

# “An Apple A Day”

## Investigation/Lab

### Standards

MS-LS4-5 Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

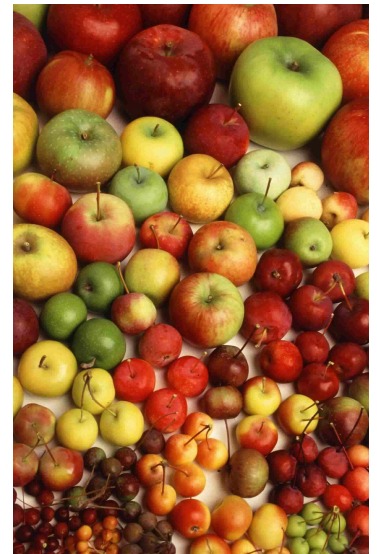
About how many different types of apples grown in the world? In the U.S.A.?

### Background Information:

Wild apples grew in prehistoric times. Food historians generally agree they originated in the [Caucases](#). The fruit was introduced to Europe by the Roman legions. They were actively cultivated. Apples are considered one of America's symbols because they are prominently featured in recipes throughout our nation's history. The wild varieties were also much in demand by early peoples, carbonized apples from about 6500BC have been found at Catal Huyuk in Anatolia

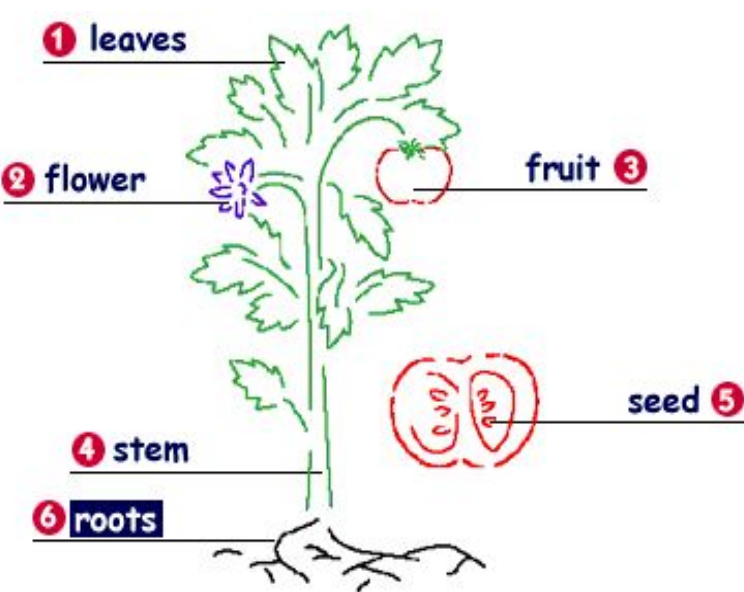
In addition to providing the essential vitamins, minerals, and fiber that keep our bodies working, fruits and vegetables are also linked to health prevention benefits including decreased risk of stroke, cancer, and heart disease; improved memory; and lowered blood sugar levels. These benefits are attributed to phytonutrients (also known as phytochemicals) – substances in plants that are not recognized as vitamins or minerals, but provide a definite health boost. Various fruits and vegetables contain different levels and kinds of lifesaving phytonutrients, so to reap the benefits we need to consume a wide variety of produce. Nutrition educators have come up with a handy and fun way to communicate the message: “Eat a Rainbow.”

An apple a day may really keep the doctor away. Apples are low in calories and free of fat, sodium and cholesterol. They are rich in fiber, disease-fighting antioxidants and a variety of vitamins and minerals including potassium, folate, niacin and vitamins A, B, C, E and K. Eating apples has been associated with lower risk of a variety of cancers, stroke and diabetes. In addition, these nutritional powerhouses may help protect the brain from developing Alzheimer's and Parkinson's disease, and even lower a person's risk of tooth decay.



Question:	Why do people use the idiom, “An apple a day keeps the doctor away”?
<b>A</b> -Answer the question:	
<b>C</b> -Cite evidence from the text to support your answer: <i>*Use a sentence frame below</i>	

<b>E-</b> Extend your answer <i>*Use a sentence frame below</i>	
<b>S-</b> Sum it all up with a concluding statement	



**1 leaves**

**2 flower**

**3 fruit**

**4 stem**

**5 seed**

**6 roots**

**Roots:** found underground; absorb water and nutrients for growth; store food for plant

**Stems:** connect leaves to roots; carry water and nutrients from roots to leaves, and carbohydrates and other things from leaves to roots for growth; some provide food storage

**Leaves:** catch the sun, which gives plants energy to grow; release moisture and oxygen

**Flowers:** where fruits/seeds form

**Fruits:** contain seeds

**Seeds:** form inside fruit; when put in soil, grow into a new plant

Think about the plants that you would like to grow for our garden. What parts of those plants can we eat?

### Apple Diversity Lab

Apple Name	Colors/Size	Predicted Flavor	Flavor Notes
Golden Apple			
Red Delicious Apple			
Granny Smith Apple			
Gala Apple			

**Red Delicious:** A popular eating apple that looks just how we all imagine an apple should. Unfortunately, due to overlong storage or supermarkets' selling the Red Delicious out of its natural season, many specimens have a mushy and tasteless flesh. Shop for your Red Delicious at a farmers' market so that you can buy in season and taste before you buy. This apple cooks down well into applesauce but is not recommended for baking or frying.

**Golden Delicious:** Sweet, juicy, and mild, this is probably the most widely available apple, good for eating raw, frying, and making pies. Its flesh does not darken as readily as that of other apples, and it holds its shape during baking.

**Granny Smith:** Originally from Australia, this bright green apple boasts white, firm, juicy flesh that is sweet and tart at the same time. It is good for eating, sauteing, and baking.

**Gala:** Native to New Zealand, the Gala is pleasantly sweet and crisp with golden skin and a rosy overtone. Taller than it is wide, the gala's shape is similar to that of the Golden and Red Delicious apples. It has a pleasantly mild, sweet taste, crisp texture, and a beautiful light-red sheen with bright-yellow undertones. Like Fujis, Galas are easy to eat uncooked thanks to their thin skin and overall sweetness, making them an ideal fruit for kids. They're also good for cooking.

**Reflection Questions:**

Why have some traits in apple's been chosen over others?

Why are there so many types of apples?

How does the environment that the apple grows in affect the color/taste?