**Focaccia—Italian Cousin to Pizza**

**INTRODUCTION**
Bread takes many shapes, and the easiest of all is flat. The earliest breads we know of are flat. Were they flops? Not! Flatbreads were easy on resources (fuel for fire), sometimes replaced eating utensils, and used locally grown ingredients. Early flat breads were baked more than 8,000 years ago by Stone Age Swiss Lake dwellers. The recipe was simple: pound grain, mix with water and bake on heated stones. Salt added flavor. Focaccia was one of these breads—baked long before yeast was used in baking, and with the discovery of yeast, baked with it.

Focaccia (foh-KAH-chee-ah) is derived from the Latin word focus or hearth and originates from how this bread was baked—on hearth stones. Today bakers still bake focaccia in hearth ovens—some of which are “wood-fired!” During the day, while baking and cooking for larger meals, focaccia was prepared as a light snack for the baker and his or her family. Focaccia may look like it’s later cousin pizza, but this thin, chewy bread is seasoned and topped only lightly with olive oil and herbs. Schiacciata, in Florence, means squashed or crushed and is another Italian flat bread.

<table>
<thead>
<tr>
<th>Pictures are worth a thousand words. Check the library for resources:</th>
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<tr>
<td><strong>Video:</strong> Baking for Success. Video plus focaccia lesson. <a href="http://www.homebaking.org">www.homebaking.org</a></td>
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<tr>
<td><strong>Web-sites:</strong></td>
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<td>Home Baking Association and member links: <a href="http://www.homebaking.org">www.homebaking.org</a></td>
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<tr>
<td>The Cook’s Thesaurus. <a href="http://www.foodsubs.com/Flatbread.html">www.foodsubs.com/Flatbread.html</a></td>
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**LIFESTYLE LITMUS:** Foods like focaccia are part of a Mediterranean tradition—enjoy fresh, well-prepared foods in a relaxed atmosphere, often with family. Researchers report eating meals together is important for better health, nutrition, relationships, child development, school performance and more!

**Learn more at:** *Eat Together, Eat Better.* [www.nutrition.wsu.edu](http://www.nutrition.wsu.edu)

**Discussion:** How often do you sit down and enjoy a meal? Do you turn off the TV and talk about the day or tomorrow’s plans? How could you help make this happen more often?

**Flat breads**—leavened and unleavened—**are found in many cultures.**

**Q:** Can you name another flat bread? Do you know what culture or country developed it? Have a world map or globe and place the breads in their region or country. 

**A:** (Middle Eastern) barbary, lavash and pita; (Jamaican) cassava bammy; (Hispanic) corn and flour tortillas; (Italian) focaccia or schiacciata; (Scandanavian) potato lefsa, (Indian) chapatti (roti) and naan; (Ethiopian) injera; (Hopi) corn flat bread; early American cornmeal hoe cakes and every one seems to have a type of pancake!
**Q:** Why would flat breads be the first and most frequently baked bread?

**A:** Less fuel needed for baking (shorter baking times), easy mixing and shaping, very simple baking equipment—in short, they are very economical…early fast food!

Flat breads are a great nutritionally. Read the recipe for Focaccia together. Write an ingredient list for the Focaccia recipe as if it were baked and you were going to make a package label for it. (Ex: Show the ingredient list on the package label of another baked product)

**Q:** Where do flat breads fit on the Food Guide Pyramid?

**A:** Base/grain group

**Q:** Which *macronutrient* are breads highest in, fat, protein, or carbohydrates?

**A:** Carbohydrates

**Q:** Are the “carbs” from simple sugars or complex carbohydrates and fiber?

**A:** Complex carbohydrate and dietary fiber

**Q:** Why are carbs so important to health? We need 50-55% of our calories from carbs (grain foods, fruits, veggies, dry beans) everyday.

**A:** Carbohydrates fuel muscles, brain, metabolic functions, improve disease resistance and provide dietary fiber for healthy digestion)

**Q:** What *micronutrients* (vitamins, minerals) do whole grain and enriched breads provide? (Note: Not all are listed on the Nutrition Facts Label) Enriched breads provide niacin, thiamine, riboflavin, folic acid, iron. Whole grain breads provide many additional phyto (plant) nutrients and fiber for health and disease risk reduction.

**Q:** Based on the recipe and ingredient list you wrote, is focaccia a high fat food? Is it a sweet bread? **A:** No and No.

If possible, have students computer analyze the recipe for a complete list of nutrients.

