

# Pizza Fractions

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## Lesson Summary

Students use cut and paste method to make construction paper pizzas using fractional combinations of various ingredients and then use fractions to answer questions.

## Major Topic and SOL

Math SOL (2009)

4.2.a, 4.2.b, 4.2.c, 4.5.b

## Length of Unit

80 minutes

## Student Objectives

### In Mathematics the student will be able to:

- Demonstrate an understanding of the meaning of fractions by picking fractional parts of a whole object or group
- Solve addition and subtraction problems using fractions of like or unlike denominators

### In Language the student will be able to:

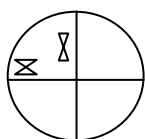
- Describe their pies usage fraction terms
- Name numerical values in fraction terms

## 21<sup>st</sup> Century Skills

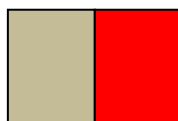
- Critical-Thinking and Problem Solving
- Communication
- Creativity and Innovation
- Collaboration
- Information and Media Literacy
- Contextual Learning

## Assessment Evidence

- Give the students a sheet of circles and/or rectangles and ask them to draw pictures of pizzas and then use a fraction to label the drawing to describe the toppings. Fractions should reflect the drawings with 90% accuracy.



$\frac{1}{4}$  of my pizza has anchovies.



$\frac{1}{2}$  of my pizza has tomato sauce.

## Supplies/Materials/Technology

- **Teacher Materials:**
  - White or tan construction paper in large rectangular and circular shapes for “pies”
  - Templates of toppings (use either colored paper or white and allow students to color the toppings) in groups of ten or various numbers per topping
  - Handout of circles and/or rectangles for students to draw and label pizzas.
- **Student Materials:**
  - Colored pencils or crayons
  - Student scissors
  - Glue sticks
  - Scratch paper

## Lesson Plan

### Motivation & Building Background:

- **Background:** Students may have varying degrees of exposure to fraction concepts but all should recognize that a fraction is part of something. Most individuals should be able read fractions correctly.
- **Motivation:** The teacher will ask students to name their favorite pizza toppings. The teacher will tell them that they will get to be “chefs for a day” and create their own pizzas (Allowing students to bring aprons to class that day may add more interest.)

### Presentation

- After passing out old “pie crusts” the teacher will tell students that they are going to make pizzas that may have different toppings on each slice, so they have to divide the crusts into slices first.
  - The teacher will demonstrate as they direct the students to fold their crusts into two halves, followed by another fold to create fourths.
  - The teacher may use various numbers of folds to determine which fraction denominators are used by each group. Have each group name the slices that have been created (halves, fourths, etc.). Groups may use more than one crust, but each should represent a different denominator.
- The teacher will direct the students to cut and paste different toppings onto each slice. Tell them they must use a fraction to name how much of each topping has been used (4 out of 16 pepperoni slices are  $\frac{1}{4}$ ).
- The teacher will allow students to explore and create while circulating to each group asking questions to assess individual’s knowledge and comprehension of their actions. (i.e. *How much of your pizza is finished? Or, What fraction of your pizza is cheese? Or, What fraction of your toppings are onions? Etc.*)

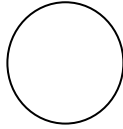
### **Practice/Application**

- Display one pizza at the front of the class and ask the students to describe the pizza using fractions (*The pizza has eight slices, so each slice is  $\frac{1}{8}$  of a pizza. Or two pieces of the pizza have anchovies so that is  $\frac{2}{8}$  or  $\frac{1}{4}$  for advanced students.*). Have the students circulate to look at other pizzas and write at least two sentences to describe each of the pizzas; remind them that each sentence must include a fraction.
- Finally, ask students to write a story description of a word problem involving fractions and pizzas. (example: *Billy Bob bought three pizzas. Each pizza had four slices. If there were six slices left when Billy Bob quit eating, what fraction of the pizza did he eat?*)

\*\*\*Examples of drawings to include as toppings. These can be copied into groups of various numbers to help differentiate for student needs. Also, hand drawing works better for me, whereas others like to create with technology!



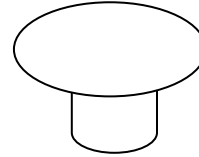
Anchovies



Onions



Pepperoni



Mushroom



Cheese