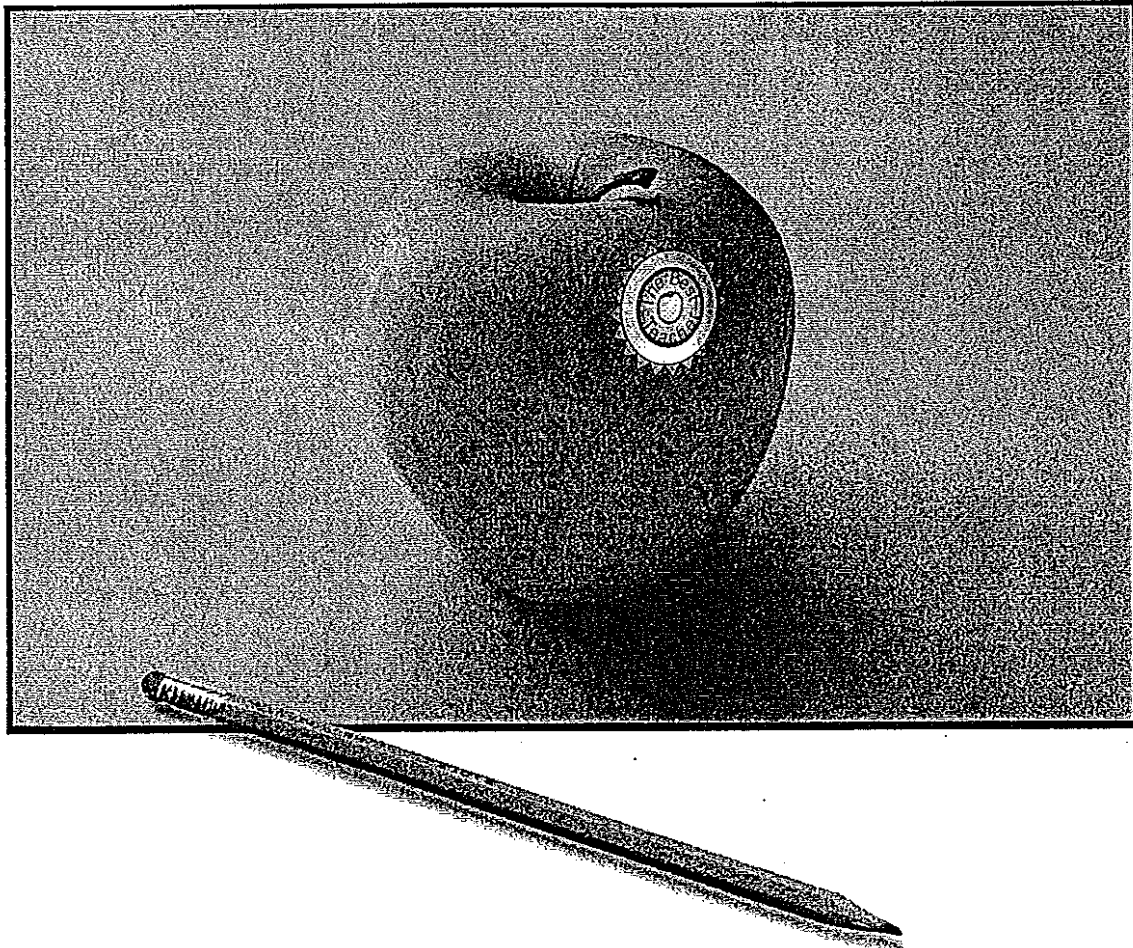


# apples

Prepared by Teresa Williams

British Columbia Agriculture in the  
Classroom Foundation  
Summer Institute 1998 Unit Plan  
for Primary grades

ideas for the grade One teacher



Summer Institute 1998 was sponsored by:



## Welcome to the Wonderful World of Apples!

This unit developed as a result of participation in the first Summer Institute for Agriculture in the Classroom in 1998. Many teachers use apples as a topic for coming back to school because there's all kinds of neat stuff out there to decorate rooms, stickers, children's literature, note pads- the whole concept of an apple for the teacher. So go with it! Decorate your room with purchased materials and the class art. Cook up a storm and drive your colleagues nuts and thrill your class. Find an apple tree in a yard nearby and make it a year-long project to note changes. Take a field trip to an apple farm. You have opportunities to correlate this unit with every IRP sitting on your shelf. Warning: apple trees are not easy to grow from seed! You need to have them sit for about 3 months in your fridge first!