More grain food nutrition information at:
- The Bell Institute, www.generalmills.com/wholegrain
- Get on the Grain Train, www.usda.gov/cnpp

ABOUT FOCACCIA and PIZZA—Ingredient knowledge and food history

**Option 1: Focaccia Trivia:**

Flat breads are almost all crust and very little crumb. (See Glossary) American breads tend to be mostly crumb, and almost no crust. Let’s learn more about Focaccia…

- Assemble the following ingredients and items to show and use for the Focaccia Lab.
- Use a pizza wedge pattern to create Trivia Slices. Laminate if desired.
- Have students draw a “Slice of Trivia” from a bowl and find the related food item on the table. They should tell which food group the item is from on the Food Guide Pyramid, then read the Trivia Slice.

Unbleached all purpose flour
Whole wheat flour
Olive oil
Picture of olive trees/orchard
Romano Cheese
Parmesan Cheese
Mozzarella cheese
Provolone Cheese

More on olives:
www.wellaid.com/olives
Pepperoni (turkey for less fat)
Photo or picture of an olive tree
Ripe olives (chopped)
Cheese pizza package (12-in or medium) with nutrition and ingredient list
One loaf of focaccia
Herbs (fresh or dried, but not ground)
Fresh Basil
Rosemary
Parsley
Whole garlic bulbs
Whole yellow and/or red onions
Roma tomatoes—fresh and/or dried.
Red grapes (seedless)
Salt
Yeast, active dry or fast rising
Pitcher of water

**Trivia Facts:** Insert these trivia items into the wedge pattern OR simply cut into strips

- Parmesan must age 10 months before it is grated and sold.
- Provolone Cheese has been aged until it is somewhat dry and hard.
- Romano cheese is made with sheep’s milk. It is not as sweet as Parmesan.
- In America, mozzarella cheese is a favorite on pizza and is made from cow’s milk. In Europe, it may also be made from water buffalo milk and in Australia, it may be from sheep’s milk.
- Pepperoni is America’s favorite pizza topping. In Japan, eel and squid are favorites and Australians enjoy shrimp and pineapple.
- *Focaccia alle peperoni* is focaccia topped with sliced, roasted or grilled sweet red or green peppers!
- Americans are just beginning to enjoy focaccia. It has been baked for over 2000 years in Italy.
- Pizza comes from both the Romans (*placenta*) and Greeks (*picea*.) (Greeks settled in southern Italy). Both indicate a round, pie-shaped bread with black crust from the ashes in the hearth ovens.
- Tomato and cheese pizza, popular in America, was created only about 100 years ago for the pizza loving queen of Italy, Margherita.
- The first pizzeria in the U.S. was opened in 1905 in New York City by Gennaro Lombardi. Today there are more than 58,000 pizzerias in the U.S. and Americans eat about 75 acres of pizza daily—7½ pizzas per person per year.
- Pizza is to Naples what *focaccia* is to Genoa. In Florence, flat breads like focaccia are called *schiacciata* (crushed or squashed bread). (Locate cities on a map of Italy)
- Unlike pizza, focaccia is not a meal. It is sparingly topped with herbs, salt, a little garlic, thinly sliced onion, grilled peppers, olives, hard grated cheese, and drizzled with oil.
- Focaccia and pizza crust are leavened with yeast—a living plant (fungus family). Yeast is killed at 140 degrees F., so it is important to take the temperature of liquids before mixing them with yeast. Liquids should be 120 degrees F. or less-- as directed by the recipe.
- Romans were some of the earliest to mill and sift wheat into white flour. The coarse bran was used for the slave’s bread. Today, we use unbleached enriched flour in many breads.
- Enriched unbleached flour that is 11-12% protein (may be all purpose or half bread flour/half all purpose) is most often used for baking focaccia.
Whole wheat flour has all the parts of the wheat—the bran, germ and endosperm, so it contains nutrients and fiber not found in enriched flour. Half (50%) or more of the flour in bread can be whole wheat.

Tomatoes (pomodoro) were not used on either focaccia or pizza until Columbus returned with them from Peru and Mexico. Italians were suspicious of tomatoes and they were an optional ingredient until the mid-18th century.

Red seedless grapes—During grape harvest fresh grapes may be pushed into the dimpled dough just before baking. This is known as schiacciata alle ‘uva.

Garlic cloves—Cloves are the individual segments of the bulb. Peeled cloves, minced and then added to the oil brushed on the focaccia, lends a rich flavor.

Olive—10 lbs of olives are required to produce one liter of olive oil.

Olive trees were first grown in the Mediterranean and Middle East. They are an evergreen tree. There are 57 million of them in the Middle East. One olive tree produces 41 to 54 lbs. of olives each year. An olive branch is a symbols of victory and peace.

