



Your Great Big Crunch How-To Guide Classroom Activities Revised for 2011!

Participating in **The Great Big Crunch** can be as easy as purchasing a bag of delicious local apples and coordinating a classroom or school wide synchronized crunch. No matter how you crunch, you'll be sending a message to your students about the nutritious and delicious benefits of apples, while taking part in a cross-Canada celebration.

We'd love to see photos, hear stories and feedback on your event so we invite you to register at thegreatbigcrunch@foodshare.net and tell us how great and big your crunch was! We'll be sending all registered schools and classes a certificate of participation and will keep you posted on the final numbers.

The following are some ideas and guidelines to help make your crunch great, whether you are looking for a 5 minute, 30 minute or half day crunch.

You Will Need:

Enough apples for all of your students:

- 🍏 Bags of local apples can be found in most grocery stores for under \$5 a bag. If necessary check with your local grocer and see if you can negotiate a better price or donation for your event. Make sure, when possible, you are buying local apples and supporting the hard work of local apple growers.
- 🍏 Alternatively you can ask students to bring in their own apple and have some extra apples on hand for any student that does not bring one in.
- 🍏 Toronto schools can order local apples from the FoodShare warehouse (90 Croatia Street at Dufferin and Bloor West). For more information, email thegreatbigcrunch@foodshare.net or call 416.363.6441 ext 278.
- 🍏 Orders will need to be received by **Thursday February 24th at noon** for pick-up the week of 28th February to 3rd March, and **Thursday Feb 3rd at noon** for pick-up from 4th to 9th of March.
- 🍏 Without a prior account, apples can be arranged to be picked up from FoodShare on Wednesday 2nd 9-5pm, Thursday 3rd 9-5pm, Friday 4th 2-5pm, Monday 7th 9-5pm or Wednesday 9th 9-5pm (delivery may be possible for those schools with existing accounts and who are ordering at least \$50 worth of produce).

Some apple facts, stories, trivia and activities:

- 🍏 Review the following pages for extra tips and ideas including how to introduce and coordinate the crunch, activities for the classroom, and delicious recipes to try.
- 🍏 Have a look at our comprehensive apple-themed storybook guide (also on the website), perfect for your Great Big Crunch classroom activities and discussions!

How to Get Crunching:

Introduce your students to **The Great Big Crunch** by telling them that they are a part of a cross-Canada, record-setting event promoting the healthy crunch of apples! Your students will be joining thousands of students from coast to coast.

Distribute apples to each of your students ... but don't crunch yet!

Before the crunch, encourage your students to:

- 🍏 Think about how the apple was grown. Picture it first as an apple blossom flower on the tree in Spring, being pollinated by bees and then transforming into a fruit, ripening in the sunny weather.
- 🍏 Imagine what the orchard looked like, the growers who work there, and the workers who harvest and wash the apples.
- 🍏 Think about the journey the apple took from the orchard to the grocery store. Were your local apples transported to you on a bike, in a car, truck, train, plane or ship?

Share some fun apple facts (see below).

Have a Great Big Crunch Countdown, making sure to emphasize the fun in crunching all at once!

- 🍏 For an even *bigger* crunch invite students to crunch into the P.A system, a microphone or in an echoey hallway, gymnasium or auditorium
- 🍏 Don't stop at the first crunch – keep crunching until the apples are finished.



Apple History & Customs

- 🍏 Apples have existed as a wild fruit since prehistoric times and have been cultivated for more than **3,000 years**.
- 🍏 During the California Gold Rush apples sometimes fetched more than **\$100 a bushel** because of their versatility, durability and capacity to be preserved by drying.
- 🍏 Sir Isaac Newton, the renowned Mathematician and thinker, supposedly discovered the **laws of gravity** in 1660 after seeing an apple fall from a tree.
- 🍏 In parts of Scotland, after successfully bobbing for apples, the first name a man heard was supposed to be that of his **future wife**.
- 🍏 Apples are associated with good health and healthy eating. They have been used as cures for many ailments. The most common one being for **warts**.
- 🍏 People used to believe that if it was a good year for apples, then it was a great year for **twins**.
- 🍏 In mainland Europe, it was believed that an apple tree that bloomed out of season would bring the owner **good fortune**.

