Materials list — each lab or team will need:

- Soft pretzel commercial package labels with price net weight, nutrition facts, ingredients
- Electronic food scale
- Large bowl
- Large mixing spoon
- Measuring cups (liquid & dry) and spoons
- Yeast, flours, sugar, salt, water, cooking oil
- Large egg
- Fork & bowl to beat egg
- Pastry brush
- Pretzel sprinkles (coarse salt, seeds, cinnamon sugar)
- Kitchen scissors
- Baking sheet pans
- Parchment paper
- Oven
- Cooling racks or cutting boards to set hot pans
- Food wrap or bags
- Soft pretzel recipe handout (go to eNasco.com/page/lesson33)
- Tips for Shaping Success Handout (go to eNasco.com/page/lesson33)
- Optional: skillet, water, baking soda
- MORE: Home Baking Association How to Make Soft Pretzels: Dough Sculpting 101 DVD (Cat. No. WA32838H)

Technology Connections:
- Use USDA’s Smart Snack school guidelines http://healthymeals.nal.usda.gov/smartsnacks and Smart Snack calculator http://bit.ly/YebuR1
- Determine if, or how, pretzels can meet in-school bake sales guidelines
- Also see Bake for Funds http://homebaking.org/bakesalecentral.php

Introduction:

- Soft pretzels are a great way to assist students in applying history, ingredient and nutrition sciences, and consumer math to a popularly sold bread product. With innovations, students can market their products for both in- and out-of-school sales.
- Soft pretzels can be baked in as short a time as 45 minutes, or divided into two or three labs. (See Bakers Tips side bar or Time Saving Techniques provided — p. 134, Lab 12 Dough Sculpting 101 DVD or A Bakers Dozen Labs manual).
- Bread with a Twist activities vary in length for use throughout the baking lesson.
Activity 1: Cultural History (5-10 minutes)
Explore what a soft pretzel is and its cultural history. Who do you think made the first pretzel? (See Soft Pretzel History.) Why do you think they are shaped the way they are?

Activity 2: Consumer Science (10-15 minutes)
Use ingredient and Nutrition Facts labels for soft pretzel products (or ESHA Food Processor software information) and discuss consumer interest in soft pretzels, their ingredients, nutritional value, and their costs. Who enjoys soft pretzels? Why? Where do you usually buy them? (Answers vary — store, mall, fairs, games, street vendor, airport, etc.) What do they cost to buy?

Activity 3: Consumer Math (15 minutes)
How much do you think they cost if we make them ourselves? List each ingredient cost; total only the amount used in a recipe; divide by number of pretzels a recipe produces. (About 15¢ each.) How much will you charge for each pretzel in a food sale or cafeteria?

Activity 4: Nutrition Science (20 minutes)
Compare ingredients in commercial recipe and soft pretzel recipe included. In what food group are they? (Grain.) What nutrients do they provide? (Carbohydrates, fiber; and B-vitamins, iron, folic acid, plant protein, sodium, potassium, if whole grain.) Why are they a good food choice and when are they not a good choice? (People need 50-60% of their calories from carbohydrates for brain and muscle fuel; super-sized pretzels may be too caloric; may have a super load of sodium; daily limit 2,300 mg — see sodium http://homebaking.org/glossary/old_glossary.html). Are they whole grain? If not, how could this be done? (Substitute 51% or more whole wheat or whole grain flours.) Was sodium under 230 mg per serving (Smart Snack guide)? If not, how could you reduce the sodium? (Top with a favorite seed or cinnamon and sugar instead of coarse salt.)

Activity 5: Culinary Baking (90 minutes)

Activity 6: Local Service Learning (1 day)
Plan to express thanks with a pretzel delivery to school or community mentors. Conduct a pretzel bake sale in or out of school to raise funds for your favorite cause.
* Bake for Funds guide: http://homebaking.org/bakesalecentral.php
* Gluten-Free Pretzels: A Baker’s Dozen Labs Manual (Cat. No. WA27798H)

Teacher Tips
- Divide into two or three-day labs: Prepare a cool dough (80° F water) and refrigerate dough in large sealable containers, allowing room and deflating and rounding dough when it doubles in size.
- More time-saving techniques are provided in Dough Sculpting 101 DVD (Cat. No. WA32838H) or in A Baker’s Dozen Labs manual (Cat. No. WA27798H).
- One-day baking: Speed up the dough using fast-rising yeast methods requiring very warm water and very short fermentations. Do consumer activities on separate days.