Olive oil is used by Mediterranean civilizations as food, body lotion, medicine, antidote to poison, laxative and in religious ceremonies.

Olive oil is high in monounsaturated fats that help maintain healthy arteries. It is considered a “heart-healthy fat.” Though a “good fat” choice, it still has 9 calories per gram, just like any fat.

Black (Ligurian) olives or a combination of black and green are pitted and pushed into the pitted dough just before baking.

Finely sliced and sauteed yellow onions, salt and olive oil may be used to top focaccia. (focaccia alle Cipolle)

Staple food—an important food item made, grown or consumed in a particular place region or country.

Salt is very important in bread baking to control yeast fermentation and adds flavor.

Salt, often coarse sea or kosher salt, is a seasoning sprinkled on the surface of focaccia along with oil and herbs.

Water is essential in bread making. It hydrates or moistens the flour so the proteins (glutenin and gliadin) can form the dough’s expandable gluten structure.

Yeast is the leavener in focaccia and pizza crust. Without it, the dough would not ferment and produce the carbon dioxide (CO$_2$) that gives the crumb and crust texture and flavor.

Bread dough must be kneaded/mixed to develop smooth and elastic dough.

**OPTION 2: Writing Food History.**

Assign each student or student teams an ingredient and have them research its history and production.

Write or orally report their findings to the class.

Have students identify where the ingredient is purchased, its nutritive value and what it provides to health.

**Extend the class:** Develop a fictional story for younger children to help them learn about the food or ingredient.
BAKING INGREDIENT LAB: Yeast Science

Flat breads were being made long before the Egyptians baked with yeast between 2,000 and 3,000 B.C. Following the discovery of yeast, bread flavors and texture were enhanced and improved. Try baking the focaccia recipe without the yeast as it may have once been.

In the U.S., yeast was first grown, harvested and packaged for baking in 1868 by Fleischmann brothers and James Gaff. In 1876, French scientist Louis Pasteur discovered yeast causes fermentation. Yeast consumes sugar and oxygen and produces alcohol and carbon dioxide which are important in both baking and wine production.

In 1942, dry yeast was developed especially to help feed troops in WWII.

Today we have wonderful dry yeasts—active and fast rising or instant. Some bakers still use compressed, or fresh yeast. Learn more about what yeast needs for fermentation.

Yeast test 1: yeast is a living fungus. It requires food, warmth and air for growth. Question: How will yeast growth vary when fed water, sugar, flour, salt or nothing?

Control: Water amount (1/4 cup/2 oz) and temperature (100-105 degrees F) added; use same yeast container and temperature (105 degrees F)

State your hypothesis for each bowl.

Instructions:
1. Measure into identical sized bowls:
   - Bowl #1: 1 teaspoon active dry yeast
   - Bowl #2: 1 teaspoon active dry yeast + 1 teaspoon sugar
   - Bowl #3: 1 teaspoon active dry yeast + 1 teaspoon flour
   - Bowl #4: 1 teaspoon active dry yeast + 1/4 teaspoon salt
   - Bowl #5: 1 teaspoon active dry yeast + 1 teaspoon cinnamon
2. Measure and record the temperature of the water.
3. Stir to completely moisten the yeast in each bowl. Scrape each spoon as needed. Do not stir again.
4. Observe and record yeast activity in each bowl at timed intervals—5, 10, 15, and 30 minutes.
5. Create a chart or bar graph of your observations.
6. Write a one-page report of what you observed and why the yeast grew as it did in the environments provided.

Yeast Test 2: Impact of Water Temperature on Yeast

Q: Yeast is a living fungus. What impact on growth will water temperature make?

Control: Type of bowl and yeast used, amounts of yeast and sugar

Variable: Temperature of water

State your hypothesis for each bowl.

Instructions:
1. In five bowls, measure 1 teaspoon active dry yeast and ½ teaspoon sugar
2. Prepare five 1 quart pitchers of water—Cold (50-65 degrees F); cool (65-75 degrees F.; lukewarm (95 to 105 degrees F); warm (105 to 115 degrees F); very warm (145 to 155 degrees F)
3. Stir ¼ cup water from one of each different temperature water into a bowl. Label each bowl with the water temperature.
4. At 5, 10 and 15 minute intervals observe and record what you see in each bowl.
5. Touch the water in each pitcher. Can you tell which ones would be warm enough for good yeast growth? Which ones would retard or kill yeast? Describe why it is important to use a thermometer to measure liquid temperatures when working with yeast?
6. Prepare a report. Include what you observed and whether your hypotheses for each bowl was correct. If not, why? Was touching the water to see if it was the right temperature accurate enough? Why or why not?
BAKING LAB: Basic Focaccia

Options:
A) Quick Method: 90 minutes
B) Refrigerated Method: 2 hours, 45 minutes (2 labs)
Dough may also very easily be prepared in bread machines.