I tend to write a weekly newsletter to my parents. I keep it very informal and let them know what we're up to. They love it and I never lack for help. Cooking is so much easier with a parent guiding a child, leaving me the opportunity to work with the others or explain a process or concept to the class. Parents are able to send in ingredients for recipes if you involve them. They often have good ideas for field trips in the community. Use this wonderful resource!

This unit has been designed to use materials I use for Grade One. I tried not to include ideas from other publications because they are readily available and the whole point of this exercise was to generate new ideas. I highly recommend the Education Center Publications (see Additional Resources for more info) as the worksheets are written by practicing teachers.

Special thanks to my colleagues in Hope for assisting me with materials. I've had a great time putting together this unit and I hope you or a colleague will find it helpful.

Teresa Williams

## Table of Contents

1. Opening.....	1
2. Comparison Grid to the IRPs.....	3
3. Background information on Apples.....	8
4. Language Arts.....	10
5. Social Studies.....	13
6. Math.....	15
7. Science.....	16
8. Art Activities.....	18
9. Music.....	20
10. Recipes.....	22
11. Recommended Resources.....	24
12. Additional Resources.....	27
13. Blackline Masters.....	29

## Social Studies Learning Outcomes

**These learning outcomes are applicable for the activities which follow.**

It is expected that students will:

- generate information from a variety of sources and experiences
- draw simple interpretations from personal experiences, oral sources and visual representations
- demonstrate an awareness of their community
- identify different occupations in their community
- demonstrate an awareness of the influence of modern technology on their lives
- demonstrate an awareness of natural and human-built environments

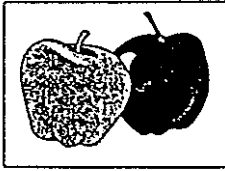
## Science Learning Outcomes

**These learning outcomes are applicable for the activities which follow.**

It is expected that students will:

- describe the characteristics of a variety of plants
- demonstrate how plants and other organic material can be recycled back into the environment
- differentiate between solids, liquids and gases
- demonstrate changes in properties of matter when it is heated or cooled
- demonstrate changes in properties of matter when water is added
- describe the effects of weather on living things
- identify the characteristics of each season
- safely carry out instructions and procedures involving a small number of steps
- collaborate with others in scientific investigations
- suggest questions for investigations
- handle equipment and materials safely

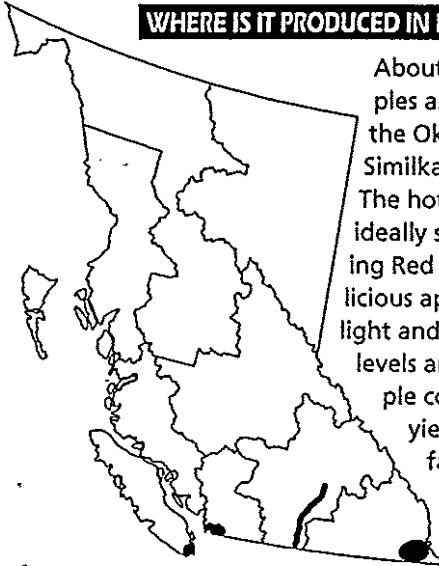
# Apples



## WHAT IS IT?

An apple is a round tree fruit which has crisp white flesh, with red veins. The skin colour of an apple can vary from yellow to green to red. An apple is a pome fruit, as is a pear. A pome fruit has multiple seeds protected by a core. There are over 100 varieties of apples grown in North America. The varieties grown for B.C.'s commercial production are Red and Gold Delicious, McIntosh and Spartan. Newer varieties now being widely planted include Jonagold, Gala, Braeburn and Fuji.

