

Materials List

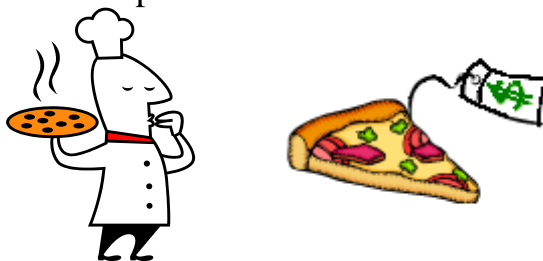
- ✓ Paper Circle, 12.5 cm (5 in) or smaller in diameter
- ✓ Small box that will hold paper circle
- ✓ Optional: Copy of Pizza Extra Topping Choices chart (page 2)
- ✓ Pen or pencil
- ✓ Scratch paper

This activity can be used to teach:

- Fractions
(Common Core Math Standards: Number & Operations - Fractions, Grade 3, 1, 2, & 3; Grade 4, 1, 2, 3, & 4; Grade 5, 1, 2, 4, & 6: Geometry, Grade 3, 2: Meas. & Data, Grade 4, 2)
- Problem Solving and Reasoning
(Common Core Math Standards: Mathematical Practices Grades 2 - 8)

Price a Piece of Pizza!

Determine the price of a Fractional Slice of Pizza!



Once the price of a whole pizza is known, find the price of a fractional slice of the same pizza. Add extra toppings for an additional fee!

Assembly (By students, or by instructor for younger students)

1. Label the outside of a pizza box with a price for the entire pizza.
2. Draw 2 or more radii on the paper circle pizza to represent a variety of slice sections. Write on each slice the correct fractional value of the whole pizza that it represents (e.g., a $\frac{1}{2}$ slice, a $\frac{1}{3}$ slice, and a $\frac{1}{6}$ slice add up to one whole pizza)
3. Put the pizza into the pizza box.

To Do and Notice

1. Students exchange pizza boxes with one another.
2. Take out each pizza, and figure the price for each pizza slice based on the price for the whole pizza.
3. Students check each other's calculations.
4. Students verbally state the relationship between the price of the whole pizza and the price of a slice (e.g., if the whole pizza cost \$6 and a slice is $\frac{1}{3}$ of the Pizza then multiply \$6 by $\frac{1}{3}$ for the price of the slice = \$2)
5. Optional: Copy and cut around the edge of "Pizza Extra Topping Choices" chart (page 2), or create a chart of customized prices. Fold the Pizza Extra Topping Choices chart and place in the pizza box. Use the chart to find the price for each topping added and figure the additional cost of each slice.

The Math Behind the Activity

Pizzas add pizzazz! Students develop a true sense of fractions when they understand how and why fractions are used in the real world! Comparing the price of a variety of different fractional sized pizza slices to the cost of an entire pizza makes modeling real-world mathematical relationships fun and interesting! If differently priced toppings are added to the pizzas students figure the additional cost per slice. By comparing pizzas, prices, and choices for additional toppings, and seeing relationships between them in this hands-on activity, students grasp and gain confidence in the many "flavors" of mathematics involved! Mamma Mia!

Taking it Further

- Solve problems involving rates and ratios: how many slices of pizza can you get for \$2.50 (with or without toppings)?
- Take a survey of favorite pizza toppings, and graph the findings.

Web Resources (Visit www.raft.net/raft-idea?isid=646 for more resources!)

- Fraction practice – www.aaamath.com/fra.html and fraction worksheets – www.helpingwithmath.com/by_subject/fractions/fra_worksheets_charts.htm
- Pizza themed math – illuminations.nctm.org/LessonDetail.aspx?id=U87
- Khan Academy resources – www.khanacademy.org/math/arithmetic/fractions
- Teacher designed math courses – <https://njctl.org/courses/math>



Pizza Extra Topping Choices!



(add cost to the price of a whole pizza)

Extra Cheese	75 ¢
Grilled Chicken	\$1.25
Onions	50 ¢
Mushrooms	67 ¢
Sausages	99 ¢
Pepperoni	\$ 1.00
Anchovies.	85 ¢
Shrimp.	95 ¢
Tomatoes	50 ¢



Pizza Extra Topping Choices!



(add cost to the price of a whole pizza)

Extra Cheese	
Tomatoes	
Onions	
Mushrooms	
Sausages	
Pepperoni	