



The All-American Apple Pie

The All-American Pie lesson is the award winning result of the combined professional work of Mary J.

Metzger and Carrie A. Bouwens, Lux Middle School, Lincoln, Nebraska, Family & Consumer Sciences classroom. They have collaborated with Home Baking Association staff to share their tried and true award winning lesson with you.

Lab Outcomes:

- Apply literacy skills; reading and following directions
- Connect historical characters, language and events with food
- Locate regional types of pie in the United States
- Conduct basic food science experiments with fats, flours, and ascorbic acid
- Develop eye-hand skills to measure, stir, “cut in, and “roll out” pie pastry
- Build relationships and community through shared experiences.
- Evaluate the health benefits of pie and baking it yourself
- Apply fractions, percentages, division, temperature and net weight

What’s in The All-American Pie lesson:

- Six activities, four food science experiments
- Experiential history, geography and social studies
- Foods and Nutrition research and hands on skill building
- Baking, nutrition and food science and technology resources
- Food preservation option
- Community Service Learning connections

Terms we’ll use:

Ascorbic acid: The scientific name for Vitamin C; an antioxidant used to prevent surface browning in fruits and vegetables after peeling and slicing.

Antioxidant: A chemical compound or substance that inhibits oxidation; components of food essential to health.

Carbohydrates: The broad group of starches, sugars and fiber found in foods.

Enzymes: proteins found in living organisms that act as catalysts

Fats: One of the body’s basic nutrient needs. May be saturated, unsaturated, mono- or poly-unsaturated and come from nuts, corn, soybeans, canola and other plant oils, butter, shortening, lard, or any form of fat from fish, dairy, meat or vegetable.

Gluten: Grain proteins found in wheat flour that when mixed with water forms an elastic dough that will trap CO₂ gases from leavening and expand.

Mineral: substances essential to health that are neither animal nor vegetable. In foods this includes copper, zinc, iron, calcium, sodium, and potassium.

Oxidize: To combine with oxygen; make into an oxide. In fruits, the brown coloring is an oxide.

Pastry: A baked paste of flour, a fat, salt and water used for the crusts of pies, tarts, turnovers, pasties and empanadas.

Preserve: To prepare foods so they can be kept for a long time without spoiling. Preserving is done by refrigeration, freezing, canning, salting, smoking, freeze-drying, dehydration (drying) and pickling.

Vitamins: Complex organic substances occurring naturally in plant and animal tissue and essential in small amounts to control metabolic processes.



Pie Factoid Quiz

“Pie” was first used with

- a) apple pie
- b) pumpkin pie
- c) meat and cheese pie

A: c—savory pies, not sweet pies were most often eaten

The word pie was used in everyday language by

- a) 793 A.D.
- b) 1362
- c) 1854

A: 1362 (At this time Vikings were exploring N. America and the Ottoman Empire had reached Europe)

The term “pot pie” first appeared in print in America in 1785. This was during

- a) The Revolution
- b) The Civil War
- c) Spanish- American War

A: A—“Pot pie” was an English staple. The pastry was made very tough! It was the cooking “pot” for a stew.

Both Shepherd’s and Cottage Pie are

- a) topped with pastry
- b) fruit pies w/ lattice top pastry
- c) meat pies topped with mashed potatoes

Pie pastry originated with

- a) Greeks
- b) Romans
- c) English

A: A—Greeks passed pie on to Romans and Egyptians

Open crust pastries were called “traps.” They called those with “lids” (top crust)

- a) casseroles
- b) coffins (coffins)
- c) funeral pie

A: b- tall, straight-sided pie with a sealed-on lid

America’s favorite pie is

- a) cherry
- b) pumpkin
- c) apple

A: c-apple

A recipe for “grene apple pye” first appeared in

- a) 1492
- b) 1502
- c) 1545

A: c

Getting started: Ask your group what their favorite pie is ...tarts, pizza, empanadas, pasties, calzones, bierocks, fruit, cream, pork, chicken, lamb or beef pot pie, and quiche, just to name a few. Take the Pie Factoid Quiz to check out Pie History!

Activity #1: Pie Geography Use a large U.S. map and sticky paper strips. Write a pie name from below on a strip, one per team. Stick it to the state or region famous for this type of pie.