## WHERE IS IT PRODUCED IN B.C.?



About 98% of B.C. apples are produced in the Okanagan-Similkameen valleys. The hot dry weather is ideally suited to growing Red and Golden Delicious apples. High sunlight and temperature levels are ideal for apple colouring and yield. The low rainfall level reduces the impact of disease. Most orchards are

on slopes near lakes which moderates the temperatures and reduces the risk of winter injury and spring frost.

## HOW MUCH DO WE PRODUCE?

B.C. produces about 30% of the apples grown in Canada. The total quantity ranges from 136,000 tonnes to 195,000 tonnes. This amounts to more than 1 billion apples. British Columbians consume 25% of the apples grown in B.C. That's about 75-100 apples per person per year. The value of B.C. apples is about 80% of all B.C. tree fruit production.

## WHAT DOES IT LOOK LIKE WHEN I USE IT?

About two-thirds of the apples grown are eaten as fresh fruit. Processed apples are used for fresh and frozen apple juice, sauce, cider and vinegar. Apples can be dried, made into apple leather, or used as pie filling.

Apples are about 85% water. They contain a variety of essential minerals and vitamins. They are about 12% natural sugar or fructose. Fructose is a water-soluble sugar found in all ripe fruit. Because of the solubility of fructose, the body does not have to convert it into sugar before use, therefore making apples a source of instant energy. Apples are a high source of pectin, a soluble fibre that can absorb more water than any other bulking agent.

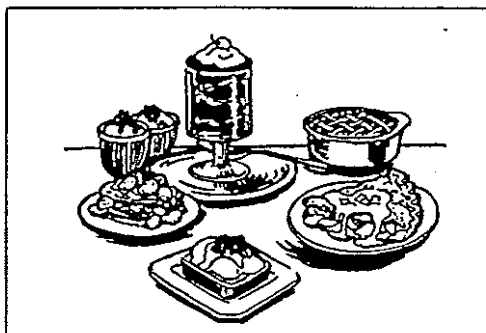
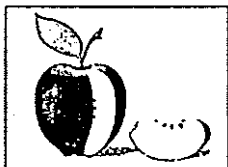
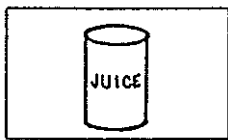
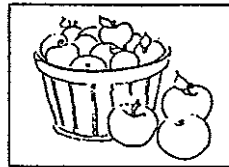
Apples clean the digestive system. Eating an apple cleans the teeth and massages the gums, removing more bacteria than two three-minute brushings followed by a gargle. Scientists have proven that apple eaters have fewer headaches, intestinal disorders, colds, respiratory problems and illnesses associated with the nervous system.

## HOW IS IT PRODUCED?

Apples are grown in orchards. Apple growing has become a specialized science known as pomology. An apple tree is composed of two parts: the cultivar (fruit-bearing part of the tree) and the rootstock. Both cultivar and rootstock are selected for specific site conditions. The cultivar is grafted onto the rootstock. Grafting involves placing a short shoot of a dormant cultivar into the rootstock. The tongue and groove union is then wrapped with tape and allowed to grow. Caring for an orchard requires planting trees; pruning; fertilizing; controlling weed growth, insects, and other pests; watering; and replanting trees to ensure the orchard is always healthy. Apple trees must be cross-pollinated. When the trees start to bloom, orchardists place beehives in the field to ensure pollination.

## Interesting Fact:

Apples are the most valuable edible horticulture crop in B.C. About 75% of all B.C. orchard land is planted in apples.



## Language Art Activities

In Grade One, particularly if the apple unit is done at the beginning of the year, the class is coming to you with a limited sight vocabulary. You have the opportunity to expand this at a rapid rate if the students are properly motivated. There are many materials available from teachers stores to decorate your class and if you bring in apples to eat and prepare, you'll have a captive audience and eager participants.

### Oral

The students will love chanting the following poems ( authors unknown)

Apples are ripening  
In the fall.  
Let's climb the ladder  
And pick them all.

