**2. A Slice of History about Apples**

* Apples have existed for the length of recorded history and are believed to have originated in the Caucasus, a mountainous area between what are now the Black and Caspian Seas.
* Through the rise of Greece, the fall of Persia and migrations to Rome and Europe, apples were cultivated and — through a process called grafting, which produces new varieties — disseminated throughout various cultures.
* Apples experienced surges of popularity and, at one point, some varieties were nearly lost, but were saved due to traditional orcharding by the English church.
* Apple growing arose again in 15th century Renaissance Italy. Eventually, France and England followed suit, and the fruit remained popular in Europe well into the 1800s, when European settlers brought apples with them to the Americas to share the cultivation and traditions.

**3. How Do Apples Grow?**

* Apple trees grow in the temperate regions of the world. Apple trees are best adapted to places where the average winter temperature is near freezing for at least two months, though many varieties can withstand winter temperatures as low as -40 F.
* Apple trees are deciduous. In late spring, white blossoms appear from the tiny buds on apple tree branches for about nine days and produce pollen and nectar.
* Bees help to cross-pollinate the blossoms, the first step in forming an apple.
* The seeds are distributed among an apple’s five seed chambers, called carpels, found near the core. Seed development stimulates the apple tissue development. Apples continue to grow until late summer when they are ready to harvest and eat.

**South Dakota** has 6 orchards registered statewide but many more may exist.

Country Apple Orchard located near Sioux Falls has these varieties.

|  |  |
| --- | --- |
| **Connel Red:** | **A delicious, red, eating, & pie apple** |
| **Cortland:** | **A bright red, crisp, juicy, excellent eating, & pie apple** |
| **Fireside:** | **Excellent, red, eating apple** |
| **Haralson** | **Tart, juicy, eating & pie apple** |
| **Haralred:** | **Sweeter than the Haralson, tart, juicy, eating & pie apple** |
| **Honey Gold:** | **Golden, yellow-green apple with a red brush, eating, & pie apple** |
| **Honey Crisp:** | **Crisp, juicy, & exceptionally sweet eating & pie apple** |
| **Jonathon** | **Red, Sweet, crisp, & juicy, good for desert & cooking** |
| **Mcintosh:** | **Red, good commercial apple** |
| **Paula Red:** | **Red blush with yellow ground color. Great for sauce, pies, & eating fresh** |
| **Regent:** | **Red, crisp, juicy apple, good for eating, cooking, & desert** |
| **Red Cortland:** | **Excellent eating and pie apple** |
| **Sweet Sixteen** |  |

**5. Why should we eat Apples?**

* Fiber
  + A ½ cup of sliced apples is a source of fiber. Dietary fiber is a complex carbohydrate. There are three main types of carbohydrates: starch, fiber, and sugar.
  + Apples are best when eaten with the peel, as that is where most of the fiber and antioxidants are found.
* Vitamin A and C
* Potassium
* Iron
* Folic Acid

“An Apple a Day keeps the doctor away!”

**6. How do you pick a good Apple?**

* Apples are harvested in the fall from August through November, this is when apples are freshest.
* The rest of the year apples are sent out from controlled-atmosphere storage facilities or imported from New Zealand and Chile.
* Look for apples that are firm and have good color. Apples should not be mushy when you push on them at all. However, you need to know what kind of apple you are buying so that you can recognize what color it is supposed to be. The color can be a great indicator of how fresh an apple is because apples do not ripen once picked.

**Other Activities for Apple Education**

Serving Suggestions:

* + - Raw apples with the skin provide the most punch!
    - Get hold of some “no sugar added” applesauce!
    - Ever tried a “Waldorf salad”? Add to your salad greens some cut up apple, celery, raisins and walnuts, topped with a low-fat creamy dressing!
    - Add sliced apples to a toasted bagel spread with cream cheese and sprinkled with cinnamon.
    - Try an apple pizza, with sliced apples on an English muffin, topped with shredded cheese!
    - Slice apples and dip them in peanut butter, yogurt or a flavored low-fat cream cheese!
    - Two words: Apple pancakes!

**To the Core Facts**

* There are more than 7,000 varieties of apples.
* Washington State grows the most apples in the US.
* An average apple tree makes 2,000 apples.
* The largest amount of apples is picked in October.
* Dentists call apples “nature’s toothbrush” because they can fight bacteria in your mouth and help keep your teeth clean.
* One unpeeled apples contains more fiber than one bowl of most cereals.
* Replace shortening or oils in baking with an equal volume of applesauce plus one-third of the oil called for in the recipe.

**Talk about the differences between natural sugar and added sugar.**

**Sugar is in apples, but why is this type of sugar different than, for example, sugar cubes??**

What is Sugar?

Carbohydrates are the body’s main source of energy. There are three kinds of carbohydrates: starch, fiber, and sugar.

Sugar is found only in foods of plant origin. In food, sugar is classified as either naturally occurring or added.

Naturally occurring sugars include lactose in milk and fructose in fruit, honey, and vegetables.

Added sugars (white, brown, powdered, and corn syrup) are originally made from sugar beets, sugar cane, corn, and grapes.

Naturally occurring sugars (except honey) are usually found in foods along with vitamins and minerals, while added sugars provide calories and very few vitamins and minerals. Therefore, added sugars are often called empty calories.

Science Exploration

**A. Why do apples float in water?** Apples are comprised of 25% air; therefore, they float in water.

**B. What does the color of an apple’s skin tell you about the environment where it was grown**? Blistering heat can cause unwanted bronzed or bleached spots on the fruit’s skin. Overheated apples are cooled to the apple’s core through watering. The fruit’s temperature drops, helping to encourage the deepening of an apple’s rosy color.

**C. Oxidation is the browning reaction that occurs when the atoms in an apple come in contact with air and lose electrons.**

Cut two apples in half. Pour one tablespoon of lemon juice over the first half. Pour one tablespoon of water over the second half. Pour one tablespoon of apple juice over the third half. Do not pour anything over the fourth half. Leave all four halves in a visible spot in the classroom. Have students note the differences in the browning after one hour to see which method works best and why.

***Language Arts..The Legend of Johnny Appleseed***

*Born September 26, 1774 in Massachusetts on the eve of the American Revolution, John Chapman became the legendary “Johnny Appleseed.” He spent almost 50 years of his life in the American wilderness planting apple orchards in Illinois, Kentucky, Pennsylvania, and Ohio.*

*Johnny Appleseed was known as a kind and generous man. Alone, he pioneered the frontier on foot, planting apple trees, and selling them to the settlers on the plains for a few pennies each, or even clothing. Some had no cash, and from those he accepted a simple promise: to pay at a later date. Few failed to keep their word.*

*Chapman died in 1845, but even after 200 years, some of his trees still bear apples.*