Demonstration images taken from Dough Sculpting 101 DVD.
Dough Sculpting 101 - Refrigerator Potato Dough

Grade level: High School
Prepared by: Sharon Davis, FCS Teacher, HomeBaking.org

National FCS Standards:

1.2.1 Analyze potential career choices to determine the knowledge, skills, and attitudes associated with each career.
1.2.4 Demonstrate teamwork skills in school, community, and workplace settings.
1.3.3 Analyze personal and family assets and skills that provide service to the community.
4.3.5 Arrange learning centers that provide for children’s exploration, discovery, and development.
8.1 Analyze career paths within the food production and food services industries.
8.4.7 Apply principles of Measurement, Portion Control, Conversions, Food Cost Analysis and Control, Menu Terminology, and Menu Pricing to menu planning.

Objectives:

Students will…

• Explore careers in baking production, baking science, or culinary baking.
• Calculate the costs of producing potato roll yeast dough.
• Identify how much value is added through specialty dough shaping and how much consumers would pay per unit and the final retail value of one recipe.
• Use safe-food preparation and handling techniques for food sales.

Career & Technology Connections:

• Baking Builds STE(A)M PowerPoint® at HomeBaking.org
• Baking/Baking Science, Kansas State University at http://www.grains.k-state.edu/undergraduate-programs/degree-options/bakery-science-and-management.html
• Baking & Pasty, Johnson & Wales University at www.jwu.edu
• Kitchen Blueprint to Math, Science, Art, and Literacy PowerPoint® for Early Childhood education at HomeBaking.org

Materials list — each lab or team will need:

• Dough Sculpting 101 DVD for demonstrated dough preparation and shaping methods (Cat. No. WA32838H)
• Ingredients for Refrigerator Potato Dough
• Stand mixer/bowl/attachments
• Baking sheet half pans
• Parchment pan liners
• Electronic scales
• Measuring tools
• Food thermometer
• Dough bench knife or bowl scraper to divide dough
• Plastic wrap
• Pan spray
• Wire cooling racks
• Food wrap/packaging/labels for rolls, loaves
• Local connections handout (go to eNasco.com/page/lesson33)
• Refrigerator Potato Dough recipe handout (go to eNasco.com/page/lesson33)
• Roll shapes handout (go to eNasco.com/page/lesson33)
• Tips for shaping success handout (go to eNasco.com/page/lesson33)

Additional resources:

• A Baker’s Dozen Labs manual (Cat. No. WA27798H)
• Commercial examples with prices (sliced bread and rolls and specialty/artisan rolls, loaves)

Introduction:

Dough sculpting with refrigerator potato dough provides the “just like Grandma’s” connection for culinary baking-for-profit products in restaurants or local bakery sales. This dough handles beautifully and may be shaped in short labs or refrigerated for two- or three-day production schedules by following refrigeration techniques. Dough production, time-saving tips, and a wide variety of specialty roll and loaf shapes are demonstrated on the Dough Sculpting 101 DVD (Cat. No. WA32838H). Additional lab resources are contained on the DVD including specialty cookies, centerpiece display dough sculptures, and Play Clay for early learners! Additional baking science found in the A Baker’s Dozen Labs manual (Cat. No. WA27798H). Consult HBA’s Baking Glossary at HomeBaking.org for additional baking test-kitchen resources and links with baking ingredient and term entries.
Day 1: Consumer Math & Science

Activity 1: Exploration (10 minutes)
Explore consumer concept of “value-added.” Where do you purchase daily bread products? (Varies — day-old bakery store, supermarket, etc.) How much do you pay for 1 lb./16 oz packages of buns, rolls, or loaves? (Varies — $1.89 to $2.89+) If we baked these in our homes or lab, how much do the ingredients cost? (Generally can make 2+ lbs. of similar product for approximately $1.75.) What is the advantage of baking for yourself? (Locally made, flavor, control of ingredients — whole grain, variety of grains, freshness, no preservatives, variety of shapes, sizes, etc.) In culinary, what does “value-added” mean? (With a special shape, ingredient, or technique a product gains value in the eyes of the consumer, they are willing to pay more, allowing more profit.) Dough sculpting or specialty shaping “adds value” to a dough.