\*\*\*\*\*

Apples, apples, one, two, three,  
Apples for you,  
Apples for me.  
Apples big,  
Apples small,  
Apple trees tiny,  
Apple trees tall.  
Apples sour,  
Apples sweet,  
Apples, apples, are good to eat.

### Listening

1 Make a chart of books read during this unit. Discuss with the class- Which ones could happen? Which ones could not?

2. After watching a video or listening to a book, have the students dictate information for a class chart: sequence, sorting, Venn diagram

3. Create lists of rhyming words from Ten Apples Up on Top (see note under reading)

## Social Studies Activities

### Learning about the community

Where have you seen an apple tree? Take a walk in the community and adopt an apple tree. Make a class chart and make a record of observations throughout the year. talk to the owner to discuss, pruning, fertilization, picking, insect problems, composting, preparation of apples etc. ✓

The students will talk to individuals who make their living with apples e.g. apple farmer, grocery clerk, open market owner, truck driver. In community visits poll each host or guest as to their favorite type of apple or apple dessert and keep a progressive graph throughout the year. ✓

### Visiting an apple farm

Check with Lindsay Babineau at BCAITC for the name of an apple farm near you. Be sure to visit the farm ahead of time to look for special items of interest and to discuss with the farmer items which you wish mentioned during the tour

Spring gives you the opportunity to see the blossoms and the new apples growing but often the apples are scarce. Fall is a great time to see the wide varieties of apples available.

Prepare your students ahead of time by talking about things to look for. Take along questions from the K-W-L chart that have not been answered.

After a visit to an apple farm have the students recall the variety of machines used and their purpose.

After the visit to an apple farm, have the students write a journal article and draw a picture. Be sure to send thank you letter. Be imaginative- try to find a different way to send individual letters.

Mason bees are special bees that help to pollinate blossoms in cooler weather. Apple farmers build special wooden boxes for them. On an apple visit ask to see them. Have the students investigate homes for mason bees and compare to regular honey bee hives and how bees live in the wild

# Math

## Manipulatives

Apples can be duplicated on manila tag and used as counters or try finding small plastic apples in craft stores. Use to answer addition and subtraction questions and to match number cards to show one-to-one correspondence

## Worksheets

There's a number of excellent worksheets to be found in Mailbox Magazine and Primary Teacher. (both published by the Education Center) You can easily make your own by writing questions inside the mini-apples or by adding clip-art to your own worksheet.

## Literature

Use Ten Apples Up on Top to reinforce number words to ten.

## Fractions

Cut up an apple to show halves and quarters. You might as well do some cooking while you're at it! Whether you use metric or Imperial measurements, measuring carefully and following directions are important skills to learn.

## Graphing

What is your favorite apple? After giving samples of various apples ask the children to stand in a line behind a child holding a particular variety. This forms a human graph. Then taking one group at a time ask the child to either glue on his/her name or a photocopied picture of himself/herself to a pre-made chart with the varieties listed.

Ask

- Which is the favorite apple?
- Which variety was chosen least? most?
- Which had the same number of people?
- Who can put the apple choices from least to greatest? from greatest to least?

## Sorting

Ask parents to send in several apples with their child. Put all the apples in a big bowl or basket. During math time, give all students the opportunity to work in a small group to sort the apples. The obvious choices will be by size and color. After sorting, ask what other criteria could be used- bruised and unbruised, stripes, dotted, stem, no stem etc. Sort again.

## Science Activities

### How to start

Be sure to involve the students in learning a variety of concepts about apple growing and apple processing. To introduce the unit try a K-W-L chart and fill in to see what the students think they know about apples and what they would like to know. As activities are done add to the chart. See the information from the Ministry of Agriculture regarding how apples are grown in this province.

### When?

Depending on what time of year the unit is done, highlight the stages of apple growth at that time. A fall unit might emphasize the many varieties of apples that are available. A spring unit would be the time to see apple trees in bloom.

### 1. Dehydrating

Have students dehydrate apples and make note of changes in their learning logs. Then the apples will be rehydrated by soaking in water. The students will make further note of the changes and compare to fresh apples.

