



Gold Seal Lesson

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|-------------------------------------|-----|------|----------------------------------|---|---|---|
| Author(s): Judith P. Wood | | | Lesson Title: Cartoons | | | |
| Grade Span | | | ICLE Application Model | | | |
| K-4 | 5-8 | 9-12 | A | B | C | D |
| | X | | | | | X |

Instructional Focus:

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.

Problem-Solving and Mathematical Reasoning

Students apply a variety of problem-solving strategies to investigate and solve problems from across the curriculum as well as from practical applications.

Tools and Technology

Students use appropriate tools and technologies to model, measure, and apply the results in a problem-solving situation. Students communicate the reasoning used in solving these problems.

Performance Task

Students should work in pairs to complete this task.

Each pair of students will create a cartoon showing all the steps needed to solve two-step linear equations.

The final product should be poster size that is creative, attractive, neat, and effectively uses color. Computer generated figures/pictures may be used in creating the cartoon.

ICLE Essential Skills

Understand basic algebraic properties (i.e., commutative: $ab = ba$; associative: $ab(c) = a(bc)$; and distributive: $a(b+c) = (ab)+(ac)$). (m3)

Understand the use of variables in expressions such as $4x$, $x+2$, and $2x-1$, solve for the variable, and know how to represent expressions such as "twice the number" or "four more than the number" using variables. (m7)

Understand the correct order of operations for performing algebraic computations. (m8)

Use addition and multiplication to simplify an algebraic expression by identifying the order of operations and techniques necessary to carry out the operations (e.g., $5-3(x-2) = 5-3x+6 = 11-3x$). (m11)

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

Understand the use of variables in expressions such as $4x$, $x+2$, and $2x-1$, solve for the variable, and know how to represent expressions such as "twice the number" or "four more than the number" using variables.

Scoring Guide:

RATE CRITERIA: 4 = Excellent, 3 = Very Good, 2 = Satisfactory, 1 = Unsatisfactory, 0 = Does not attempt or does not understand

CRITERIA**SCORE**

Contribution to group _____

Seriousness and purposefulness of work _____

Demonstrates an understanding of the solution of a two-step linear equation _____

Steps to solving equation clearly shown _____

Steps to solving equation are logical _____

Quality of final product (neat, effective, attractive, and appropriate) _____

Keywords

| English Language Arts | Mathematics | Science |
|------------------------------|---|----------------------|
| Reading | Algebra Algebraic Operations Equations | Earth Science |
| Writing | Geometry | Life Science |
| Communications | Statistics | Chemistry |
| Literature | Calculus | Physics |
| Other | Trigonometry | Other |
| | Other Variable | |