Activity 2: Career Connections (10 to 30 minutes)
Explore who needs to know how to prepare a dough — cookie, muffin, yeasted — for a culinary or food career. Will it make you a more valuable employee if you can bake as a part of your culinary skills? Where can you learn baking skills for home and career? Visit websites (see Career & Tech Connections) for PowerPoints or baking career sites. Careers in baking begin at home, 4-H or FCCLA, culinary classes — and may continue to certification, apprenticeship or to a Ph.D. Baking can take you all over the world!

Activity 3: Baking Preparations (20-30 minutes)
Read and assemble recipe ingredients; read each step, assemble equipment, and determine if you know how to use it. As needed, view Refrigerator Potato Dough preparation demonstration on Dough Sculpting 101 DVD (Cat. No. WA32838H).

Activity 4: Baking Science (15 minutes)

Day 2: Baking Lab

Activity 1: (20-30 minutes)
Prepare the Potato Refrigerator Dough Recipe (go to eNasco.com/page/lesson33 and print) — either to shape immediately or to refrigerate and shape the next day.

Activity 2: (20-30 minutes)
Each team divides/scales one recipe of dough into thirds (1 lb. 4 oz.) or sixths (10 oz.) and shape three to six different shapes rolls using lab diagram directions.
• How to shape rolls is demonstrated on Dough Sculpting 101 DVD (Cat. No. WA32838H) along with additional braids, loaves, and centerpiece sculptures.
• Bake as directed for the size and shapes selected.
• Cool baked product on wire racks (until 100° F at center), wrap individually or in quantities that will sell or be served.
• NOTE: Potato dough products will remain moist for second day serving/sales. Centerpiece sculptures use a plain yeast dough.

Day 3, 4, 5: Family, Career and Community Connections

Activity 1: (20-30 minutes)
Students can “add value” to their baking by passing forward food knowledge and skills AND gain experience with early childhood education! Discuss why, how, and where students could set up learning centers that provide for children’s exploration, discovery, and literacy development. Discuss using either Play Dough or Dough Sculpting 101 DVD (Cat. No. WA32838H) or real bread dough that could be shaped into numbers, letters, or bread sticks for pre-K to second grade classroom, after school program, or a community club. What skills will early childhood students gain? (math numerals, large and small motor skills, alphabet, literacy sequencing, following directions, etc.) Check out Kitchen Blueprint to Math, Science, Art, and Literacy PowerPoint for Early Childhood education at HomeBaking.org.

Activity 2: (30 minutes)
Prepare to conduct a dough discovery learning activity.
• Choose a Dough Sculpting 101 recipe or activity that fits the ages and environment where you’ll conduct the activity.
• Select a book to read with the recipe/activity chosen. See Local Connections handout to get started (go to eNasco.com/page/lesson33 and print).
• Review The Thrill of Skill age-appropriate guide at HomeBaking.org
• Divide duties. Assemble tools and ingredients or have the dough ready-to-go. Make name tags.

Activity 3: (60 minutes)
Just do it! Be sure to copy the recipe and book title(s) read to send home with the children.

EXTRA!
Share what you’ve done. Enter the annual HBA Educator Award and win $1,000! For current details go to HomeBaking.org.

Demonstration images taken from Dough Sculpting 101 DVD.
# Soft Pretzels

**Yield:** 12 (2 oz/55 g) pretzels

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Measurement</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast-rising yeast</td>
<td>1 pkg./2 ⅛ teaspoons</td>
<td>0.25 oz/7g</td>
</tr>
<tr>
<td>Warm water (120-125° F.)</td>
<td>1 cup</td>
<td>8 oz/225g</td>
</tr>
<tr>
<td>Vegetable oil</td>
<td>2 tablespoons</td>
<td>0.875/25g</td>
</tr>
<tr>
<td>Sugar</td>
<td>1 tablespoon</td>
<td>0.5 oz/12g</td>
</tr>
<tr>
<td>Whole wheat flour</td>
<td>1 ⅛ cups</td>
<td>7 oz/200g</td>
</tr>
<tr>
<td>All-purpose flour, divided</td>
<td>1 to 1 ½ cups</td>
<td>4.25 oz/119g</td>
</tr>
<tr>
<td>Salt</td>
<td>1 teaspoon</td>
<td>6g</td>
</tr>
</tbody>
</table>