Baking Time: 20 to 25 minutes
Cooling Time: 10-15 minutes, serve warm
Yield: One large (14-inch) or 2 medium flat breads—16, (1.8 oz) slices

Dough Ingredients

<table>
<thead>
<tr>
<th>Measure</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Active Dry Yeast OR Fast-rising yeast</td>
<td>1 ¼ teaspoon</td>
</tr>
<tr>
<td>Granulated sugar or honey</td>
<td>0 to 3 teaspoons</td>
</tr>
<tr>
<td>Water (measure temperature)</td>
<td>1 cup</td>
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<tr>
<td>Option A—120 degrees F.</td>
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<tr>
<td>Option B—80 degrees F</td>
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<tr>
<td>Unbleached all purpose or bread flour</td>
<td>2 ¾ to 3 cups</td>
</tr>
<tr>
<td>Olive or vegetable oil</td>
<td>2 tablespoons</td>
</tr>
<tr>
<td>Salt</td>
<td>1 teaspoon</td>
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</table>

*Flour may be half whole wheat flour; if using bread flour, lesser amount may be used


Topping ingredients

1 large red or yellow onion--peeled, washed, thinly sliced in rings, sautéed or carmelized
1 to 2 tablespoons fresh rosemary or basil (or 1 ½ teaspoons, dried but not ground)
Olive or vegetable oil (about 2-3 tablespoons)
Salt (may be coarse or kosher)

Options: 2 oz. ripe (black) pitted olives
1-2 cloves (1/4 teaspoon) minced garlic mixed into the olive oil
2 oz. grated hard cheese (Parmesan, Provolone)
2 roasted or grilled green or red bell pepper slices
Sun-dried tomato pieces, softened in olive oil

Directions:

1A: Quick Method: In a medium mixing bowl, blend yeast, sugar, water and 2 cups (8 oz) flour. Stir in the oil and salt and enough remaining flour to form a rough, sticky dough ball. Mix 2 minutes by hand or with mixer.

1B: Two days: Mix ¼ cup (2 oz) of the (80 degree F.) water, yeast and sugar in the mixing bowl. Let ferment about 5 minutes, until it begins to foam. Stir in the remaining 3/4 cup (6 oz) water, 2 cups (8 oz) flour, oil and salt. Stir in enough remaining flour to form a sticky dough ball. Mix 2 minutes, by hand or with mixer.

2. Knead by hand: Add ½ to ¾ cup more flour, a little at a time, knead, adding only small amounts of flour until a soft, smooth and elastic dough is formed.

Knead with mixer: Dough may need up to ½ cup more flour if dough is wet and very sticky. Mix on medium low speed with dough attachments for about 7 minutes. TIP: Dough should form a rough dough ball at first around the mixing attachment, then mix to form a soft, silky smooth dough ball that cleans the mixer bowl.

HELP:
Bread flour will absorb more moisture than all purpose because of its higher protein content. If dough is too stiff (dry) or “hard: Knead in water, 1 tablespoon at a time to moisten (hydrate) the dough. If the dough is too wet, add a tablespoon flour at a time—dough should be moist (soft) but not sticky wet. As dough ferments, it will also become
3. **Form kneaded dough into a smooth ball.** Lightly oil the surface of the dough. **1A, Quick method:** Turn the bowl over the dough and let rest for 10 minutes. Prepare/assemble the toppings you will use. Go to Step 4. **1B, Two day method:** Spray large, clean plastic food bags with pan release spray. Place rounded dough ball in the bag. Squeeze out the air, tie shut at the very top of the bag, and refrigerate. Dough may need to be punched down once after an hour. On second day, remove dough from refrigerator, punch and bring to room temperature (about 1 hour)

4. **Grease or spray 12 or 13-inch pizza pans**, sheet pans or 9 X 13-inch cake pans. Pizza stones may also be placed in the oven, but do not grease.

5. Flatten the dough pieces with hands into oval(s) about ½ to 1-inch thick. Place in the pan(s), cover lightly with plastic wrap sprayed with pan spray. Let dough rest in a warm (90 to 100 degrees F.) draft free place. (You may need to place a pan of boiling water in the bottom of an oven or microwave) for 15-30 minutes. NOTE: Hotter is not better!

6. Dimple the dough by pressing fingertips into it all over, about ½-inch deep.

7. **(Quick method will skip or shorten Step 7—the third rising.)** Cover the dough lightly again and let rise 20 to 30 minutes in a warm place. Prepare the toppings of choice while the dough rises.

