Name: _____ Date: _____ Period: ___

Weekly Reading HW HW Wk ___

Directions: Read and annotate the passage below. Then answer the questions.

Is your Nose Making you Overeat?

Some people are drawn to the thick smell of bacon, sizzling and crackling in the skillet. For others, it's the aroma of freshly baked cookies or McDonald's fries. At this time of year, I find the scent of freshly baked pumpkin muffins irresistible. Of course, I'd like to think I'm not a slave to my nose, at least not when I'm nice and full from dinner. It would be a different story if I were a fruit fly. Already-fed fruit fly larvae (immature fruit flies) exposed to certain food-related smells ate more food than larvae that didn't experience the smells, according to research recently published.

According to the new study, the scents, such as the sweet odor of bananas, served as "cues" or triggers that the flies associated with food. The triggers motivated the fly larvae to eat, even when they'd already had dinner. "They're not hungry, but they will get an extra kick in terms of appetite, so they will eat, for example, 30 percent extra," said Dr. Shen, lead author on the study. For the fly to feel this urge to eat, the smell has to be transported from receptors in the nose to the part of the brain that regulates appetite through a series of neurons (brain cells). Part of this signal transfer involves a brain chemical associated with behavior motivated by a cue or hint of something to come, like food smells.

So can the scent of freshly baked cookies paired with my brain's neurons drive me to chow down despite the knowledge that my stomach is full? Studies show food aromas activate specific areas of the brain that are associated with motivation to get a reward. Food aromas can actually cause humans to overeat, although whether they will depends on a variety of other factors, such as current weight. Other studies have considered the way the brain responds to pictures of food. "The areas in the brain that regulate reward and motivation are activated just by the sight of food," said Dr. Page, another scientist. "Not only are those regions activated when you see pictures of palatable junk-type food like chocolate cake, people also have higher ratings of hunger and a desire to eat."

In a country with restaurants lining the roads, churning out appetizing smells, and food ads on every billboard and commercial break, our brains can make eating healthy amounts challenging. "If we are continually stimulated by our environment, that could promote overeating and, over time, obesity," Page said. Ways to fight these food triggers do exist and although a food smell or image may cause an initial reaction, data shows that the urges tend not to last.

1. (RST.9-10.2) The main idea of the passage is that:
    a. The brain's neurons are wired in such a way that make it impossible not to want to eat food if you smell food.
    b. The brain thinks that eating junk food is like a reward so it is difficult to avoid junk food.
    c. Fruit fly larvae think they are full when they are not, so the eat when they smell food.
    d. Food smells can impact the amount of food a person eats despite their hunger level.

Name: _____ Date: _____ Period: ___

2. (RST.9-10.4) As it is used in the passage, the term *palatable* means:
   a. Detestable
   b. Nutritious
   c. Crunchy
   d. Tasty

3. (RST.9-10.1) The author mentions all of the following as things that cause us to overeat EXCEPT:
   a. Seeing a billboard for some restaurant
   b. Preparing and cooking food to eat
   c. Passing a restaurant and smelling the food
   d. Watching a television advertisement for a restaurant

4. (RST.9-10.1) The reader can conclude from the passage that the author is someone who:
   a. Does not like fast food but likes homemade desserts.
   b. Likes to eat junk food like muffins or cookies.
   c. Is on a diet and is trying not to eat junk food.
   d. Does not like the taste of sweets like chocolate cake.

5. (RST.9-10.1) What happens in the brain that makes food smells so irresistible to flies and humans?

   _____
   _____
   _____
   _____

6. (RST.9-10.1) According to the last paragraph, what is worrying about today's constant food stimulation?

   _____
   _____
   _____
   _____

Adapted from the article, "Is your nose making you overeat?" by Julianne Wyrick for Scientific American*, on September 30, 2013.*