- Funeral Pie – Ohio, Indiana, Illinois (Raisin custard one-crust pie, Amish)
- Apple Pie – Massachusetts, New Jersey, New York, Iowa, Missouri, Washington...
- Blueberry – Maine, Michigan
- Cherry – Michigan and Washington
- Empanada – New Mexico, California, Texas
- Key Lime - Florida
- Sour Cream Gooseberry - Missouri, Arkansas, Southern Illinois
- Blackberry Pie – Oregon and Washington
- Rhubarb Meringue – Iowa, Minnesota, Wisconsin, Rhode Island
- Shoofly Pie – Pennsylvania (German, Pennsylvania Dutch)
- Sweet Potato Pie – Mississippi, Alabama, Georgia, South Carolina
- Meat Pastie or Pasty- Michigan, Wisconsin
- Chess Pie – New England states and the Southern states
- Pecan Pie – Georgia, Louisiana, Texas, Oklahoma, southern Kansas
- Peach Pie – Georgia
- Pumpkin Pie – Delaware, Massachusetts, Rhode Island
- Strawberry Pie– California, Florida, plus anyone growing strawberries!

So what's America's favorite pie?



Think about it: Why?

Apples grow almost anywhere and were planted by settlers nationwide. Apples can easily be dried, canned, stored for months in cool place or frozen and even if withered or dried, make great pie!

Activity #2: A Slice of Wellness.

Cooking is part of an active lifestyle—it helps us earn our calories. Do-it- yourself and use fruits, vegetables and whole grains instead of flavorings, excess sugars, fat and salt to enhance flavors. For each pie ingredient, explore the vitamin, mineral and other nutrients it supplies your body. Use web-sites listed to report on related nutrition or health information!

- Whole wheat and enriched pastry flours www.wheatfoods.org, www.kswheat.com , www.homebaking.org, www.namamillers.org
- Butter, milk, cheeses www.landolakes.com www.nationaldairycouncil.org www.cabotcheese.com
- Fruits Apples, <http://www.bestapples.com/varieties/index.shtml>
- Blueberries, www.blueberry.org
- Cherry, www.cherrymarketing.org
- Fruit juices (lime, lemon) www.sunkist.com
- Fruits and Vegetables (apples, pumpkin, squash) www.fruitsandveggiesmorematters.org
- Eggs, custards, meringues, quiche www.aeb.org
- Pecans, hazelnuts, walnuts, peanuts www.nuthealth.org
- Salt www.mortonsalt.com www.saltinstitute.org



Factoid: All six color slices of MyPyramid include pie ingredients! Check out each pyramid slice @ www.mypyramid.gov for serving and nutrition details right for you.

There are over 7,000 different apple varieties in the world! If you don't like one, try another!			
Variety	Eating Quality	Cooking Quality	Keeping Quality
Red Delicious	crunchy, sweet	not so good	fair
Golden Delicious	flavorful, sweet	Ok for pie, add lemon	good
Jonathan	tangy, tart, crisp	best for pie!	Fair
Cortland	similar to Macs	great for apple salad	short
MacIntosh	fruity, juicy, soft	great for applesauce	short
Fuji	sweet; very crisp	needs lemon	great
Braeburn	super crisp; flavor	good for pies	fantastic
Granny Smith	tart, very crisp	great for pies	fantastic
Gala	extra sweet; fruity	great for apple salad	short
Jonagold	sweet/tart/juicy	makes sweet pie	fair

Activity #3: Apple Oxidation

Oxygen is a very reactive element, which when it combines with many substances in a reaction is called *oxidation*. Oxidation is a chemical reaction that always give off energy.

Can the group name some examples of oxidation that give off energy?

- *Combustion*: oxidation of a fuel producing a flame
- *Rusting* iron is slower, but does produce heat

Apples, peaches, pears and bananas are all fruits that rapidly oxidize when sliced. The evidence is that they turn _____. (Brown) This can be prevented by keeping the cut fruit from exposure to the air or by surface treating the fruit with Vitamin C (ascorbic acid).

In this experiment, students will compare different ascorbic acid treatment amounts on oxidation of apples. To expand the experiment, have the students consider if all types (varieties) of apples oxidize the same when cut. To do this, assign a different apple variety to each group, while applying all four treatments below to each variety of apple.