*Water bath: 6 cups boiling water, ¼ cup baking soda*

*Egg wash: 1 large egg + 1 tablespoon cold water, beaten*

*Coarse or Kosher salt, sesame, poppy or sunflower seeds*

## Directions:
1. Wash hands and surface to knead and shape dough.
2. In a large mixing bowl, measure and combine whole wheat flour, yeast, sugar and salt; mix well. Add warm water and oil to the mixture. Mix until moistened, then beat 3 minutes, by hand or with mixer (medium speed).
3. Stir in, ¼ cup at a time, all-purpose flour until dough forms a rough ball. Knead in the bowl or on a clean, lightly floured surface until smooth and elastic. (All the flour may not be needed.)
4. Turn the bowl over the dough and let it rest 10 to 30 minutes (Or, place dough in greased bowl or plastic bag; cover with lid or close bag. (Dough may be refrigerated overnight, but use 80° F. water)
5. Punch dough down and knead into a smooth ball. Divide in 4. Divide again, each piece into thirds (2 oz). Cover the dough to rest again, 5 minutes.
6. Roll or shape each piece into a “snake” or long thin rope, at least 18-inches long. Let dough rest as needed.
7. Shape into pretzels. Cover with pan-sprayed plastic wrap for 10 minutes on a well-greased or parchment-lined baking sheet. Preheat the oven to 425° F.
8. **Optional: For extra chewiness** After 10 minutes, lower each pretzel into a boiling bath, 10-15 seconds on each side. (Boiling bath = 6 cups boiling water + 6 tablespoons baking soda); remove with a slotted spatula; drain.
9. Place on parchment-lined or greased baking sheet.
10. Brush the beaten egg and water over the pretzels.
    **Optional:** Sprinkle w/coarse salt or seeds.
11. Bake 12 to 15 minutes at 425°F until golden. Cool on wire rack.

**DIY Test Kitchen Variations:** Substitute ¼ cup rye flour, soy flour, cornmeal, flax meal for ¼ cup all-purpose flour.

## Nutrition Facts

<table>
<thead>
<tr>
<th>Serving Size: (54g)</th>
<th>Servings Per Container</th>
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<tbody>
<tr>
<td>Calories: 130</td>
<td>Calories from Fat 25%</td>
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<tr>
<td>Total Fat: 2.5g</td>
<td>4%</td>
</tr>
<tr>
<td>Saturated Fat: 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat: 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Cholesterol: 0mg</td>
<td>0%</td>
</tr>
<tr>
<td>Sodium: 440mg</td>
<td>18%</td>
</tr>
<tr>
<td>Total Carbohydrate: 23g</td>
<td>8%</td>
</tr>
<tr>
<td>Dietary Fiber: 3g</td>
<td>12%</td>
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<tr>
<td>Sugars: 1g</td>
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</table>

**Protein:** 4g

**Daily Values**

<table>
<thead>
<tr>
<th>Percentage of daily value</th>
<th>4%</th>
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</thead>
<tbody>
<tr>
<td>Vitamin A (%)</td>
<td></td>
</tr>
<tr>
<td>Vitamin C (%)</td>
<td></td>
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<tr>
<td>Calcium (%)</td>
<td></td>
</tr>
<tr>
<td>Iron (%)</td>
<td></td>
</tr>
</tbody>
</table>

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.*

## Critical Thinking

Ask participants to consider these consumer questions:

1. Who enjoys soft pretzels? (Answer will vary!)
2. Where do you buy them? (A: frozen and heated, mall, street vendors, airport, fair, school events...)
3. Who do you think made the first pretzels, when and why are they shaped the way they are? (A: See history)
4. What ingredients are in a pretzel? (See recipe/read label)
5. What food group are pretzels in? (Grain) What nutrients do they provide? (Carbohydrate and fiber; B-vitamins, iron, folic acid, plant protein)
6. Why are they a good food choice? (A: People need 50 to 60% of their calories from carbohydrates every day for brain and muscle fuel.)
7. What do they cost from a street vendor or at the mall? (A: $2.50 to $4.00) Frozen and heated? (A: $.75) DIY? (A: Do-it-yourself, about 15 cents each.)
8. What other shapes and flavors, could you create? (A: Alphabet, snowflakes, multi-grain, various seeds instead of salt, cinnamon and sugar...)

