Science of Life Explorations

The Fruit Belt:

New York Fruit
Introduction

Parts of New York State have been nicknamed “the fruit belt” because of the large amounts of fruit our farmers grow. In fact, many areas in New York grow fruits like apples, grapes, strawberries, pears and cherries.

New York is most famous for its apples and grapes. Many people come to New York to visit its vineyards and orchards.

This lesson will show that there isn’t only one kind of apple, grape, or strawberry. All three are very good examples of healthy fruits to include in our diet. Besides eating them fresh, there are many things made from fruit.

What are some of the many fruits grown in New York?

Is there only one variety of apple, grape, or strawberry?

How do farmers get plants to produce more fruit?

What makes apples, grapes, and strawberries healthy?

Apple-related images are provided as a courtesy of New York Apple Association © New York Apple Association
The Big Apple

Have you ever heard the saying “an apple a day keeps the doctor away”? Apples are a very healthy food that keeps our bodies healthy. Having an apple a day means we might be less likely to get sick.

Why are apples healthy?

Apples are fat free, sodium free, and cholesterol free! This is good for a healthy heart. One medium apple has 1/5 or 20% of our daily needs for dietary fiber. Dietary fiber helps our bodies break down food easier and helps prevent cancer and heart disease.

What are apple farms called?

Which state is the 2nd biggest apple producer? (circle)

Washington State    New York State

When are most kinds of apples harvested? (circle)

Spring    Summer    Autumn    Winter

Name a healthy fact about

Many of our apples are grown on the southern shore of Lake Ontario, in the Hudson valley, and in the upper Lake Champlain valley.

Apple Nutrition...

When homeowners and farmers have a lot of fruit trees or shrubs, it is called an ORCHARD. You know that apples grow on trees, right? Most kinds of apples are ripe for picking in early to late autumn.

New York State is the 2nd biggest producer of our nation’s apples.

Apples make up 4.2% of our agricultural exports and the crop worth was $187 million in 2005.
All of Those Amazing Apples

The Top 5 Apple VARIETIES in New York...

Red Delicious  McIntosh  Idared  Red Rome  Empire

...and the Rest of the Top 10 Apple Varieties in New York.

Crispin  Cortland  Golden  Paula Red  Gala

These apples are sweet: Crispin, Gala, Gold Delicious, and Red Delicious
These apples are tart: Paula Red and Red Rome
Have you had these kinds of apples? Empire, Idared, and McIntosh

The Browning Effect
Have you ever wondered why some apples start to turn brown after you take a bite or cut a slice? Its a chemical reaction between the inside of the apple and the air around it!

Apples contain an ENZYME (tyrosinase) and iron, which react with the oxygen in the air. The brown color comes from the iron that has reacted with oxygen.

This reaction between oxygen and iron is called OXIDATION. Oxidation also happens when scabs turn brown (you have iron in your blood) and when iron metal tools become rusty.

A little brown is ok to eat but it is a sign that the apple is breaking down and losing its quality. To prevent your cut apple from turning brown, you can:

1. cook it (slows down the reaction-starting enzyme)
Did you know? The apple varieties of Cortland, Empire, Jonagold, and Macoun were all created at the NY State Agricultural Experiment Station in Geneva, NY. Scientists develop new varieties by taking what they liked from different apple varieties to make a new variety of apple! The Empire apple is a mix of the Red Delicious apple and the McIntosh apple. The Jonagold apple is a mix of the Golden Delicious apple and the tart Jonathan apple. This is done by using different root stocks and apple seeds in a special

New apple varieties are created for many different reasons:
* crisper or softer skin
* sweeter or more tart taste
* different color or size
* holds its shape when its cooked or is easier to bite into
* protected from certain plant disease or pests
* can be harvested sooner
* lasts longer in storage

In the space below, color in your very own apple variety. Give it a name and describe it’s taste, skin, and a good thing about your new apple

Apple Name: _____________________

Taste (circle):  Sweet    Tart     Both

Skin (circle):     Soft     Crispy

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New York is:
- in 2nd nationwide for APPLE production
- in 3rd nationwide for GRAPE production
- in 7th nationwide for STRAWBERRY production

* The top 5 “most produced” apple varieties in NY are Empire, Idared, McIntosh, Red Delicious, and Red Rome.

* 57% of NY apples are processed into juice, cider, sauce, pie filling, canned/dried/frozen slices, vinegar, jelly, apple butter, and mince meat.

* Cortland, Empire, Jonagold, and Macoun apple varieties were created at the NY State Agricultural Experiment Station in Geneva, NY.

* To slow down oxidation of cut apples we can cook them, add an acidic juice to them, or keep them in water.

* Apples and strawberries have no fat, sodium or cholesterol in them.
1. If 57% of New York apples are processed into other things like cider or pie filling, what happens to the other 43% of New York apples that were harvested?

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2. What is one thing we can do to prevent apples from turning brown when we cut or bite into them?

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3. What apple variety was created from the Red Delicious apple and the McIntosh apple?

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1. If 57% of New York apples are processed into other things like cider or pie filling, what happens to the other 43% of New York apples that were harvested?

They are eaten fresh


2. What is one thing we can do to prevent apples from turning brown when we cut or bite into them?

Add a little lemon juice diluted into water, or keep them temporarily in water, or cook them.


3. What apple variety was created from the Red Delicious apple and the McIntosh apple?

Empire