Experiment Materials and Equipment:

Water
1 chewable Vitamin C tablet
1 lemon, sliced through the middle and juiced
½ cup orange juice
1 apple
Three small deep bowls
A sharp knife
Slotted spoon
Four shallow soup bowls
Four small plates

Oxidation Information to share with students:

Procedure

1. Put about a cup of water in 1 bowl and dissolve C tablet
2. Put ¼ cup lemon juice + ½ cup water in 2nd bowl. Stir.
3. Put orange juice in 3rd bowl.
4. Core and peel the apple. Slice ¼ into each bowl, covering the slices with the mixtures in Bowls 1-3.
5. After 3 minutes remove the slices from the mixtures. With the slotted spoon and place slices on small plates. Let stand in the air for 20-30 minutes.

Student Observations:

State the results and compare the amount the apples browned in Bowls 1-4.
Which fruit juice has the most ascorbic acid?
Therefore, lemon juice is often an ingredient in apple pie.

Results: The sections of apple not dipped in the vitamin C solution turn brown; the sections of apple dipped in solutions of the Vitamin C tablet, lemon juice and orange juice brown less or not at all, depending on the level of Vitamin C.

Fruits like apples pears and bananas turn brown when cut and inner cells are exposed to air. Some vegetables oxidize too—raw potatoes, eggplants, avocados. The browning occurs due to **enzymes** present in the fruit or vegetable.

1. The enzymes are released in the cut fruit's discolored cells. They react with oxygen in the air to digest the cut cells of the fruit. Color and taste changes happen. Vitamin C stops the fruit from darkening by reacting with the enzyme before it can start digesting the cell tissue.
2. Before the fruit is cut, the enzyme and the compounds that will turn brown in the presence of oxygen are separated. When the fruit is cut, the cells are injured or opened and the enzyme and plant compounds come in contact with each other and oxidation occurs. The enzymes that cause the browning are not present in citrus fruits or types of melons.
3. Fruits that oxidize will also easily react with copper and iron. Put an apple in a copper bowl or a cast iron pan. Compare the browning of that apple with an apple in a glass or china bowl. Cover these apples with plastic wrap to reduce oxidation with the air.

Activity #4: Pastry Science In the “olden days” meat pot pie pastries were made to be tough. It’s said a wagon could drive over one without it breaking! These tough pastries doubled for a pot in which to bake meat stews! Today, we like a tender flaky pastry and a pie pan is used to support the pastry and filling! Take the pastry pre-quiz.

Pastry Science—need-to-know info:

1. What is meant by the term “pastry?” (A baked paste or crust of flour, a fat, salt and water used to “contain” fruit, meat, vegetables, custards or other ingredients for a meal or dessert. Examples are: pies, tarts, turnovers, pasties, empanadas and more.)
2. What are the four ingredients needed to make good pastry?(Flour, water, fat and salt)
3. What purpose does the flour serve? (Layers with fat to make tender pastry; forms structure of the dough)
4. Which fat make the **most** flaky pastry and why? (Lard or shortening since they contain no water)
5. What kind of pastry will result when oil is used? (crumbly) Most flavorful? (Butter)
6. What is the importance of salt? (pastry will be flat tasting without salt)
7. How does air and moisture become trapped for flaky pastry? (the fat between flour melts and flour)
8. How are the flour and fat combined for pastry? (Cold fat is cut into the flour and salt with a pastry blender, food processor or two knives until it is pea sized lumps throughout the flour mixture)
9. What effect does this have on the gluten strands? (Shortens the strands and prevents them from forming strong, long bands in the dough)
10. Why is the fat and dough kept cold (60 degrees F.)? (So fat won’t melt into the flour when dough is made, but will form layers between the flour to hold air, making a flaky, layered crust as it bakes.)
11. How does the liquid and the way it is added affect the texture of the dough? (Liquid should be cold, stirred in as little as possible-only until the dough forms a ball that will hold together. Overworking the dough forms gluten and toughens the pastry dough.)
12. Why are slits cut in the upper crust of a two crust pie? (So steam can escape and the crust will “breathe” and not crack or explode.)
13. What nutrients does pastry and pie provide the body? (Vitamins, minerals, antioxidants, calories, fat, protein and carbohydrates.)
14. Because there are a lot of calories in pastry, when might be a good time to eat pie?
Describe how you could adjust your calories to include eating pie. As a dessert after
A noon meal or in the afternoon. Eat a light meal (soup, salad), then enjoy pie.)
15. How should pastries and pies be stored? (Refrigerated if they contain meat, milk, cheese or eggs; fruit pies may be stored at room temperature, covered loosely, up to 2 days or refrigerated if warm weather)