### 2. Weather

Students will discuss the need for rain, the dangers of frost and heavy winds during blossom time. They will create a before and after picture for one of these concepts.

### 3. The Seasons

Give the students a tree outline to color appropriately for each season. See the Bibliography for useful books to read.

### 4. Using lemon juice and salt

Using water, salt water and lemon water place apple slices in liquid to determine which apples turn brown the fastest. Have students predict which slices will stay the whitest.

### 5. Stages of growth

Make an accordion book to show how the tree grows. Some students may only draw pictures, others will write words or sentences as you direct.

## Art Activities

I have found it very advantageous to schedule a parent assistant during messy art times. I'm much more relaxed and the children get the opportunity to try new crafts. It's especially helpful when using sharp implements or the glue gun. And it's so nice to have someone else to assist with clean-up!

1. Cut sponges to make trees and apples. Forget about buying them pre-cut. Buy a bag of sponges on sale and cut your own in a variety of shapes.

2. Apple prints are always a favorite. Try a variety of cuts. How about stamping some adding machine rolls to make your own border?

3. Eating an apple - show from whole apple to core. Give each child an apple. Instruct them to fold their paper in four. Have them draw and color the apple in the first box. Then take a bite- and draw and color again. Take another couple of bites and do the third picture and finish off with a picture of the core in the last box.

4. Paint your apple - BIG- use a mix of colors.

5. Use paper strips to weave an apple outline or the top of a tree. You could give out tracers or have the students draw freehand.

6. Draw a tree using colored markers

- attach pink popcorn blossoms OR
- attach pink tissue paper blossoms-from small pieces of tissue paper wrapped at pencil end, dipped in glue and attached

7. Cut an apple outline out of red construction paper. Scrape crayon shavings between 2 layers of wax paper, iron and glue between the apple outline- an apple sun catcher!

8. On an apple outline printed on manila tag spread water-thinned glue. Shake on paint powder-salt mix. Hang on tree.

9. Out of playdough or self hardening clay, make the shape of an apple or a tree. Paint with acrylic paints and spray with lacquer. Attach a magnet to the back with a glue gun.

## Music ideas

### Singing

Raffi: "One Light, One Sun"

**I like to eat apples and bananas**

•wonderful use of vowel sounds-

I like to eat, eat, eat, apples and bananas 2x  
I like to ate, ate, ate ay-pples and ba -nay-nays 2x  
I like to eat, eat, eat ee-pples and be- nee -nees 2x  
I like to ite, ite, ite i-pples and bi -ni -nis 2x  
I like to ote, ote, ote opples and bononos 2x  
I like to ute, ute, ute oopples and bu -noo -noos 2x  
I like to eat, eat, eat, apples and bananas 2x

Raffi: The Corner Grocery Store

**"Going on a Picnic"**

Going on a picnic, leaving right away  
If it doesn't rain we'll stay all day  
Did you bring the sandwiches?  
Yes I brought the sandwiches.  
Did you bring the salad?  
Yes I brought the salad.  
Ready for a picnic. Here we go!

Going on a picnic, leaving right away  
If it doesn't rain we'll stay all day  
Did you bring the melon?  
Yes I brought the melon.  
Did you bring the **apples**?  
Yes I brought the **apples**  
Did you bring the lemonade?  
Yes I brought the lemonade.  
Did you bring the cookies?  
Yes I brought the cookies.  
Ready for a picnic. Here we go!

## Apple Recipes

There are countless recipes to use and probably the best are the ones you are most familiar with.

Consider...

apple butter, apple juice, dehydrated apples, apple crisp, apple pie, applesauce and related cookies, muffins, cakes and bars.

•Be sure to involve parents in the process. It is so much easier to have a parent working with a small group while you are dealing with a large group of children. And be sure to have lots of jobs for the students: wiping tables, fetching and carrying, washing dishes. I found setting up a list of jobs beforehand and having the students choose helped me and the parent helper and the children knew they would be assured of having jobs. Everybody gets a chance to stir and cut apples!

