Gold Seal Lesson

Author(s): *Marsha Kucker*			*Lesson Title:* *In My Estimation*			
Grade Span			*ICLE Application Model*			
K-4 *XX*	*5-8*	*9-12*	*A*	*B*	*C*	*D* *XX*

Instructional Focus:

Listening –
Students listen for a variety of purposes appropriate to the grade level.

Speaking –
Students speak for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.

Number Operations and Concepts –
Students use number, number sense, and number relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.

Algebraic Concepts and Relationships –
Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation. Students evaluate and 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

Children in this age group have a difficult time making accurate estimations in measurement. It is difficult for them to conceptualize size in terms of height, weight, length, and width. This lesson provides hands-on experience with verifying the accuracy of their measurement estimations.

1. Begin the lesson by reading the students the story of 'Rapunzel'. Ask students how long was Rapunzel's hair? How tall was the castle? How far from the ground was her window?

2. Continue the discussion by talking about measurement and estimations.

3. Ask each student to guess his/her height. Make a chart on the chalkboard to record this data.

4. Ask students to work with a partner to measure their actual height. How close were they to their estimation

5. Ask students to estimate the length and width of their classroom. Have them measure the actual size. Again, how close were their estimates?

6. Ask students to list some jobs that may use the skills of estimation. (e.g., carpenters, construction workers, etc.)

ICLE Essential Skills

Give oral or written directions that are clear and are understood by another person. (ela 2)
Follow oral or written directions. (ela 4)
Participate, sometimes leading, in group meetings by contributing, taking turns speaking, and working toward a common goal. (ela 20)
Listen, comprehend and summarize essential information from a variety of sources such as speeches, plays, commercials on radio and television, and political debates. (ela 25)
Gather information such as data, facts, ideas, concepts, and generalizations from oral sources. (ela 51)
Participate in a one-on-one conference by relating essential information, asking questions on the topic, and using language to clarify information. (ela 69)
Participate in formal and informal book talks with teachers, fellow students and other groups. (ela 75)
Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions. (m1)
Understand basic algebraic properties (i.e., commutative: ab=ba; associative: ab(c) = a(bc); and distributive: a(b+c)=(ab)+(ac)). (m3)
Know how to compute the distance between two points (i.e., length of a line segment) on a coordinate plane. (m9)
Use direct proof and indirect proof sequencing techniques to reach a conclusion. Direct proof uses the Laws of Reasoning to create an orderly arrangement of steps leading to a conclusion. Indirect proof uses an initial assumption that the conclusion is false, and through a series of logically sound reasoning steps the statement may be proved otherwise. (m32)
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)

Scoring Guide:

See attachment: In My Estimation Chart

Keywords

English Language Arts	Mathematics	Science
Reading	**Algebra** **Algebraic operations** **Computation** **Estimation** **Math in daily life** **Problem solving**	**Earth Science**
Writing	**Geometry**	**Life Science**
Communications **Listening** **Discussion** **Communication** **Illustration**	**Statistics**	**Chemistry**
Literature	**Calculus**	**Physics**
Other	**Trigonometry**	**Other**
	Other	

Chart

3	**BEYOND**	Analyzed and readily understood the task. Developed an efficient and workable strategy. Showed explicit evidence of carrying out the strategy. Synthesized information and generalized a conclusion.
2	**AT LEVEL**	Understood the task. Developed a workable strategy. Some evidence of carrying out the strategy. Applied information to reach a conclusion.
1	**NOT YET AT**	Partially understood the task. Appropriate strategy some of the time. Possible evidence of a plan – not clear. Partial application of the concept of estimation
0		Totally misunderstood. Inappropriate, unworkable strategy. No evidence of carrying out a plan. No evidence of ability to apply concept of estimation. Blank.