Gold Seal Lesson

Author(s): *Deborah Karas*			*Architecture in the Classroom*			
Grade Span			*ICLE Application Model*			
K-4 *X*	*5-8*	*9-12*	*A*	*B*	*C*	*D* *X*

Instructional Focus:

Number Operations and Concepts
Students use number, number sense, and number relationships in a problem-solving situation.

Measurement
Students use a variety of tools and techniques of measurement in a problem-solving situation.

Geometry
Students apply geometric concepts, properties, and relationships in a problem-solving situation.

Performance Task

An architect is one who designs. Sometimes the architect is referred to as an engineer or a draftsman. In this task, you are to play the role of an architect. Your job is to design your dream house. You should make a scale drawing of the floor plan for your dream house and label the dimensions of all the rooms. Find the area of each room and then calculate the total area of the house. Then, compute the cost of the lumber that will be used for the flooring of the house. Obtain the cost of lumber from a local business.

Note to teacher: Use graph paper on a roll for the scale drawings. For variation, you may have the students carpet or tile the floors and find that cost rather than the lumber. This would be easier as the flooring would be priced per square yard.

Extension: You could extend this into a long term project by having students design the entire house and do a cost analysis for walls, ceiling, etc. You might also have them make a three dimensional model of their dream house.

ICLE Essential Skills

Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions. (m1)

Use the technique of dimensional analysis to convert units of measure (e.g. convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.(m33)

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

Scoring Guide:

O= Outstanding
1) Overall appearance is neat
2) Lines of the house accurately measured and drawn according to scale.
3) Accurate cost analysis

G= Good
1) Overall appearance is neat.
2) Lines of house measured with minor flaws
3) Cost analysis is inaccurate and off by a moderate amount

S= Satisfactory
1) Overall appearance is neat
2) Lines of house measured with major flaws
3) Cost analysis has major inaccuracies and is off by a considerable (unreasonable) amount

U= Unsatisfactory
1) Overall appearance is not neat
2) Lines of house are either poorly measured or not measured at all
3) Cost analysis is missing or meaningless

Keywords

English Language Arts	Mathematics	Science
Reading	**Algebra** Budget Computation Cost Analysis Equations Math in Daily Life Patterns Problem Solving	**Earth Science**
Writing	**Geometry** Area Geometry in Daily Life Perimeter Problem Solving Surface Area Two-Dimensional	**Life Science**
Communications	**Statistics** Measurement	**Chemistry**
Literature	**Calculus**	**Physics**
Other	**Trigonometry**	**Other**
	Other Ratio Scale Design Construct Dimensions	