

Oranges

- 1. What is folate? Describe how it functions in the body. Why is folate important for women?**

Primary-level response:

Folate is an essential vitamin that is water-soluble. Some sources of folate include fortified cereals, citrus fruit, asparagus, Brussels sprouts, spinach, beans, and lentils. Folate is important for women during pregnancy to prevent birth defects of the spinal cord. Folate is an important nutrient for the body since it plays a role in the production of genetic material and normal red blood cells. It also plays a role in preventing birth defects.

Secondary-level response:

Folate (also known as folic acid and folacin) is an essential vitamin that is water-soluble. Some sources of folate include fortified cereals, citrus fruit, asparagus, Brussels sprouts, spinach, beans, and lentils. Folate is important for women during pregnancy to prevent neural tube birth defects. Folate is very important for DNA and RNA syntheses and for normal red blood cell production.

- 2. What major parts of the body does thiamin support? What are the effects of thiamin deficiency?**

Primary-level response:

Thiamin helps produce energy from carbohydrates in all the cells of the body. Effects of thiamin deficiency include fatigue, weak muscles, and nerve damage.

Secondary-level response:

Thiamin helps produce energy from carbohydrates in all the cells of the body. Thiamin is found in skeletal muscles, the heart, liver, kidneys and brain. Effects of thiamin deficiency involve cardiovascular and nervous system damage resulting in fatigue, weak muscles, and nerve damage.

- 3. With more than two grams of fiber per ½ cup, oranges are a source of dietary fiber. List the health benefits of fiber and brainstorm a list of foods that are good or excellent sources of fiber*. Encourage students to incorporate these foods into their daily meals. (*Excellent sources provide at least 20% Daily Value. Good sources provide 10-19% Daily Value.)**

Primary-level response:

Fiber is found only in plant foods like fruits, vegetables, grains, nuts, and seeds.

Fiber contains no calories. Fiber comes in two forms: insoluble and soluble.

Fiber helps control blood sugar levels and keeps food in the stomach longer so that you feel full. Fiber may help lower the risk of high blood pressure, heart disease, stroke, and some types of cancer.

Foods that are rich in dietary fiber include whole grains (particularly the bran portions), legumes, and some fruits and vegetables. Most foods contain mixtures of both insoluble and soluble fiber.

Secondary-level response:

Fiber is a complex carbohydrate found only in plant foods like fruits, vegetables, grains, nuts, and seeds. Fiber contains no calories. Fiber comes in two forms: insoluble and soluble. Insoluble fiber is known as “roughage” and helps move food through the body to prevent constipation. It also helps control blood sugar levels. Soluble fiber helps pull cholesterol out of the body. It also helps control blood sugar levels and keeps food in the stomach longer so that you feel full. Fiber may help lower the risk of high blood pressure, heart disease, stroke, and some types of cancer.

Foods that are rich in dietary fiber include whole grains (particularly the bran portions), legumes, and some fruits and vegetables. Most foods contain mixtures of both insoluble and soluble fiber.

- 4. Among other important functions, zinc plays a role in the acuity (sharpness, clarity, and distinction) of two major senses. What are those senses?**

Primary-level response:

Zinc helps maintain your sense of taste and smell.

Secondary-level response:

Zinc helps maintain your sense of taste and smell. Zinc supports a healthy immune system, which is needed for wound healing, and is needed for DNA synthesis. Zinc also supports normal growth and development during pregnancy, childhood, and adolescence.

- 5. Ninety percent of Florida’s oranges go into making juice. How much of the oranges harvested in California go into processed foods and juices? How much are available to be sold whole/fresh?**



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Primary-level response:

An average of about 80% of California's oranges are sold as fresh. The remainder are used for juice or animal feed.

Secondary-level response:

California produces about one-quarter of the nation's oranges, but its crop accounts for about 80% of those oranges sold to the fresh-market. Of the state's annual crop, about 80% are sold as fresh. The remainder are used for juice or animal feed.

California produces two major varieties: Navels and Valencia. One-third of California's fresh market crop is made up of Valencia. Navel oranges are excellent to eat fresh but have poor juicing qualities.

Sources:

www.cacitrusmutual.com/index.shtml

www.fruitsandveggiesmatter.gov/month/orange.html

www.ers.usda.gov/News/CAcitrus.htm

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