Fun Apple Facts

- 🍏 Apples are the most varied food on Earth. **7500** varieties of apples are grown throughout the world!
- 🍏 Canadians eat on average, **86 apples per year**
- 🍏 60% of our apples are eaten out-of-hand; the remainder are **processed**
- 🍏 The science of apple growing is called “**pomology**”
- 🍏 The largest apple ever picked weighed **three pounds**
- 🍏 Archeologists have found evidence that humans have been enjoying apples since at least **6500 B.C.**
- 🍏 Planting an apple seed from a particular apple will not produce a tree of that same variety. The seed is a cross of the tree the fruit was grown on and the variety that was the **cross pollinator**.
- 🍏 Apples are a member of the **rose family**
- 🍏 It takes energy from **50 leaves** to produce one apple
- 🍏 Fresh apples float because 25% of their volume is **air**
- 🍏 It takes **four apples** to make a glass of pure apple juice!
- 🍏 *What's worse than finding a worm in your apple? Finding only **half a worm!***
- 🍏 Settlers used apple tree bark simmered in water to make **yellow dye** for clothing
- 🍏 If a young man tossed an apple to a young woman, he was **proposing marriage** to her. If she



caught the apple she had accepted the proposal to marry!

- 🍏 Dried apple slices were **found in the tomb** of Queen Pu-Abi in southern Iran, dated back to 2500 B.C!
- 🍏 The only apple native to North America is the **crabapple**
- 🍏 Takes four to **five years** for an apple tree to produce it's first apple

Apple Geography

- 🍏 According to Agri-Food Canada, apples are mainly grown in British Columbia, **Ontario**, Quebec, New Brunswick, Nova Scotia and Prince Edward Island.
- 🍏 **China** is the largest producer of apples, followed by US, Turkey, Poland and Italy.
- 🍏 The apple tree **originated** in an area between the Caspin and the Black Sea.

Apple Nutrition Facts

- 🍏 Most of its **nutrients** are contained in the **skin**
- 🍏 Apples are a good source of **fibre and vitamin C** when the skin is left on
- 🍏 Apples contain pectin which helps to remove **cholesterol and toxic metals**
- 🍏 Apples contain phytonutrients which help regulate **blood sugars**
- 🍏 **Helpful for indigestions** as it contains malic & tartaric acid
- 🍏 Making a poultice (grated apple) to put on eyelids for 20 minutes can help relieve **swelling, irritation, sunburn!**
- 🍏 Apples are cleansing for the **liver and gall bladder** (and may soften gallstones)



2011 Classroom Activities

Activities are Sorted According to Our Four **Recipe for Change** Food Literacy Themes



Sprouting & Planting An Apple Tree Experiment

(From the book Get Growing by Lois Walker)

Growing apple trees is a challenging endeavor... But it is worth the experiment! It is best to start this experiment 4 months before transplanting it outdoors. Remember it takes six years for an apple tree grown from seed to produce fruit.

You Will Need:

Apples or seeds from apples
Paring knife
Small, covered container
Paper towels
Small flower pot or recycled egg carton
Potting soil
Plastic tray or saucers



Instructions:

1. Cut apples in half, using the paring knife
2. Carefully remove the seeds and eat the apple.
3. Place the seeds on a plate to dry for several days until the moisture has disappeared.
4. Place the seeds in a small container. Cover the container and place it in the fridge. The seeds must be kept in the fridge for six weeks. Record the date on the calendar. This process tricks the seeds to think they have gone through winter.
5. After the six weeks have passed, place the seeds between two sheets of damp paper towel.
6. Keep the paper towel moist for several weeks until the seeds sprout.
7. Once the seeds have sprouted place them into a pot or egg carton filled with potting soil. The seeds should be planted 2 cm deep. Place the container next to a bright window and keep the soil moist daily.
8. Transplant the seedlings into larger containers once they have outgrown their pot. Fertilize the seedling occasionally. Most importantly give the seedlings lots of love!

9. Transplant the small trees once they are about two feet tall outside during mild weather, preferably in early spring after the last frost. Locate a bright sunny spot to dig a hole 3x bigger than the diameter of the root ball. The area should be a well-drained location. Remember the tree may grow up to twenty feet so not too close to any building structures. The tree will require eight hours of full sun daily.
10. For more detailed information about planting apple seedling refer to the following websites <http://www.wikihow.com/Grow-an-Apple-Tree-from-a-Seed> or <http://www.mahalo.com/how-to-plant-apple-seeds>

Do All Apples Have The Same Number Of Seeds?

(From the book Get Growing by Lois Walker)

This experiment may be used with any seeded fruit such as grapes, oranges, grapefruits, pears, or pomegranates. Math and science could be incorporated into this activity.

