?

Project: *Draw the Healthy Eating Plate. Use pictures from magazines or the internet to fill in each section correctly.*

"To GMO or NOT to GMO?" p. 15-19

1. What are GMOs?
2. Define the branch of science called biotechnology.
3. What does DNA do?
4. How is genetic alteration performed?
5. What are some of the benefits of genetic alteration?
6. What is the difference between how we alter plants today compared to 10,000 years ago?
7. How did scientists develop the technology needed to alter foods on the genetic level?
8. How can consumers register their opinion on GMO foods in the simplest way?

"Calories 101" p. 20-23

1. Explain a typical sumo wrestler's regimen.
2. What is a calorie?
3. What other processes dictate what the sumo wrestler's body does with the calories?
4. What happens to the energy that metabolism frees from food?
5. What happens to any left over energy?
6. What does a steady body weight depend on?
7. Why should a healthy person try to calibrate their diets and metabolisms?
8. Why should you account for factors that pertain to you specifically when trying to have a balanced body?

"Trillions" p. 31-35

Mark the following statements TRUE or FALSE. Provide the correct answer if FALSE.

_____1. Most of the cells in your body aren't human.

_____ 2. The majority of microbes live on our skin.

_____3. Our intestinal bacteria's best-known job is helping to digest our food.

_____4. The bacteria in the colon produce enzymes that break the chemical bonds, creating nutrients we can use, including vitamins.

_____5. The American diet tends toward sugar, white flour and whole grains.

_____6. The bacteria in our colon only affects our digestion.

_____7. In studies of mice, researchers found that switching from a low-fat/plant-rich diet to a high-fat/high-sugar diet changed the mice's microbiota in a single month.

_____8. Eating a processed-food diet basically starves your microbiota.

_____9. Polysaccharides are carbohydrates whose molecules are composed of sugar molecules bonded together.

_____10. The two groups of bacteria that are least abundant in the gut microbiota of all humans are the bacteroidetes and the firmicutes.

_____11. The problem with antibiotics is that they wipe out not just the bad bacteria, but also the good.

_____12. Scientists have found trace amounts of antibiotics in milk and meat.

_____13. The kind of food that makes it all the way to the colon is saturated fats.

_____14. Probiotic foods which contain beneficial microbes, are also good for your gut flora.

"Fat Cats and Dogs" p. 36-41

Read the article in its entirety and then fill in the blanks. Refer back to the text if necessary.

1. _____ is the most common nutritional disorder in dogs and cats, especially as they age.

2. In 2012, the Centers for Disease Control and Prevention reported that _____ percent of Americans age 20 and older were overweight or obese, reflecting a dramatic increase over the past tow decades.

3. Obesity increases the likelihood of joint pain and degenerative _____ disease.

4. In general, if you can't feel the animal's _____ easily of notice a waist, or if the abdomen sags, it's too fat!

5. Diet and exercise are the keys to _____.

6. In 2010, first lady Michelle Obama announced a national program called, _____.

7. One major cause of obesity involves unhealthy diets. The other major cause is an increasingly _____ lifestyle.

8. Between 1990 and 2010, the rate of overweight children _____, according to the CDC.

9. Weight control in a balance of biology and _____.

10. The first lady's report recommends _____ of active play every day.

ANSWER KEY

"Trillions"

1. *True*
2. *False, in our intestines*
3. *True*
4. *True*
5. *False, and saturated fats*
6. *False, every aspect of our biology*
7. *False, a single day*
8. *True*
9. *True*
10. *False, most abundant*
11. *True*
12. *True*
13. *False, dietary fiber*
14. *True*

"Fat Cats...and Dogs"

1. *Obesity*
2. *69 percent*
3. *bone*
4. *ribs*
5. *living*
6. *"Let's Move"*
7. *sedentary*
8. *tripled*
9. *physiology*
10. *one hour*