Cooking offers numerous opportunities to measure, explain physical and chemical changes and for using co-operative groups.

### Apple Upside Down Cake

This worked well as a class treat as it fits into the Canadian Diabetes Association's Good Health Eating Guide, providing one starchy choice, one fruit choice and one fats and oils choice.

In skillet, melt 1 tbsp. butter or margarine

Add 2 tbsp. brown sugar

1 tsp. cinnamon

4 apples peeled, cored and sliced

Stir for 3-5 min. until tender. Using slotted spoon, remove apples from skillet and arrange in a greased 8" pie plate.

In bowl, combine 3/4 cup flour

1/3 cup granulated sugar

1 tsp. baking powder

In separate bowl, beat 1 egg

1/4 cup vegetable oil

1/4 cup 2% milk

1 tsp. vanilla

Pour egg mixture into flour mixture, stir until just blended. Stir in 1/2 cup raisins. Pour over apples. Bake @ 350°F 30-35 minutes or until firm to touch. Let cool for 5 minutes Loosen cake and invert on serving platter Serve warm. Makes 12 tiny slices.

## Recommended Resources

Berger, Melvin, An Apple a Day, New York, NY, Newbridge, 1996

- A non-fiction big book with color photos of the growth of apples
- Excellent resource

Bourgeois, Paulette, The Amazing Apple Book, Toronto, Kids Can Press, 1987

- Excellent teacher resource on all topics, from growth to arts and crafts

Brazina, Rhonda, Apples Theme Unit grades 2-3, Cypress, CA, Creative Teaching Press, 1990

- Integrated Activities for whole language and thematic teaching
- Lots of easy to use ideas

Corrin, Ruth, The Apple Tree, Scarborough, ON, Prentice Hall, 1996

- Level 1 Sunshine Books
- Colorful drawings and simple text

DeBeck, Susan, Apples

Debeck Educational Video  
33738 Station D,  
Vancouver, BC V6J 4L6

- Excellent video for children with guide
- Includes visit to an apple orchard through the seasons
- Animated version of Johnny Appleseed
- Reenactment of John McIntosh creating his new apple

Dodd, Lynley, The Apple Tree, Milwaukee, WI, Gareth Stevens, 1985

- Boy and girl watch apple tree grow only to have a possum eat the crop.
- Colorful drawings and simple text

Gibbons, Gail, The Seasons of Arnold's Apple Tree, HBJ, 1984

- Well-documented, great graphics

Gillis, Jennifer Storey, An Apple A Day, Vancouver, Whitecap Books, 1993

- Over 20 apple projects for kids

Hall, Zoe, The Apple Pie Tree, New York, NY, Scholastic, 1996

- Painted and Found- Paper Collage
- Easy to read, available with a tape

Keith, Gordon, The Story of an Apple, London, MacDonald Educational, 1980

- Colorful drawings and simple text

Winer, Yvonne, Mr. Brown's Magnificent Apple Tree, Ashton, Scholastic, 1985

- A pattern book where little mice steal the apples until Mr. Brown takes the last apple
- Available as a Big Book with tape

blossom

applesauce

bloom

pie

graft

water

farmer

juice

soil

compost

prune

rotting

petal

lemon

dehydrate

grow

dehydrator

fruit

## Using the Vocabulary

1. Duplicate appropriate words and make a Concentration game.
2. Enlarge the words on manila tag and place the words in a pocket chart. Call up students as you ask the children to find a word that matches a definition - "this is a color" or "this person looks after the farm".
3. Students draw their own pictures related to the apple unit and cut out words which apply and glue at the appropriate spot.  
e.g. A student draws a picture of an apple orchard and glues on the words farmer, prune, branch, twig, blossom, tree, soil.
4. Students work in small groups and sort words into different categories. Words may be glued in columns with student generated titles.
5. Students make an apple dictionary using an a booklet made of apple outlines. The students cut out words and draw a related picture.

Ten Apples Up On Top!

Two apples up on top!