You Will Need:

- 3 yellow apples of the same size
- 3 red apples of the same size
- 3 green apples of the same size
- Knife to cut the apples
- Cutting board
- 9 paper towels
- Glue for pasting the seeds
- Cardboard/Bristol board
- 1 red crayon or marker
- 1 black crayon or marker



Instructions:

1. Before the experiment, have the students state their opinions whether all apples have the same number of seeds. Encourage students to estimate the number of seeds that each apple may contain.
2. Number the paper towels (from 1-9) using the red crayon.
3. Cut the apples in half and place each apple (both its halves) on one of the paper towels.
4. Remove the seeds from each of the apples and place the seeds with their apple on the paper towel.
5. You may eat the apples but remember which seeds belong to which apple. It may be helpful to label the paper towel (red apple or by its name i.e. red delicious).
6. Count the seeds and write the number on each of their paper towels using the black crayon.
7. Make a chart labeling it by its colour or name. Record the number of seeds for each apple.
8. Do all apples have the same number of seeds? Do all of the apples of the same colour have the same number of seeds?

Dissect An Apple

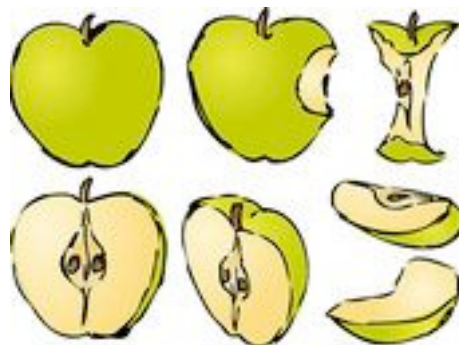
(Adapted from the <http://www.alphabet-soup.net/dir2/applegame.html>)

You Will Need:

1 Bag of apples
Spoons
Dull knives or plastic knives
Magnifying glasses
Watch or timer

Instructions:

1. Give each student an apple, spoon, knife or divide the students to work in pairs to reduce the number of materials.
2. Have the students observe the exterior of the apple. Have students record their observations. Items to describe could be the texture, physical appearance, and smell.
3. Have the students remove a part of the skin using a dull knife. Have them describe their observations once again. Is it possible to measure the thickness of the apple's skin?
4. Have students cut the apple in half. Have students place one half a side and begin to record the time it will take for the flesh to oxidize (turn brown).
5. Meanwhile have students taste a small piece of the other half to record further observations. Have them record the interior appearance including the seeds.
6. Have students estimate the number of seeds in their apple. Once the full time is recorded for the other half of the apple have the students remove the seeds from both halves. Were they correct with their estimations?
7. Have students draw a diagram of the apple and its different layers. Have students share their results with the class.



If The Earth Were An Apple

(from <http://www.alabamaaitc.org/fall00/earth.html>)

Consider the earth as an apple. Get an apple and do the following sequence, or read the activity slowly and imagine or draw each action.

You Will Need:

An apple
A sharp knife



Instructions:

1. Slice an apple into quarters.
2. Set aside three of the quarters. These represent the oceans of the world.
3. The fourth quarter roughly represents the total land area left.
4. Slice this land quarter in half, giving you two $1/8$ th world pieces.
5. Set aside one piece. This is land inhospitable to people (polar areas, deserts, swamps, very high or rocky mountainous areas.)
6. The other $1/8$ th piece is the land area where people live, but does not necessarily grow the foods needed for life.
7. Now slice this $1/8$ th piece into four sections, giving you four $1/32$ nd pieces.
8. Set aside three of these pieces. These are areas too rocky, too wet, too cold, too steep, or with soil too poor to produce food. They also include the areas of land that could produce food but are buried under cities, highways, suburban developments, shopping centers, and other structures that people have built.
9. This leaves a $1/32$ nd slice of the earth. Carefully peel this slice. This tiny bit of peeling represents the surface, the very thin skin of the earth's crust upon which humankind depends. Less than five feet deep, it is a fixed amount of food-producing land.
10. When we see the small amount of land that produces our food, it's easy to see that protecting land resources are important. Advanced agricultural technology has enabled the world to feed many of its people. But, with a fixed land resource base and an ever-increasing number of people trying to feed themselves from the fixed base, each person's portion becomes smaller and smaller and more important to the individual person. We must protect the environmental quality of our air, water, and land.

11. Remember: It takes 100 years to make 1 inch of topsoil. The water we have on earth today is all the water we'll ever have.
12. Earth's water is composed of 97.2% salt water, 2.15% ice, 0.63% ground water, 0.02% surface water (lakes, rivers)
13. Only the last two provide our useable water.

Find the Worm Game

(Adapted from the website <http://www.alphabet-soup.net/dir2/applegame.html>)

You Will Need:

- 3 laminated apple shapes cut from construction paper
- 1 laminated worm shape cut from construction paper
- Velcro (place Velcro onto the under side of each apple and the worm)

Instructions:

1. Place the apple shapes onto a table and hide the worm under one of the apples by attaching it the velcro
2. Begin to move the apples around the table to see if the students can keep track of where the worm is hiding
3. Select students to guess where the worm is located. This game may be continued again by selecting a student to hide the worm.