Flour science: Most pastries use *pastry* or *all purpose* wheat flour.

The *protein* amount in the wheat flour will make a difference in pastry tenderness.

Higher protein flour from “hard wheat” absorbs more moisture and develops *gluten** as it’s mixed and handled and will be tougher or “stronger.”

“Soft wheat” produces a lower protein flour and more tender pastry dough.

*(Gluten = two proteins—glutenin and gliadin)

Problem: What wheat flour is best for making a tender pastry?

What you’ll need: 5 bowls, five kinds of flour—bread, cake, all purpose, pastry and whole wheat; liquid and dry measuring cups OR food scales; water
Find out which of these flours is higher in protein.

Experiment #1:

1. Place ½ cup (2 oz/115g) of each type of flour in a separate bowl:
bread, all purpose, whole wheat, pastry, and cake or “cookie” flour
2. Stir in ¼ cup (2 oz/60 ml) water, stirring 1 minute for each mixture.

Results: (The stiffer the dough, the more protein.)

--Rank the flours, most protein to least.

--Label each bowl: bread flour, all purpose, pastry, or cake flour

Which one(s) would provide the least tough or most tender pastry crust?

Types of Wheat flour:
All purpose,
Bread flour
Cake flour,
Pastry flour
Whole wheat flour

Pastry flour is available from Bob’s Red Mill, Stone-Buhr, King Arthur or at local whole food markets.
See links at www.homebaking.org

Experiment #2: The type and temperature of fat used makes a difference in how tender a pastry is. Cold (60 ° F.), solid fats like butter and shortening make layers in the flour that, when the butter or shortening melts while baking, make the pastry more tender.

1. Do a comparison of how different fats used in pastry perform.

Have teams make a Standard Pie Crust, **each team using a different fat**. Carefully control the other ingredients, temperatures and times. Each team should use the same

- Temperature brand and type of flour and measuring technique (stir, spoon, level OR weigh)
Tip: Freezing the flour will help keep the pastry dough cold as it is handled

- amount of salt
- temperature and amount of water
- temperature of fat (60° F.)

Team 1: ½ cup (1 stick) cold butter

Team 2: ½ cup cold vegetable (trans fat free) shortening

Team 3: ½ cup chilled vegetable oil

Team 4: ½ cup cold lard (still available in many stores)

Save \$\$\$ on Rolling pins

- 1) Have a craft or hardware store cut 1-inch thick dowel rods (closet rod) into 12-inch lengths.
- 2) Sand edges, wash in hot, soapy water, rinse, dry.
- 3) Rub with mineral oil.

--After preparing the crust using the recipe below, compare and contrast the dough textures.

--Divide the dough in half and roll out two, single 9-inch pie crusts. Use a fork to prick holes all over the surface of each single crust and bake at 425 ° F on the bottom rack of the oven for 20 to 25 minutes or until slightly browned.

--Compare the difference in browning. Break one baked crust into pieces and taste each crust. Note the difference in flavor, texture, browning, and flakiness. Freeze the remaining single crusts sealed in plastic food bags OR fill with a pudding or pie filling and enjoy.

2. Have each person prepare a Standard Pie Crust for The All-American Apple Pie.

Option: Double the recipe and work in teams!