8. Place racks in lower third of oven. **Heat to 425 degrees F.**

Drizzle the oil over the dimpled dough and sprinkle with choice of toppings and salt.

9. Bake until golden, 15 to 20 minutes—varies with thickness.

10. Cool briefly, then remove bread to cooling rack to avoid soggy crusts. Serve warm wedges, with olive oil or garlic oil for dipping.

**Storage:** DO NOT REFRIGERATE. Enjoy warm, or may be frozen in food freezer bags up to 3 months. Unwrap and reheat in hot (400 degree F.) oven until crisp.

**Nutrition Information:** 1 of 16 slices (2 oz—56g) made with 1 c. whole wheat flour, 1/2 c. all purpose flour, 1 yellow onion, olive oil, salt and fresh basil leaves provides:

- Calories, 120;
- Total fat, 4g; 0 Sat fat; 2.5g Mono fat; Cholesterol, 0mg; Trans fats, 0;
- Total Carbohydrates, 22g; Dietary fiber, 2g; Sugars 0g; Protein, 3g; Sodium, 220 mg; Potassium, 53 mg; Iron 1.5 mg;
- Niacin 1.7mg; Riboflavin 0.1mg; Folate, 40 mcg; Thiamin, 0.15mg; Vit. C 0; Vit. D 0; Vit. E, 0.4 mg

**Extra credit:** BAKING VOCABULARY

On a copy of the recipe, label the steps in the margin with the following terms:

<table>
<thead>
<tr>
<th>Scaling Ingredients</th>
<th>Intermediate proof</th>
<th>Baking</th>
<th>Make-up</th>
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<tbody>
<tr>
<td>Mixing</td>
<td>Molding</td>
<td>Cooling</td>
<td>Punch dough</td>
</tr>
<tr>
<td>Fermentation</td>
<td>Panning</td>
<td>Proofing</td>
<td>Storing/holding</td>
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**COSTING:** The package cost and size of package for each item will be provided.

What would you charge for one large (12-inch) loaf of focaccia? Mark up should be 125 percent.

- Flour (5 lb) $  
- Olive oil (___ oz) $  
- Sugar $  
- Salt $  
- Herbs $  
- Coarse salt $  
- Dried tomato, onions, peppers $  
- Cheese(s) $  
- Food packaging $
CONSUMER TESTING:
Develop a ½-page survey for a consumer group in your school or community. Set up a taste test with the group to determine consumer taste preferences for focaccia. Offer them several types of focaccia, appropriately named.

Ex: Crusty basil parmesan
    Olive basil
    Onion garlic
    Provolone and Sun-dried tomato
    Whole grain onion and rosemary

Questions may include rankings: 1 to 3 (grade school age) or 1 to 5 (junior high to high school age or adult) Make it clear whether 1 is top ranking or lowest!
Get responses for things such as: crust chewiness, flavor, preferred toppings, whole grain okay?, when they might like to eat the bread, would they like sandwiches made with it
Tally the responses. Would the product sell well as it is? What adjustments might you want to make?

FOOD LABELING
Write a product label for the bread as it would need to appear for sales.
Include:
Net weight, ingredient label, nutrition facts label (or basic focaccia nutrition information you are unable to do an analysis).
Be sure to weigh and list the total loaf net weight as well as one serving of the recommended servings with the nutrition information.
Is there a health claim you might include on your label? (Whole grain; low in fat)
Go to www.cfsan.fda.gov/label.html for label guidance and health claims that may appear on food labels.
Include the price, how to handle or store the product.

Education Program Linkages: Career Development; Integrated math, science, communications, history, technology, consumer science and health and wellness.

Program content and identified national standardized FACS outcomes:
Career, Community and Family Connections: 1.2—Demonstrate transferable and employability skills in community and workplace settings
Family: 6.1: Analyze the impact of family as a system on individuals and society.
Human Development: 12.2: Analyze conditions that influence human growth and development
Interpersonal Relationships: Demonstrate teamwork and leadership skills in the family, workplace & community.
Food Science, Dietetics and Nutrition: 9.5: Demonstrate use of current technology in food product development and marketing.
Nutrition and Wellness: 14.0: Demonstrate nutrition and wellness practices that enhance individual and family well being.

Credits:
2003 Home Baking Association Award winning FACS classroom lesson “Focaccia: The Italian Cousin to Pizza.” By Cecilia Marcinkovich and Amy Saunders, FACS Food & Nutrition Teachers, Portage Township School District, Portage, IN.