Source: HomeBaking.org
NP046-15
Tips for Shaping Success

Yeast dough for the shaping artist will:
- have a silky texture, be properly developed—elastic and moist but not “tacky” or too sticky
- place in an oiled, sealed food bag or container, deflated, rounded and rested in refrigerator or at room temperature (68° to 72°F).
- be relaxed, extensible (can be rolled out or extended without springing back)

To achieve shaping success:
- Develop the gluten so the dough cleans the sides of the bowl or counter when mixed or kneaded. The dough should be soft but elastic, cleaning the bowl or kneading surface. Target dough temperature after kneading—78 - 82°F—so it will not raise too rapidly, UNLESS you are using a fast-rising yeast method.
- Use proper fermentation temperature (78-80°F) to prevent the dough from over-gassing or getting tacky and help develop the gluten strands further—making the dough easier to shape. (Also see refrigerating dough guidelines, p. 134.)
- Divide dough evenly (weigh the dough, divide by number of pieces needed) and round dough to rest. This helps make balanced braids, and equal-sized rolls and loaves.
- Allow yeast dough to rest—about 10-15 minutes of bench time after deflating dough, dividing, and rounding. This will make the dough much easier to shape. The dough pieces will be more extensible—not inclined to just rebound back when rolled.
- Keep the dough pieces covered during bench rest and while shaping to prevent crusting.
- Do not over-flour or over-grease the shaping surface. This leaves a coating of flour or grease on the dough surface and the result will not be as nice in appearance or flavor.
- Proof bread until ¾ or nearly fully proofed before egg washing and slashing surface of loaf. (See Ripe Test, HomeBaking.org, Baking Glossary).

Dough Shaping and Sculpting 101

- Read Tips for Shaping Success (text box at side).
- Wash hands and surfaces well.
- Select up to three options to prepare with each third (1.25 lb) of the Refrigerator Potato Dough.
- Shaping: Divide Refrigerator Potato Dough recipe (or favorite dough, making 3 to 3.75 lbs.) evenly into dough pieces as directed by the option chosen. Place same-sized products on the same pan, spacing as directed.
- Everyone will want their own edible art....Tuck a small piece of paper with the baker’s initials under the edge of their dough art before baking OR, bake on parchment paper with name noted by the product.
- Baking: Cover each pan of shaped dough lightly with sprayed or oiled plastic wrap or clean dampened non-terry towel. Place to proof in warm (95-105°F), draft-free place until double, about 45 minutes. (See Ripe Test, HomeBaking.org in Baking Glossary). Bake rolls as directed. Lay a piece of aluminum foil lightly on baked dough if edges become too brown. Internal temperature when done is 190-210°F on food thermometer. Cool product on wire racks.

Rolls and Critters

Dinner Rolls: Bake rolls at 375°F., 12-15 minutes.
1. Shape one third (one to 1.25 lb/565g) Refrigerator Potato Dough into a log about 3 inches thick. Divide into 12 even (~3 oz/85g) pieces.
2. To shape: Flatten dough piece into a disc; bring edges to center and pinch; turn dough over to “round” (see left, middle image) and place pinched edge down on greased baking pan.
3. Cover, proof until doubled in size and bake as directed.


Source: HomeBaking.org
NP045-15
Local Connections:
Shape Up! Your Food Enjoyment Factor

Too often food is just something to unwrap, stuff down and run. Adding hands-on food preparation reduces several factors contributing to overweight.
- Preparing food is a great way to get more active. (“Burn and earn” the food you consume!)
- Sharing food often increases enjoyment, improves choices and eating more appropriate amounts.
- Creating aroma, flavor, and eye-appealing food develops satisfaction, self-esteem, self-confidence and relationships that reduce the need to over consume.

