Apples

How it’s grown

Apple trees grow in the temperate regions of the world as winter weather is needed to set fruit in the spring because it’s sunny during the day and cool at night. Washington’s river valleys are the perfect place to grow apples.

In January, after the leaves have fallen and the trees are dormant, pruning begins. Limbs are trimmed to allow maximum sunlight onto the tree. Pruning allows trees to produce higher quality fruit that is larger and more brilliantly colored.

In the spring, apple trees blossom with fragrant, sweet-smelling white flowers that produce pollen and nectar. Bees help to cross-pollinate the blossoms, the first step in forming an apple. When the blossoms fall off the pollinated flowers, baby apples begin to grow in their place.

The apple crop is harvested in the fall, when the apples are fully grown and ripened.

For more information, visit: http://usapple.org/educators/applestore/p-3.pdf

Did You Know?

• Washington’s oldest fruit orchards date back to approximately the mid-1800s making our state the first in the Pacific Northwest to produce apples. Today, 6 out of 10 apples eaten in the US are grown in Washington.

• The top 9 varieties of Washington State apples are Red Delicious, Golden Delicious, Gala, Fuji, Granny Smith, Braeburn, Honeycrisp, Cripps Pink and Cameo. These popular apples are sold in 60 countries worldwide!

• There are no harvest machines to pick apples as they bruise easily. 175,000 acres of apple trees are located in Washington where over 10 billion apples are handpicked by farm workers each year.

• If you put all of the Washington State apples picked in a year side-by-side, they would circle the earth 29 times.

For more information, visit: http://www.bestapples.com/index.aspx

Cooking in the Classroom

Apple Cinnamon Crunch
Makes 32 tastes at ¼ cup each

Ingredients:
4 large Washington apples
2 tsp ground cinnamon
2 cups nut-free granola

Directions:
1. Wash, core and slice the apples. Place apple slices in a large microwave-safe bowl.
2. Add cinnamon. Cover bowl with a lid or plastic wrap. Shake well to coat each slice with cinnamon.
3. Microwave on high for 2 minutes. Remove from microwave and stir to distribute heat.
4. Top with granola and serve warm.
JUST THE FACTS

• Last year, the average American ate 19 pounds of fresh apples.
• An apple a day keeps the doctor away when you eat the apple with its peel. That’s where most of the vitamins and fiber are stored.
• Horticulturists have documented a remarkable 7,500 varieties of apples. 2,500 of those are produced in the US. Only a handful of varieties are found in your local market.
• Apples range in size from a little larger than a cherry to as large as a grapefruit.

For more information, visit: http://www.bestapples.com/index.aspx

LITERATURE LINKS

GRADES K-2:
Apples, Apples, Apples
by Nancy Elizabeth Wallace (Winslow, 2000).
Bring Me Some Apples and I’ll Make You a Pie
by Robbin Gourley (Clarion, 2009).
The Seasons of Arnold’s Apple Tree

GRADES 3-5:
Apples
by Jacqueline Farmer (Charlesbridge, 2007).
How Do Apples Grow?
Johnny Appleseed: A Tall Tale
by Steven Kellogg (Morrow, 1988).

SCHOOL GARDEN:

WINTER FOCUS: COMPOST

While winter is in full swing, compost is continuing to decompose. Explore how healthy soil is created to nourish seeds in the spring.

• Talk about compost and the process of decomposition. Describe some of the different creatures and microbes that do the work. Discuss what they need to live.
• Bring in a 1-gallon pail of good compost and give each small group 1 cup of the compost. Have them spread it on white paper and describe what they see. Use hand lenses, if you have them.
• Explore with students the role they play in creating healthy soil. Does their lunch room or home kitchen collect food scraps for compost? What foods do they recycle into the compost bin? Point out that soil is nourished by some of the same things that are healthy for kids (i.e. fruit and vegetables).

