

# Strawberries

1. **What is the recommended daily amount for vitamin C, folate, and fiber? For each of these three nutrients, how much (in % Daily Value) does a ½ cup of strawberries provide?**

Primary/Secondary-level response:

Nutrient:	Recommended amount:	½ cup of strawberries contains:
Vitamin C	60 milligrams	71% Daily Value
Folate	0.4 milligrams	4.5% Daily Value
Fiber	25 grams	6% Daily Value

2. **How does vitamin C work as an antioxidant? What are the best food sources of vitamin C?**

Primary-level response:

- Vitamin C acts as an antioxidant, meaning it helps reduce damage to cells caused by oxygen that can lead to certain diseases like cancer and heart disease.
- Food sources: bell peppers, broccoli, cantaloupe, cauliflower, citrus fruit, kiwifruit, leafy greens, strawberries.

Secondary-level response:

- Vitamin C acts as an antioxidant, meaning it helps reduce damage to cells caused by oxygen that can lead to certain diseases like cancer and heart disease.
- The role of vitamin C, also known as ascorbic acid, may be linked to its prevention of degenerative diseases, certain cancers, and cardiovascular diseases.
- Food sources: bell peppers, broccoli, cantaloupe, cauliflower, citrus fruit, kiwifruit, leafy greens, strawberries.

**3. Describe the role vitamin C plays in the human immune system.**

Primary-level response:

Your immune system helps keep you from getting sick. When a germ gets past your immune system you become sick. By eating healthy and getting the vitamins and minerals you need, like vitamin C, it helps to boost your immune system (or make it stronger). Scientist have found that vitamin C in combination with other nutrients may help strengthen your immune system.

Secondary-level response:

Your immune system is your defense mechanism against disease-causing micro-organisms. When these germs or micro-organisms get past your immune system you become ill. Making healthy lifestyle choices can help boost your immune system. These choices include eating a healthy diet, so that you can obtain all the vitamins and minerals you need. Researchers have found that vitamin C in combination with other nutrients plays a role in strengthening your immune system; they believe that white blood cells use vitamin C to combat infection.

**4. Research the different theories on the origins of how the strawberry got its name. Which theory do you think is most plausible?**

Primary-level response:

There are many beliefs about how the strawberry got its name. Some believe that the name came from putting straw around the growing plants for protection, or from children in the 19th century who threaded the berries with straw and offered them for sale. The name may have come from the verb “to strew” (spread) and the fruit came to be known as *streibergen*, *straberry*, *streberie*, *straibery*, *straubery*, and finally, *strawberry* to the English.

Secondary-level response:

There are many theories on how the strawberry got its name. Some believe that the name came from the practice of placing straw around the growing plants for protection, or from children in the 19th century who threaded the berries with straw and offered them for sale. Others believe the name originated more than 1,000 years ago with the stolons, or runners, which are horizontal branches at the base of the plant that produce new plants from buds at its tips. The name may have been derived from the Anglo-Saxon verb “to strew” (spread) and the fruit came to be known as *streibergen*, *straberry*, *streberie*, *straibery*, *straubery*, and finally, *strawberry* to the English.

## 5. What does the red color of strawberry flesh tell you?

Primary-level response:

Strawberries are red because they contain an antioxidant called anthocyanin.

Secondary-level response:

The red color of strawberry flesh indicates that strawberries contain an antioxidant called anthocyanin. Anthocyanin is heat sensitive so if strawberries become overheated they will turn brown; this can result in loss of vitamin C. Antioxidants are protective against chronic diseases such as heart disease and cancer.

## 6. Identify four factors that can influence the flavor of a strawberry.

Primary/Secondary-level response:

- **Temperature:** Warm temperature causes browning, which causes the strawberries to lose their flavor. Because of this, strawberries should not be left at room temperature for longer than a few hours.
- **Water:** Strawberries should be washed just before eating by placing them in a colander and rinsing under cold water. Do not allow strawberries to sit in water as they will lose color and flavor.
- **Time:** Strawberries should be used soon after harvesting or purchasing as they will lose their flavor.
- **Soil:** Strawberries should be grown in well-drained sandy soil

## 7. Map the various regions in California where strawberries are grown. Identify their growing season and main varieties produced. Compare the regions – why does each region grow a different variety? What factors affect when and what variety of strawberries are grown? Hypothesize why California is the nation's leading strawberry producer.

Primary/Secondary-level response:

Strawberries thrive along the California coast. The leading counties for growing strawberries are Monterey, Santa Cruz, San Luis Obispo, Ventura, Orange, and San Diego. Although they grow almost year round in California, peak season occurs during April, May and June. Different varieties are suited for particular climates. Varieties adapted for warmer temperatures grow in the Southern California counties. The varieties that grow in Northern California are selected for a longer production cycle, which extends through the fall.

# Harvest of the Month

Network for a Healthy California

## Student Sleuths – Answer Key

[Possible hypothesis: California is the leading strawberry producer due to the various geographic regions and its Mediterranean climate.]

Sources:

[www.mypyramid.gov](http://www.mypyramid.gov)

[www.calstrawberry.com](http://www.calstrawberry.com)

[www.cfaitc.org/factsheets/pdf/Strawberries.pdf](http://www.cfaitc.org/factsheets/pdf/Strawberries.pdf)

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