Polish skills and share your wealth!! Select a local group with which to conduct a “Shape Up,” activity.

For Teacher:
Remember to check to see if the location center has a kitchen or will bake-off the shapes. If not, place shapes on aluminum pan and cover with plastic bag and send home to bake.

Plan a couple hours to
- “dough sculpt” as a creative hands-on food skill-building opportunity for younger children to learn more about bread and grains
- teach parents as “first teachers” to enjoy this art with their children, adding a book list of great books to read along with shaping and baking
- spend a couple hours with older adults as “dough therapy,” talking with and shaping rolls to share at a meal or afternoon coffee or tea break
- “build bonds” between peers or across ages

Options:
1. If time allows, each person or team can prepare Bread in a Bag. View Fleischmann’s Yeast recipe and instructional video included on DVD or on-line at breadworld.com.
2. Pre-prepare several batches of Refrigerator Potato Dough, (p.137) in the class lab for the group to divide and sculpt. Before you go to the event, be sure the dough is punched, rounded and refrigerated. The dough will be rested and ready when you arrive!
- Prepare a “Shape Up Baking Kit” – a washable plastic tub with surface and hand-cleaning items, baking pans (as needed), parchment, pan spray, plastic wrap, dough scraper/divider, food thermometer and aprons (disposable aprons are sold on-line for pennies).
3. Work together and prepare the dough on-site by hand, in a bread machine, mixer or food processor, then shape…and make someone’s day!

Double the learning... Book and Bake
Enjoy a book while dough rests, rises or bakes.
A few great choices for this lab include:

Preschool-K:
Bread, Bread, Bread. Ann Morris and Ken Heyman
Little Red Hen and the Ear of Wheat. Mary Finch

Early elementary:
Miss Spider’s Tea Party, David Kirk
Walter the Baker. Eric Carle
Bread is for Eating. David and Phyllis Gershator

Consult The Thrill of Skill age-appropriate baking skills list found in Baking with Friends OR on-line at HomeBaking.org.
Spanish translation also available.

Source: HomeBaking.org NP042-15
**Refrigerator Potato Dough**

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Measurement</th>
<th>Weight</th>
<th>Bakers %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbleached all-purpose flour*</td>
<td>6 ½ to 7 cups</td>
<td>27.5 to 30 oz</td>
<td>100%</td>
</tr>
<tr>
<td>Warm water (95 °F)</td>
<td>½ cup</td>
<td>4 oz</td>
<td>13%</td>
</tr>
<tr>
<td>Active dry** yeast</td>
<td>4 ½ teaspoons (2 pkg.)</td>
<td>0.5 oz/14g</td>
<td>1.5%</td>
</tr>
<tr>
<td>Sugar</td>
<td>½ teaspoon</td>
<td>2 g</td>
<td>0.2%</td>
</tr>
<tr>
<td>Milk, scalded, cooled (72° F.)</td>
<td>1 ½ cups</td>
<td>12 oz</td>
<td>40%</td>
</tr>
<tr>
<td>Butter</td>
<td>½ cup + 2 T.</td>
<td>5 oz/142g</td>
<td>16%</td>
</tr>
<tr>
<td>Sugar</td>
<td>½ cup</td>
<td>3.5 oz/100g</td>
<td>12%</td>
</tr>
<tr>
<td>Salt</td>
<td>2 ½ teaspoons</td>
<td>0.6 oz/15g</td>
<td>1.75%</td>
</tr>
<tr>
<td>Mashed potato, unseasoned***</td>
<td>1/3 cup</td>
<td>3 oz/85g</td>
<td>10%</td>
</tr>
<tr>
<td>Whole eggs</td>
<td>2 large or 3 medium</td>
<td>3.5 oz/100g</td>
<td>12%</td>
</tr>
<tr>
<td>Citrus zest, optional</td>
<td>1 ½ teaspoons</td>
<td>3 g</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*For whole grain option replace 4 cups (16 oz.) all-purpose flour with whole wheat flour

