



Gold Seal Lesson

Author(s): Susan Goss			Lesson Title: <i>Who Says that Geometry is Hard to Swallow?</i>			
Grade Span			ICLE Application Model			
K-4	5-8 X	9-12	A	B X	C	D

Instructional Focus: these are the standards

Geometry

Students apply geometric concepts, properties, and relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.

Measurement

Students use a variety of tools and techniques of measurement in a problem-solving situation. Students communicate the reasoning used in solving these problems.

Statistics and Probability

Students use statistics and probability to analyze given situations and the results of experiments. Students communicate the reasoning used in arriving at a conclusion.

Performance Task

The students will work in groups of 4. Each group will be issued a round pizza with instructions not to eat. Half of each pizza will be divided up into a different number of pieces, so that each group will have different answers. Students will have given information such as:

- a) The pizza is a 16 in pizza (b) Use 3.14 for pi, etc.

Students will be given a worksheet to complete asking such questions as diameter = _____, radius = _____, area of pizza = _____.

Students will also be given instructions to work with pieces of the pie. Take a slice. Students know formula for area of sector, which is a piece of pizza. Calculate, record and eat.

Take another piece. Cut off the crust leaving a triangle and a "segment." Students have formulas for these. Find the areas and eat. Find the percent eaten, percent left, etc.

From the uncut half, cut a piece with central angle of 90° Find the measure of the sides of that triangle by using the Pythagorean Theorem.

Continue with other questions that apply.

Students complete worksheet as they complete pizza.

ICLE Essential Skills

Understand the **properties of circles** (e.g., radius, arc, diameter, chord, secant, tangent, etc.). (m10)

Compute the **perimeter and area of two-dimensional figures**. (m13)

Understand the **properties and classification triangles** by sides (i.e., scalene, isosceles, and equilateral). (m16)

Use the **Pythagorean theorem** to compute side lengths of right triangles. (m21)

Know how to **measure circle quantities** (e.g., area, angle formed by two secants, circumference, length of segments, etc.). (m30)

Scoring Guide: CHECK LIST

Answer each of the following questions yes or no.

- | | | |
|---|-----|----|
| 1. Did the students work cooperatively and productively in their group? | YES | NO |
| 2. Did the students correctly identify area of the entire pizza? | YES | NO |
| 3. Did the students correctly identify area of sector? | YES | NO |
| 4. Did the students correctly identify area of triangle? | YES | NO |
| 5. Did the students correctly identify area of sector? | YES | NO |
| 6. Did the students correctly cut the pizza to form a right triangle? | YES | NO |
| 7. Did the students correctly identify the area of the right triangle? | YES | NO |
| 8. Did the students complete his/her pizza? | YES | NO |

8 correct = A 7 correct = B 6 or 5 correct = C 4 or 3 correct = D

Keywords

English Language Arts	Mathematics	Science
Reading	Algebra	Earth Science
Writing	Geometry Angles Area Circles Circumference Pythagorean Theory Problem Solving Sector Segment Triangles Two-Dimensional	Life Science
Communications	Statistics	Chemistry
Literature	Calculus	Physics
Other	Trigonometry	Other
	Other	