Standard Pie Crust: 1 ½ cups all purpose flour (Option: Use up to ½ whole wheat or pastry flour)
¼ teaspoon salt
½ cup cold shortening*
¼ cup to 7 tablespoons** cold milk or ice water

Method: *unsalted butter may be substituted ** liquid amount varies if butter is used, and according to humidity or flour

1. Measure the flours (stir, spoon, & level OR weigh 5.25 oz total flour) into a medium mixing bowl. Add the soda and salt and mix with a spoon or wire whisk.
2. Measure the shortening or butter. Add chunks of the shortening or butter to the salt/flour mixture.
3. Cut the shortening/butter into the flour and salt mixture with a pastry blender; cut until it resembles small peas.
4. Measure the milk or water accurately. Make a well in the crumbly flour and butter mixture; add the cold milk, beginning with the smallest amount. Mix until ingredients are moistened. Do not over stir.
5. Shape dough into two "burger-sized" discs and seal in a plastic food bag. Label the bags with each name. Place on a tray located on the cart or table and take to refrigerators. Chill overnight.
6. Clean up the kitchen and replace equipment.



See how to "cut in" butter for pastry on a **Baker's Dozen Lessons for Better Baking**, @ www.homebaking.org

View pie crust preparations at www.landolakes.com

Click on Tips and Techniques and then Baking Demonstrations

<http://www.landolakes.com/tips/demonstrations.cfm>

<http://www.bettycrocker.com/How-To/Baking-Basics/>

http://www.baking911.com/pies_tarts/101_intro.htm

Activity # 5: Make-Your-Own Apple Pie Filling

Prepare the filling below and

- fill **two**, two-crust 9-inch pie,
- or follow directions for canning the filling to be used later.

Apple Pie Filling

Makes **two**, 9-inch two-crust pie

- 1. Mix in a zipper sealing bag:** 1 ½ cups sugar
3 tablespoons cornstarch
1 tablespoon cinnamon
- 2. In a large bowl combine:** 1 quart cold water
2 tablespoons lemon juice
- 3. Core, peel and slice:** 8-10 tart apples (Jonagold, Granny Smith, Braeburn)
Cover apples in the water and lemon juice Step 2.
- 4. In a large stock pot, measure** 1¼ cups water. Add sugar mixture (Step 1). Stir mixture with long handled spoon over medium high heat. Heat until clear, stirring constantly. Turn heat down to medium.
- 5. Drain water from apple slices and add the apples to the sugar water mixture, Step 3.** Heat filling until hot, stirring gently, about 5 minutes.
- 6. Remove filling from heat, divide in half and cool mixture** until pie crusts are ready to fill, **OR**, fill hot, quart jars as directed below and can the filling.

Canned Apple Pie Filling

Makes 2 quarts

Prepare apple pie filling as directed above.

Heat 3 cups water in a large pan. Carefully place 2 clean quart canning jars in the water to sterilize. Place heat on medium and heat jars for 10 minutes.

In a small saucepan, heat 1 cup water and add jar lids and rings to heat. Watch jars and lids carefully, remembering they are hot.

Once apples and sugar mixture are thoroughly heated, remove hot jars one at a time, using a mitt. Place a hot jar on dinner plate. Fill each of the two quart jars, leaving ¼-inch head space at top of jar. Remove and air bubbles with a plastic knife inserted along the inside of the jar.

Wipe rim of jar with clean, damp dishcloth and place a lid and ring on each jar. Tighten ring only until you feel resistance.

Place filled jar near stove. Let an adult carry the jar over to the boiling water bath canner and place it in the canner. Process 20 minutes in a boiling water bath. Remove jars from boiling bath onto thick towels to cool.

Source: Mary Metzger and Carrie Bouwen, Lux Middle School, Lincoln, NE

Additional guidance: www.allrecipes.com

Activity #6: The All-American Apple Pie.

It's time to bake your own Apple Pie.

Each person needs: One recipe chilled Standard Pie crust,
(divided into two disc shapes)
1 quart Apple Pie Filling
1, 9-inch pie pan (labeled with your name)
2 tablespoons butter
1 egg white, beaten with 1 T. cold water
1 tablespoon sugar



Roll pie crust from center out.

1. Each person will roll out a double, 9-inch crust—a bottom crust and top crust. Take the pie crust dough from the refrigerator or freezer. Keep half the dough chilled while you roll out the bottom crust.

2. Avoid using too much flour on the counter when you roll out the crust as it will toughen your crust. Work quickly, rolling out each disc into a circle one inch or larger than the pie pan. **DOUBLE CHECK TO BE SURE YOUR NAME IS ON THE PIE PAN.**

Hot Tip!!

