

Apples: The Health Benefits

You know that apples are juicy, sweet, and tasty. They are often thought of as a treat or dessert. But apples are an important part of your daily diet. Exciting research has shown that apples have the power to help keep you healthy! Scientists have also discovered that the more of them you eat, the healthier you can be.

They Can Do That?

It's hard to believe that one fruit can pack such a punch. The truth is, many fruits and vegetables do. But lately scientists have been pretty excited about apple research. Eating apples has been shown to lower the risk of cancer, stroke, and heart disease. There really is truth to that old saying, "An apple a day keeps the doctor away." Here are some facts from research done throughout the world:

- *Cancer:* Laboratory work at Cornell University in Ithaca, New York, found that certain nutrients in apples slow the growth of colon and liver cancer cells. And researchers in Hawaii studied lung cancer patients and another group that was cancer-free. They found that eating apples kept the risk of lung cancer low.
- *Stroke:* Researchers in Finland studied more than 9,000 men for 28 years and found that those who ate lots of apples had a low risk of stroke. A stroke happens when a blood clot in the brain causes damage or when there is bleeding in the brain.
- *Heart disease:* At the University of California- Davis, researchers found that eating apples kept "bad," or LDL, cholesterol from harming the body. LDL cholesterol causes changes in the arteries. These changes are the buildup of *plaque* (PLAK) on the inside walls of the arteries. Plaque can lead to blood clots and heart attacks. A heart attack is like a stroke, only the damage occurs in the heart.

Other studies showed that people who ate apples regularly had better lung function. Their risk of dying from a heart attack was lower too.

Apples also help in digestion because they contain enzymes to help break down the food you eat. A fat-free food, one medium-size apple has only about 80 calories.

They also have fiber--a medium-size apple has about 5 grams of fiber if you eat the skin too. Dietitians recommend we get from 20 to 25 grams of fiber per day. The type of fiber in apples is called *pectin* (PECK-tin). Studies in Italy, Ireland, France, Finland, and the United States proved that this type of fiber is what helps reduce cholesterol in the blood.

And if that's not enough, munching on apples helps you clean your teeth and massages your gums for a healthy mouth. Can't brush your teeth after lunch? Eat an apple!

Full of Phytochemicals

What is the "magic" nutrient in apples? It's actually more than one nutrient. Apples are rich in *phytonutrients* (fy-toe-NEW-tree-ents), also called *phytochemicals* (fy-toe-KEM-ih-kulz). Phyto means they come from plants. So phytochemicals are natural chemicals found in plants. They are found in the flesh and the skin of apples, but are more highly concentrated in the skin. Apple juice is also rich in phytochemicals, but it doesn't have the benefit of fiber.

Apples are loaded with vitamins and minerals, including *potassium* (puh-TASS-ee-um) and vitamin C. Phytochemicals are *antioxidants* (an-tee-OX-i-dents). They reduce or prevent cell and tissue damage from molecules in your body called free radicals. Free radicals form in the body every day as you breathe, eat, and exercise.

These phytochemicals are important; one has been especially linked to a reduced risk of cancer and heart disease.

Apples alone can certainly pack a nutritional punch. But together with other fruits, they can do even more. In a French study, scientists found that apples and oranges work well together, because the apples help the body use more of the vitamin C in the oranges. Your best bet is to eat lots of different fruits and vegetables each day. The recommended daily amount is at least five servings. An apple is one serving, so do try to eat at least one each day.

The Core of the Matter

Studies on apples are still being done. We already know a lot about their benefits. In the future, we'll know even more, including how to combine them with other foods for the maximum nutritional wallop. Until then, eat as much of this healthy grab-and-go food as you can!

Recipes

Here are two easy recipes that will make it even easier to eat an apple (or more) a day.

Apple Sandwich

1. Cut an apple into very thin slices.
2. Spread peanut butter on slices of bread.
3. Place the apple slices on the peanut butter.
4. Add a slice of mozzarella cheese.
5. Sprinkle with cinnamon (optional).
6. Put the slices of bread together.
7. Eat your apple sandwich!