Illustrated By

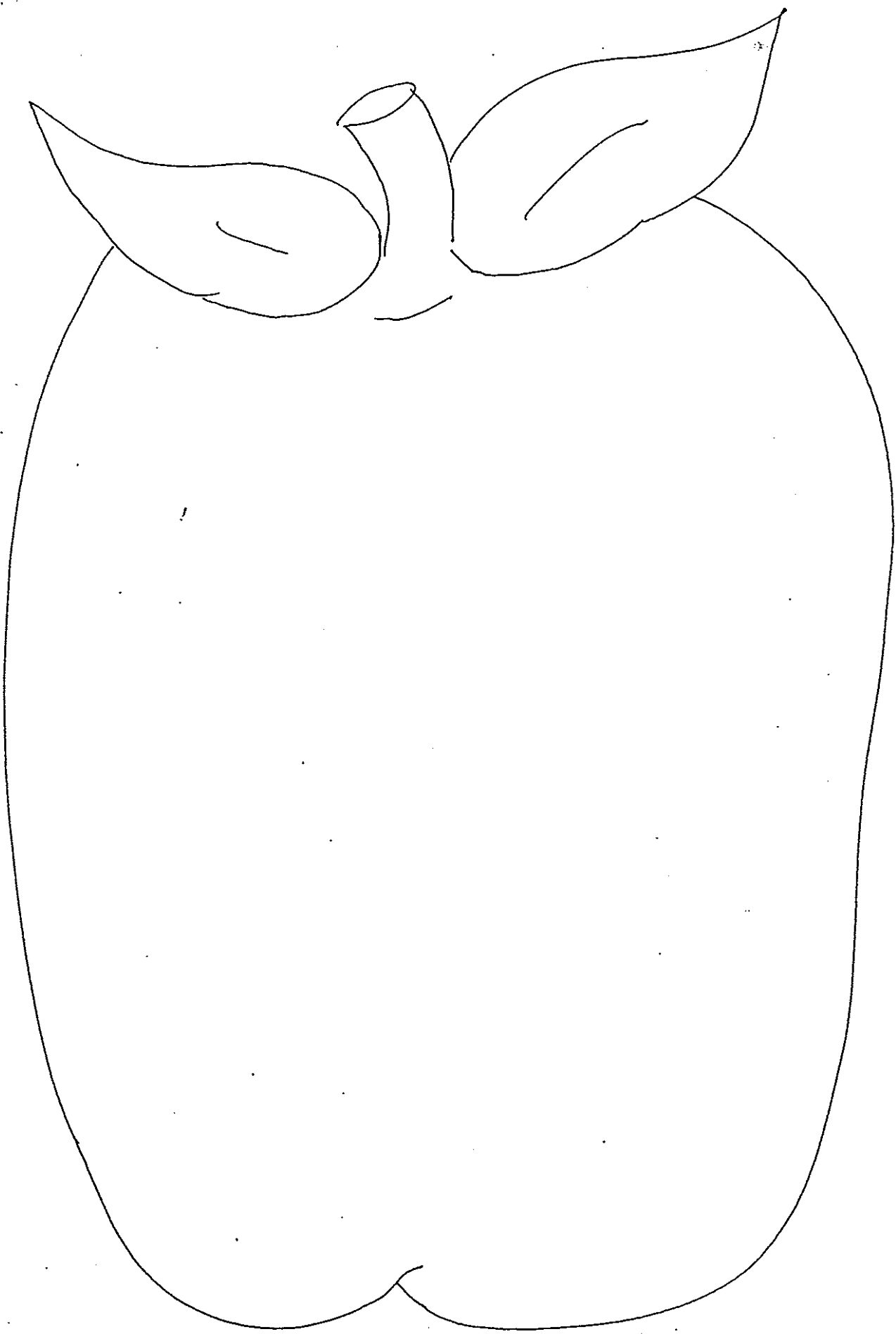
---

One apple up on top!

Look!  
See!  
I can do **three!**

## Which will float?

<u>Food</u>	<u>My Guess</u>	<u>Yes</u>	<u>No</u>
apple			
potato			
carrot			
onion			
orange			
pear			
banana			
tomato			
grape			



27