Roll out crust between two pieces of parchment paper.
www.reynoldskitchens.com

3. Roll the dough onto the rolling pin and carefully unroll the dough into the pie pan. Ease it down—do not stretch it.
Trim off the excess, leaving about $\frac{3}{4}$ inch overhang.
4. With a pastry brush, brush the dough with egg white wash.
5. Using a scraper, mix the apple pie filling in your jar. Empty entire jar of apple pie filling into pie pan. Be sure to scrape the side of the jar to get all of the good stuff out!
6. Cut the 2 tablespoons butter into 8 pieces. Dot the top of the pie filling with the butter.
7. Dip finger into water and run along the outer edge of the pie shell to help seal.
8. Roll out the top crust. Be sure that it is at least one inch larger than the pie plate.
9. Roll the dough up on the rolling pin. Carefully unroll the dough over the apple pie filling. Gently run your finger around the outer edge to seal the top and bottom crusts together around the outside edge. Trim off excess dough, leaving at least $\frac{1}{2}$ - inch. Turn or fold the excess dough up so it will sit on the rim of the pie pan. Flute or crimp the edge of the pastry.
10. With a sharp knife cut decorative vents in the top crust so steam can escape while baking. Sprinkle the pie with 1 Tablespoon granulated sugar.
11. Bake in a preheated 400 degree F. oven, baking 50 to 60 minutes, until golden and bubbling in the center of the pie. Cool to lukewarm on wire rack before serving.

Name _____ Period _____

Pastry Post-Test

Directions: Select the best answer that completes the statement or answers the question. Write the letter in the space provided.

- _____ 1. Which would NOT classify as a pastry?
- a. Apple pie
 - b. Cheese cake
 - c. Cream Puff
 - d. Pot pie
 - e. Quiche
- _____ 2. Which type of flour is NOT suggested to use for making pie crusts?
- a. All-purpose
 - b. Bread
 - c. Cake
 - d. Whole Wheat
 - e. Pastry
- _____ 3. A standard pie crust is tender and flaky because it is made with
- a. margarine
 - b. melted shortening
 - c. oil
 - d. solid shortening or butter
- _____ 4. Salt is added to pastry to
- a. tenderize the pastry.
 - b. add flavor to the pastry
- _____ 5. A standard pie crust is flaky and tender because
- a. it has an adequate amount of flour
 - b. it was rolled between two sheets of wax paper.
 - c. it was rolled on a floured counter
 - d. liquid shortening was stirred into the flour
 - e. solid shortening was cut into the flour

_____ 6. A pie crust made with vegetable oil will be mealy in texture because

- a. it has an adequate amount of flour
- b. it was rolled between two sheets of wax paper
- c. it was rolled out on a flour counter
- d. vegetable oil was absorbed into the flour
- e. solid shortening was cut into the flour

_____ 7. Over mixing or over handling the pie dough can cause a

- a. tough dough.
- b. fragile dough.
- c. crumbly dough.
- d. salty dough.

_____ 8. When making a pie crust, what is the correct temperature of the liquid which is added to the flour-fat mixture?

- a. ice cold
- b. hot
- c. warm

_____ 9. When rolling the crust for a two-crust pie, roll

- a. one large crust. Use what will fit in the pan, then re-roll the remaining dough for the top crust.
- b. each crust separately.
- c. the crust together, then cut in half.

_____ 10. To prevent the pie crust edge from over browning (burning) during baking

- a. brush the top crust with cream.
- b. cover the edge with a strip of foil
- c. sprinkle with a cinnamon-sugar mixture.

_____ 11. To prevent the top crust from puffing up during baking

- a. brush the top crust with cream.
- b. cut slits in the top crust.
- c. poke holes in the bottom crust.

- _____ 12. A pie crust should be rolled
- a. smaller than the diameter of the pie pan.
 - b. the same size as the diameter of the pie pan.
 - c. one to two inches larger than the diameter of the pie pan.
- T F 10. A two crust pie must have slits cut in the top crust to allow steam to escape.
- T F 11. Early pies were not dessert—they were filled with meat and vegetables.
- T F 12. A two crust pie has a bottom and top crust with a filling in between.
- T F 13. A pastry blender is used to cut the shortening into the flour.
14. Give two possible reasons why Apple Pie is America's favorite.
15. Name five nutrients apple pie provides.

