

# Lesson Plan: Making Pizza Margherita with Semi-Whole Wheat Flour

**Subject:** Culinary Arts / Italian Cuisine

**Grade Level:** High School Culinary Students

**Duration:** Approximately 2 hours (including resting and proofing time)

## Objectives

**Knowledge:** Understand the principles of dough-making and the use of semi-whole wheat flour to enhance texture and flavor in pizza.

**Skills:** Practice kneading, proofing, and shaping dough, as well as topping and baking pizza.

**Attitudes:** Appreciate the importance of ingredient quality and traditional techniques in Italian pizza-making.

## Materials Needed

### Ingredients

- **For the Dough:**
  - 500 g semi-whole wheat flour (type 1)
  - 100 g durum wheat flour
  - 400 g water
  - 5 g fresh yeast
  - 12 g salt
  - 12 g sugar
  - 30 g olive oil
- **For the Topping:**
  - 400 g peeled tomatoes
  - 600 g buffalo mozzarella
  - Fresh basil, to taste
  - 5 g olive oil
  - 4 g salt

### Equipment

- Large mixing bowl or stand mixer
- Measuring cups and spoons
- Rolling pin
- Baking tray or pizza stone
- Oven (preferably one with high heat settings)
- Ladle



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## Lesson Outline

### 1. Introduction (10 minutes)

- **Discussion Starter:** Ask students about their experiences with pizza and different types of flour used in dough.
- **Cultural Context:** Explain the origins of Pizza Margherita in Naples, Italy, and the traditional ingredients used.
- **Lesson Objectives:** Outline the goals, focusing on dough-making techniques, proofing, and understanding the role of each ingredient.

### 2. Safety and Sanitation Briefing (5 minutes)

- **Key Points:** Emphasize cleanliness when working with dough and handling raw ingredients.
- **Demonstration:** Show students how to properly sanitize hands and work surfaces before beginning dough preparation.

### 3. Ingredient and Technique Overview (10 minutes)

- **Presentation:** Review each ingredient, particularly the use of semi-whole wheat flour for added texture and nutritional value.
- **Culinary Terms:** Define terms like “proofing,” “hydration,” and “kneading” to help students understand each step.

## Cooking Activity

### a. Preparing the Dough (20 minutes)

- **Instructions:** In a large mixing bowl or stand mixer, combine the semi-whole wheat flour, durum wheat flour, yeast, and 80% of the water. Knead for about 10 minutes until a smooth dough forms. Add sugar and salt, mixing until incorporated. Let the dough rest for 10 minutes, then add olive oil and the remaining water, kneading until fully absorbed.
- **Activity:** Students measure and combine ingredients, observing how to properly hydrate and knead the dough.
- **Discussion:** Explain why the dough needs to rest and why the ingredients are added in stages.

*AI Tip:* AI can monitor dough hydration and kneading time, suggesting adjustments to ensure a smooth texture.

### b. Proofing and Shaping the Dough (15 minutes active + 1 hour resting)

- **Instructions:** Let the dough rest for an additional 15 minutes. Then, divide it into 4 equal parts (about 250 g each). Shape each portion into a ball, place them in proofing containers, and allow to rise for about 4 hours.
- **Activity:** Students shape the dough balls and observe the proofing process.
- **Discussion:** Discuss the purpose of proofing and how it affects dough texture and elasticity.  
*AI Tip:* AI can monitor proofing time based on room temperature, providing alerts when the dough has doubled in size.

### c. Shaping and Topping the Pizza (10 minutes)

- **Instructions:** Preheat the oven to 300°C (or as high as possible). Take one dough ball, stretch it by hand or with a rolling pin to create a 30 cm round pizza base with a slightly thicker edge.
- **Activity:** Students shape and stretch their dough, then ladle peeled tomatoes evenly onto the base. Add buffalo mozzarella, basil, and a light drizzle of olive oil and salt.
- **Discussion:** Discuss the importance of even topping distribution and creating a balance of flavors.  
*AI Tip:* AI can suggest optimal topping proportions for even coverage and a balanced taste profile.

### d. Baking the Pizza (10 minutes)

- **Instructions:** Place the pizza on a baking tray or pizza stone and bake at 300°C for about 3 minutes if using an electric oven or 2 minutes at 400°C in a wood-fired oven.
- **Activity:** Students bake their pizzas, observing how the high heat creates a crispy crust and melted cheese.
- **Discussion:** Explain how oven temperature and baking time affect the texture and flavor of the final pizza.  
*AI Tip:* AI can monitor baking time, providing alerts to avoid overcooking and ensuring a crisp crust.

### Final Steps and Assembly

Remove from the oven, garnish with fresh basil if desired, and serve immediately.

### Serving Suggestion

Serve on a wooden board, adding a drizzle of olive oil for enhanced aroma and flavor.

### Assessment

- **Observation:** Monitor students' technique in kneading, proofing, shaping, and topping.
- **Questions and Answers:** Ask students to explain the purpose of each ingredient in the dough and the importance of high heat for pizza baking.

- **Reflection:** Have students summarize their experience, focusing on dough handling and flavor balance.

## Closure (10 minutes)

- **Recap:** Review the key steps in making a traditional Pizza Margherita.
- **Student Sharing:** Allow students to share insights or challenges they faced with dough consistency or topping distribution.
- **Encouragement:** Suggest experimenting with different flours or toppings at home.

## Extensions

- **Culinary Exploration:** Research other types of Italian pizza and the regional differences in ingredients and techniques.
- **Menu Planning Project:** Design a pizza menu that includes classic and modern topping variations.

## Resources

### Handouts

- Step-by-step recipe with detailed instructions on dough techniques and topping assembly.
- Information on the history of Pizza Margherita and the benefits of using semi-whole wheat flour.

### Recommended Reading

- Articles on traditional pizza-making techniques and the science of dough.

## Notes for the Instructor

- **Preparation:** Pre-measure ingredients if time is limited to allow students more hands-on time with dough.
- **Safety Considerations:** Remind students about the risks of handling hot trays and the importance of oven safety.
- **Adaptations:** For gluten-free alternatives, suggest gluten-free flour blends and additional hydration adjustments.



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