The Frost Apple

1 pint of frozen vanilla yogurt

1 quart naturally sweet apple cider

Freshly ground nutmeg

Let frozen yogurt soften at room temperature, or microwave it for 20 seconds. Put the yogurt and cider into a blender or food processor and blend until frothy and well mixed. Stir in nutmeg. Pour into tall glasses. Sprinkle nutmeg on top. Makes six 1-cup servings.

Go Apple "Picking"

See how many different kinds of apples you can pick out at the grocery store. Check off the ones you find on the list below. How many different kinds did you find? How many have you tried? Which is your favorite? How many different kinds did the class find?

Braeburn
Cameo
Cortland

Crispin
Empire
Fuji
Gala
Ginger Gold
Golden Delicious
Granny Smith
Honeycrisp
Ida Red
Jonagold
Jonathan
McIntosh
Pink Lady
Red Delicious
Rome Beauty
Winesap
York Imperial

Name: _____ Date: _____

1. What is a reason that apples are an important part of a healthy diet?
 - A Apples have enzymes that help break down food.
 - B Apples have all of the fiber that a person needs in a day.
 - C Apples clean your teeth so you never need to brush them.
 - D Apples contain vitamin K, which you can't get from any other food.

2. What is a way that the author asks the reader to analyze the *list* of apple types?
 - A See how many kinds of apples grow in the reader's state.
 - B See how many kinds of apples the reader can find in the store.
 - C See how many kinds of apples the reader can taste at school.
 - D See which kind of apples taste the best in homemade pie.

3. If given the choice between eating a whole apple and drinking a glass of apple juice, which would be healthier?
 - A the whole apple, because it is a fat-free food
 - B the apple juice, because it has phytochemicals
 - C the whole apple, because the skin contains fiber
 - D the apple juice, because it tastes better

4. Read the following sentence and answer the question below: "Other studies showed that people who ate apples regularly had better lung function."

In the sentence the word **function** means

 - A to be broken
 - B to be in need of help
 - C to be at an event
 - D to be working correctly

5. The main idea of this passage is that
 - A apples are the best food in the world and should be eaten at every meal and snack
 - B apples come in over 50 types, each with unique benefits to your health
 - C apples are an important part of a healthy diet and can prevent some diseases
 - D apples keep doctors away, so people that eat them never worry about getting sick

6. Explain why there is truth to the saying, “an apple a day keeps the doctor away.”

7. Why would the author include recipes in the passage?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Apples are an important part of your daily diet _____ they should not be the only food you eat!

- A because
- B so
- C when
- D but

9. Answer the questions based on the sentence below.

The enzymes in apples help break down the other foods you eat.

What? the enzymes

Where? _____

(do) What? _____

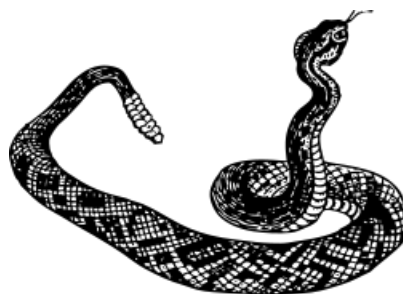
10. Read the vocabulary word and definition below and complete questions 10a, 10b, and 11.

Vocabulary Word: concentrated (con · cen · trat · ed): a lot of things in one place.

10a. Read the five sentences below and underline the word **concentrated** in each sentence.

1. At his first arena concert, the singer had never seen so many screaming fans concentrated in one space.
2. The extended family members were concentrated in one neighborhood of the city because they wanted to stay close together to help each other out.
3. The tornadoes were concentrated in one section of the state, which meant that section suffered the most damage.
4. At the dance, boys were concentrated on one side of the room while girls gathered on the other.
5. All of the guards were concentrated by the front exit, so it was easy for the spy to sneak through an open window in the back.

10b. Which living thing is more likely to be concentrated around honey?



11. Are people more likely to be concentrated in the city or the suburbs? Why or why not?

Teacher Guide & Answers

Passage Reading Level: Lexile 900

Passage Text Structure: Enumerative – the writer includes a list, giving examples of something. This text structure is often combined with cause/effect or problem/solution.