Post-test option:

Create a Crossword using pastry and apple lab experiment terms.
Who can help? www.puzzler.com

Name _____ Period _____

Pastry Post-Test KEY

Directions: Select the best answer that completes the statement or answers the question. Write the letter in the space provided.

___B___ 1. Which would NOT classify as a pastry?

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- g. Cheese cake
- h. Cream Puff
- i. Pot pie
- j. Quiche

___B and C___ 2. Which types of flour are NOT recommended for making pie crusts?

- a. All-purpose
- f. Bread
- g. Cake
- h. Whole wheat
- i. Pastry

___D___ 3. A standard pie crust is tender and flaky because it is made with

- e. margarine
- f. melted shortening
- g. oil
- h. solid shortening or butter

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T 11. Early pies were not dessert—they were filled with meat and vegetables.

T 12. A two crust pie has a bottom and top crust with a filling in between.

T 13. A pastry blender is used to cut the shortening or butter into the flour.

14. Name two possible reasons why Apple Pie is America's favorite.

A: Apples were widely grown and available as people moved west, in part due to John Chapman's efforts.
Apples will grow in most parts of the U.S.
Apples may be stored and preserved easily, so they are great for home baking.

15. List five nutrients apple pie provides.

A: Carbohydrates (starch, sugar, dietary fiber)
Dietary fiber (pectin)
Vitamin C
Potassium
Fat (crust only)
Crust: B-vitamins, iron, folic acid
Calories
Flavonoids (Quercetin; phenolics—inhibit cancer cell growth)
Phytonutrients or phyto-chemicals
Low in sodium

Points possible: 20

EXTRA Activity #7: Easy as Pie... a pastry for every level of experience.

This Pie activity is perfect coupled with the Service Learning experiences listed below...a pie crust for any age or experience level.

1. Read the Butter Pie Crust recipe together step by step.
2. List the ingredients needed and assemble ('mise en place') tools & ingredients.
3. Choose one of the four methods below—press in, rustic, rolled or oil crust.

TIP: Frozen fruit sold in bags may be substituted for fresh fruit as needed.

Instant pudding layered with sliced fresh fruit may be a great "first filling" for a baked single crust pie.

Butter Pie Crust -Makes 1, double-crust 9-inch pie **or** two, single-crust pie shells

Ingredients

- 2 cups pastry or all purpose flour* (stirred and spooned into dry measuring cup; level off)
- 2 tablespoons powdered sugar (optional)
- 1 teaspoon salt
- ¾ cup (6 oz./1 ½ sticks) cold (60°F)unsalted butter, cut into pieces
- 2 teaspoons cider vinegar
- 5 tablespoons ice water

*Pastry flour may be **whole wheat** or **enriched** flour.

*For a more tender crust: replace ¼ cup of the flour with ¼ cup

cornstarch OR use 1 ½ cups all purpose flour and ½ cup cake flour

Directions:

1. In a medium bowl, whisk together the flour, powdered sugar (opt.) and salt.
2. Cut butter into pieces and scatter on top of the flour mixture.
3. Using a pastry blender or food processor, cut the butter into the flour until it's in little pea-sized pieces throughout the flour.
4. Stir the vinegar into the ice water. Sprinkle the ice water over the flour mixture, tossing with a fork, until the mixture begins to look crumbly. (But not wet or sticky.)

Press-in crust (no rolling required): For one-crust pies: Divide the mixture between two, 9-inch pie pans or four small tins; press firmly into the bottom of each pan and up the sides, making sure it covers the whole pie pan. Prick the pastry with a fork about 1-inch apart before baking. (Prevents crust from bubbling up).

OR, line pastry with foil and spread dry beans in bottom.

Fill or pre-bake crust in preheated oven as recipe directs.

Country "Rustic" Pie: Press the dough into a disk, flatten to about 1 ½ -inches thick and wrap with plastic food wrap. Freeze pie pastry 30 minutes or refrigerate 4 hours or overnight before rolling out. Roll into a 12 to 14-inch circle and place on ungreased baking sheet pan or oven-safe plate. Place fruit filling in center of crust, dot with butter and pull crust up 2 to 3 inches over the filling, overlapping edges of dough all around the circle. Press gently to keep in place; leave a 4-5-inch center circle open.