**Directions**

1. Mix warm water, yeast and ½ tsp. sugar in small bowl. Set aside 5 minutes.
2. Heat milk in microwave until steaming hot (190° F). Pour milk into large mixing bowl; add butter, ½ cup sugar, and salt, mix. Cool to 80° F. or cooler.
3. When milk mixture is cooled, stir in dissolved yeast, mashed potato and eggs. Gradually add 4 cups flour (if using whole wheat flour, add it first). Beat at medium speed 3 to 5 minutes until smooth. Cover bowl and let dough rest 15 minutes.
4. Mix in remaining flour until dough forms a rough ball.
5. Place dough on lightly floured surface; knead about 10 minutes until smooth and elastic OR mix with dough attachment on medium speed until dough cleans the bowl, about 7-10 minutes. If dough is too dry, mix/knead in 1-2 T. water. Target dough temperature: 78° F. or cooler.
6. Place dough into large greased bowl; turn dough; grease-side is up. Cover bowl with sealing lid or put dough in a very large (2 gallon) plastic food storage bag sprayed with vegetable spray. Force out air and seal at top of bag leaving room for dough to raise. (If freezing, divide into three equal discs, wrap as directed p. 134 and freeze.)
7. Refrigerate dough, deflating dough after about an hour; round dough into a ball, smooth side up. Refrigerate until ready for shaping; dough will keep in refrigerator one to three days; deflate dough again if needed.
8. Divide dough into thirds (1 to 1.25 lb. each) and shape each into a smooth ball. Cover to rest 5-10 minutes.
9. Sculpt each 1 to 1.25 lb. piece into... a dozen rolls, a loaf or braid, snail or buns using Dough Shaping 101 guide.
10. Follow oven preheating and baking instructions for each product.
   - Loaves, 350° F., 25-30 minutes
   - Rolls, 375° F., 12-15 minutes
   - (190-210° F., at center)
**Roll Shapes**

**Single Knot Rolls**
1. Cut a one to 1 1/4 lb/565g dough piece into 12 even pieces. Roll each piece into a log roughly 4 inches long.
2. Tie the dough in a simple knot, leaving one end in the center of the top and tucking the other underneath.
3. Place on a lightly greased or parchment-lined baking sheet. Cover, proof and bake as directed p. 138.


**Cloverleaf Rolls**
1. Shape one to 1 1/4 lb/565g of dough into a log about 3 inches thick. Use a dough cutter to cut log into 12 even (~3 oz/85g) pieces. Weigh a few to check your eye.
2. Divide each of the 12 pieces into three small pieces and roll these into smooth balls.
3. Place the three balls together in greased medium-sized muffin cups. Repeat for 1 dozen. Proof and bake as directed p. 138.


**Double Knot**
1. Cut a one to 1 1/4 lb/565g dough piece into 12 even pieces. Roll each piece into a rope 8-inches long. Make a loop with the top half of the dough, giving the closed end a half-inch overlap of dough.
2. Turn this loop over so the long piece is on top. Wind the long piece behind the overlap, and bring the end back up through the loop to make a figure 8.
3. Place on a lightly greased or parchment-lined baking sheet. Cover, proof and bake as directed p. 138.


**Butterhorn or Crescent Roll:**
1. Roll 1/3 of the dough (1.25 lb/565g) into a large (16-inch) circle, about 1/4-inch thick.
2. Spread thinly with softened butter; cut like a pie into 12 even wedges; roll each wedge up, wide edge to point; place rolls a couple inches apart on greased baking sheet with point underneath. Cover and let rise until double in size. Bake as directed, p. 138.


**Rosette**
1. Roll a one to 1 1/4 lb/565g dough into a 6 X 12-inch rectangle 1/2-inch thick. Starting from the 6-inch side, cut into 1-inch wide strips.
2. Roll each strip into a 14-inch rope.
3. Tie in a loose knot, leaving two long ends. Tuck one end under the roll and pinch to seal. Bring the other end up and over the roll and pinch to seal on the underneath side. Leave a small opening in the center of the rosette.
4. Place on a greased or lined baking sheet pan about 2 inches apart. Cover and let proof (rise) until double.
5. Preheat oven to 375° F. and bake 12-14 minutes.

Courtesy of kswheat.com

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