For more information, visit: http://www.gardeners.com/Kids-and-Composting/5329,default,pg.html

BOTANICAL FACTS

Family: Rosaceae
Subfamily: Maloideae
Genus: Malus
Species: Malus Domestica

The cultivated apple Malus x domestica belongs to the family Rosaceae. It is a member of the subfamily Maloideae. The domestic apple is thought to have originated in the mountains of Central Asia. In fact, the former capital of Kazakhstan, Almaty, means “father of the apple.” Members of the rose family have flower parts in fives or multiples of five. The flowers are white or pink and the fruit is a pome type, in which the seeds are fused within the flesh (fruit). Cut an apple in half crosswise to find a star with five chambers, each having one to two seeds.

The science of apple growing is called pomology, named after the French word for apple - pomme. Over the years many people have worked together to refine methods to produce the best formed and tastiest apples. Apple trees begin to bear fruit when they are four or five years old. Some apple trees have been known to reach 200 years old, still producing apples!

For more information, visit: http://www.urbanext.illinois.edu/apples/facts.cfm
1. Apples are an excellent source of fiber. How many grams of fiber are in an apple? (An apple has 5 grams of fiber) Why is fiber important? (Fiber aids digestion by normalizing bowel movements. It also supports healthy weight maintenance as high fiber foods are filling and low in calories.)

2. Map the origin of most Washington state apples. (Okanogan, Lake Chelan, Wenatchee Valley, Columbia Basin and Yakima Valley). Describe the regional conditions that make this part of Washington ideal for growing apples. (Weather: apples need 3 months of dormancy brought on by cold weather to produce fruit in the spring. Washington orchards are 500 - 3,000 feet above sea level enabling the winter season. Apples grow in temperate climates versus the tropical kind that has similar weather year round. Furthermore, Eastern Washington has ample sunshine to produce fruit. Soil: Fertile lava ash soil. Water: Washington apple orchards are located along river banks in the Eastern foothills of the Cascades with plentiful mountain water for irrigation.)

3. Why are dwarf trees planted in Washington apple orchards? (Dwarf trees mature and produce apples in a shorter timeframe allowing growers to respond to consumer demands quickly. In addition, time and money is saved during the harvest because ladders aren’t necessary for picking!)

4. List the top nine varieties of apples commercially produced in Washington. Have you tried them? (Red Delicious, Golden Delicious, Gala, Fuji, Granny Smith, Braeburn, Honeycrisp, Cripps Pink, Cameo)

5. Many of the apples grown are not eaten fresh and whole. List the foods made from fresh apples. (Beverages like apple juice and cider, applesauce, dried apples and countless fillings for processed foods, i.e. pies and Pop Tarts. Fresh apples have more nutrients like fiber and fewer calories).

6. Describe what to look for when choosing an apple that is sure to taste delicious. (A tasty apple is firm, free of bruises and punctures, with a shiny skin. Dull, blemished apples are sure to disappoint in flavor and texture).

For more information, visit:
http://www.fruitsandveggiesmatter.gov/month/apple.html

**STUDENT ADVOCATES**

**WASHINGTON APPLES…COMING TO A STORE NEAR YOU**
Is there a store within walking distance of students’ home and/or school that sells food? What kind of food is sold there? Are there healthy choices like fresh fruit and vegetables? If so, have students investigate where their apples are grown and how many varieties are available for purchase. Then, have students write letters to the store manager in praise of making healthy foods available or to advocate that fresh local produce is carried at their store to support the community.

**ADVENTUROUS ACTIVITIES**

**HISTORY**
Research the early beginnings of the Washington apple industry. Who were the first people to grow apples? Why did growers begin to process apples into juice and applesauce? Today, Washington apples are sold throughout the world, what type of packaging was created to ship apples?

**PROBLEM SOLVING**
Use apples in math equations to demonstrate addition and subtraction of fractions.

**SCIENCE**
Use 3 to 5 varieties of Washington apples for a taste test. Have students observe, touch, smell and taste each apple variety and document their findings. Take a vote to find out which apple variety is preferred by students. Chart results with a bar graph. Discuss the attributes of the most and least popular apples.

**WRITING**
Ask students to write an original fairy tale or myth in which the apple plays a primary role. Alternatively, they might take a well-known tall tale and change the story line to include an apple theme; a magic apple perhaps?

For more information, visit:
http://www.usapple.org/educators/applestore/4-6guide.pdf

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HEAL IS A collaboration between Seattle Public Schools nutrition services, health education, physical education and risk management departments.