Passage Summary: “Apples: The Health Benefits” gives information about apples. The passage describes how apples help keep people healthy by lowering their risk of certain diseases and helping digestion through its phytochemicals. Recipes and a list of different kinds of apples are also included.

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- B Apples have all of the fiber that a person needs in a day.
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2 What is a way that the author asks the reader to analyze the *list* of apple types?

- A See how many kinds of apples grow in the reader's state.
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4. Read the following sentence and answer the question below: “Other studies showed that people who ate apples regularly had better lung function.”

In the sentence the word **function** means

- A to be broken
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5. The main idea of this passage is that

- A apples are the best food in the world and should be eaten at every meal and snack
- B apples come in over 50 types, each with unique benefits to your health
- C apples are an important part of a healthy diet and can prevent some diseases**
- D apples keep doctors away, so people that eat them never worry about getting sick

6. Explain why there is truth to the saying, “an apple a day keeps the doctor away.”

Suggested answer: Scientists have found that apples lower the risk of certain diseases, and they have phytochemicals that keep you healthy, so you might not have to visit the doctor as often. [paragraphs 2,10,12]

7. Why would the author include recipes in the passage?

Suggested answer: Some people may not like to eat an apple just by itself, or they might get bored with just eating plain apples. The recipes give new ways to eat apples that are easy to make, so a young person could do it by themselves. [paragraphs 14, recipes 1,2]

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Apples are an important part of your daily diet _____ they should not be the only food you eat!

- A because
- B so
- C when
- D **but**

9. Answer the following questions based on the sentence below.

The enzymes in apples help break down the other foods you eat.

What? the enzymes

Where? **in apples**

(do) What? **helps break down the other foods you eat**

10. ReadWorks recommends that you teach this vocabulary word to the whole class out loud using the four steps listed below.

Vocabulary Word: concentrated

Step 1: Introduce the word

- a. Teacher writes the word on the board and divides it into syllables: (con · cen · trat · ed)
- b. Teacher says: "This word is concentrated. What is the word?" [All students reply together out loud: "concentrated."]

Step 2: Provide a child-friendly definition

- a. Teacher says: "The word concentrated means that there are a lot of things in one place.
- b. Teacher says: "In the passage, phytochemicals are concentrated in the skin of apples, so a lot of nutrients are found in the skin.
- c. Teacher says: "What is the word?" [All students reply together out loud: "concentrated."]

Step 3: Practice the word

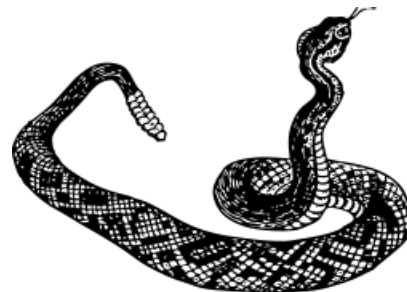
Teacher provides examples and additional opportunities to repeat the word. Read the 1st sentence out loud to your students. Begin reading it again and when you come to the vocabulary word prompt students to say the vocabulary word out loud. Then, finish reading the sentence out loud to your students.

- 10a.**
1. At his first arena concert, the singer had never seen so many screaming fans concentrated in one space.
 2. The extended family members were concentrated in one neighborhood of the city because they wanted to stay close together to help each other out.
 - 3 The tornadoes were concentrated in one section of the state, which meant that section suffered the most damage.
 4. At the dance, boys were concentrated on one side of the room while girls gathered on the other.
 5. All of the guards were concentrated by the front exit, so it was easy for the spy to sneak through an open window in the back.

Step 4: Check for student understanding

This step can be completed as a whole class activity or as an independent practice.

- 10b.** Which living thing is more likely to be concentrated around honey?



- 11.** Are people more likely to be concentrated in the city or the suburbs? Why or why not?

Suggested answer: The city, because it is closer to job opportunities and sources of entertainment.

Suggested Additional Vocabulary: function, frothy