Oil Pastry: 1 cup flour, 2 T. powdered sugar, ½ tsp. salt—Blend well.

6 tablespoons oil, 2 ½ T. cold milk

With pastry blender gradually add oil to flour mixture until small clumps form. Add milk a little at a time, tossing to moisten. Form a ball, adding a little more milk only if necessary. Roll or press in pan(s). **Makes one, 9-in. or two, 4-in. single-crust pies.**

Country Fruit Pie

- ½ cup brown sugar
- ¼ cup cornstarch
- 1 teaspoon cinnamon
- Pinch ground nutmeg
- 2 ½ cups peeled and sliced green or tart pie apples
- 1 ½ cups tart frozen or fresh cherries
- 1 Tbsp. Lemon juice
- 1, 9-in country/rustic pie crust
- 5 Tbsp. cold butter, cut into ½-in. pieces

Mix sugar, cornstarch, spices, fruit, lemon juice.

Place in pie crust on baking pan. Dot with butter. Fold up crust around fruit. Bake at 375°F., 40-50 minutes.

Rolled Pie Crust:

Form dough into a hamburger bun sized disk shape; wrap in plastic wrap.

--Refrigerate 4 hours or overnight OR freeze until firm (about 20-30 minutes).

--Lightly flour the pastry disk; cut in half. Roll the crust into a 12-inch circle. Lift onto baking sheet, cover and refrigerate until ready to use.

May want to roll out pastry between two floured sheets of waxed paper for easier handling.)

--Fold or roll the pastry over the rolling pin and gently lay over and down into a 9-inch pie pan.

Ease the bottom crust into the pie pan and trim edges.

--Fill bottom crust and top with a second circle of pastry. Make slits in the center of top crust to let out steam. --OR, use a pastry cutter and cut strips of pastry to weave a lattice top, OR, cut V-shapes in a circle; fold back point to leave openings in a pattern.

Artists touch: Use small cookie or pastry cutters to cut leaf, flower, heart or other small pastry shapes to lay on top of the top crust.



- Glaze top crust and shapes with an egg wash→Whisk 1 egg and 1 tablespoon ice water until yellow-colored. Brush egg wash over top crust and shapes and bake.
- Add sparkle: Brush crust with cream or milk; sprinkle with sugar and bake.

Serve it UP. Share your strengths in your community. Sharing with others confirms what you learn and passes it forward. Here are some ideas to get started with:

Book and Bake.

Designed for all ages, teens or 'tweens read to and assist with pre-K to 3rd graders.

Call your local Boys & Girls Club, Public Children's library, Junior League, 4-H, or FCCLA chapter to share your new skills with someone else and help build literacy.

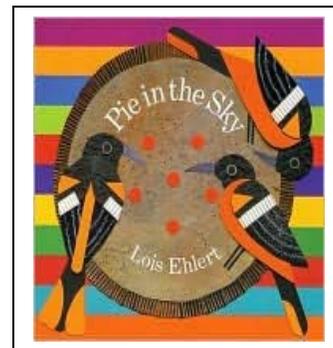
1) Do a search at the library! Choose a story to read with younger children.

Consider *Eating the Alphabet* or *Pie in the Sky* by Lois Ehlert or read an excerpt describing tarts from *Red Wall* by Brian Jacques.

2) Include nutrition information about the ingredients in a pie.

3) Bake a pie together...rustic or fancy!

4) Print out participant certificates for baking together at www.homebaking.org



Bake for Family Fun Night. Plan an evening with a parent, sister, brother, cousin, aunt, grand parent and learn to bake a family favorite pie.

Check out www.bakeforfamilyfun.org for LOTS of great ideas.

Bake Sales for Local Benefits. Check out *High Yield Bake Sales* for how to raise more funds for a local or national concern at www.homebaking.org.

March is Bake and Take Month. Bake small pies or hand held pies for neighbors, friends or someone you could share an hour of your time with and a slice of pie. Join the fun all over the U.S.! Information @ www.bakeandtakeday.org

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