Dried Apple Chips

(From the book Get Growing by Lois Walker)

You Will Need:

Apples
Peelers
Cutting Boards
String
Apple Corer
Drying rack

Instructions:

1. Remove the core of the apples and remove their skin with peeler.
2. Thinly slice the apples creating apple rings. But do not slice too thin or the apple will fall apart.
3. Thread the string through the apple rings. Attach the string to a rack or something sturdy.
4. Once hanging, ensure the apple rings do not touch each other.
5. Record the date on a calendar. Each day turn the apple slices gently. After seven days the slices should be ready to eat.
6. Compare homemade apple slices with store bought. Notice the colour differences as store bought dried apples use preservatives to maintain the colour.

Sweet & Spicy Raw Apple Slices

You Will Need:

Apples
Apple corer & slicer
Limes
Cayenne powder
Sea Salt
Ground cinnamon
Ground ginger



Instructions:

1. Using an apple corer/slicer cut the apples into slices
2. Squeeze a bit of lime juice onto each slice or toss in a bowl with juiced lime to prevent discoloration
3. Sprinkle the slices with either sea salt and cayenne or cinnamon and ginger
4. They are ready to eat. Enjoy!

Apple Butter

(From the website <http://chefinyou.com>)

You Will Need:

4 lbs. apples (Red Delicious, Gala, Fuji, McIntosh, or Mutsu)
Crock pot
Hand blender
1/3 fresh apple juice
2/3 maple syrup or brown sugar
2 tsp. vanilla extract
1 tbsp. fresh lemon juice
Ground cinnamon, nutmeg, ginger, and cloves to taste

Instructions:

1. Combine all ingredients and add to crock-pot.
2. Set the crock-pot to low or medium heat.
3. Let it cook for 6-12 hours depending upon the size and power of your crockpot.





An Apple For Your Thoughts...

(From the website http://askeric.org/Vitual/Lessons/Social_Studies/Multicultural_Education?MUL0007.html)

This activity provides a demonstration to discuss the similarities and differences of people.

You Will Need:

One apple for each student (should be various sizes, colours, varieties)
1 Knife

Instructions:

1. Discuss and make a list with students of what some of the similarities and differences between people.
2. Place the apples on a table and have each student select an apple.
3. Tell students to closely study the characteristics of their apple i.e. colour, variety, any bruises, size, and shape
4. Tell the students to return their apples to the table or have a student collect them and return them to the table.
5. Mix up the apples and ask the students to find their apple.
6. Once the students locate their apple have them sit at their seats.
7. Ask the students how they were able to determine which apple was theirs (specific characteristics).
8. Ask how this is similar to people and refer to the list of differences of people.
9. Discuss how people look different but we are all the same on the inside.
10. Wash and cut the apples (not the usual way but through the center the other way) to show the star of seeds inside each apple.
11. Explain that each apple has a star within them just like people, which makes us the same. Hand out the apples for a snack.

Apple Hide & Seek!

(From the website <http://www.alphabet-soup.net/dir2/applegame.html>)

You Will Need:

Laminated apple pictures of different sizes, colours, and shapes (enough for students to find several each)





Instructions:

1. Hide the apple shapes throughout the classroom prior to the students entering the classroom.
2. Have students try to find the apple shapes and sort them according to colour shape, size





Subject-Linked Apple Activity Suggestions

(Some of these suggestions are from <http://askeric.org/Virtual/Lessons/Interdisciplinary/INT0006.html>)




Math

-  Introduce fractions using an apple: 1 whole, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{3}$, $\frac{2}{3}$...
-  Graph favourite apple foods or different apple varieties
-  Introduce or practice measurements while preparing an apple recipe such as apple crumble, spiced apple sauce, or spiced apple cider
-  Sort apples according to different colours, varieties, and sizes

Science

-  Investigate the different parts of an apple tree, its blossoms, and the apple
-  Investigate the different stages/lifecycle of an apple tree according to the four seasons
-  Investigate the different nutrients of an apple
-  Investigate the habitat of an apple tree and the role of pollination

Social Studies

-  Introduce cardinal directions by using a map of an apple orchard
-  Discuss the traditional uses of the apple tree during pioneer days such as tree bark used for dyeing clothing, apple dolls, Johnny Appleseed, different myths such as the meaning of bobbing for apples
-  Time line of Johnny Appleseed's life

- 🍏 Introduce climate change and the stages of the imported apple. Compare the imported apple to the local apple. Use mapping for this activity.

Language Arts

- 🍏 Have students write an acrostic poem about the apple
- 🍏 Have students read several short apple themed stories then have them create their own short story with illustrations for younger students to read to them
- 🍏 Have students write the different steps of harvesting apples to grocery market

