Gold Seal Lesson:

Copernicus Education Gateway

Author(s): ***Gail M. Venezio***			***Lesson Title:*** ***Learning About Kites***			
Grade Span			***ICLE Application Model***			
K-4 ***X***	***5-8***	***9-12***	***A***	***B***	***C***	***D*** ***X***

Instructional Focus:

Number Operation and Concepts Students use number, number sense, and number 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.
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.
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.
Science and Technology Students develop skills in using technology and recognize the relationship between technology and science, including its potential and limits.

Performance Task

• Begin by reading the book Kite by Bettina Ling; Scholastic Inc.; 1994; or a similar elementary level book about kites.

• Demonstrate the difference between trying to fly a kite on a windy day and on a day with no wind. This gets across the idea that wind is necessary for kite flying.

• Give the students the plans for constructing a sled kite.
It is explained that the pattern needs to be increased three times. After discussing this with the students, they realize that a simple addition problem will solve the problem and allow them to enlarge the pattern.

• Using the new formula, students measure the pattern and calculate the correct pattern sizes. They also check for accuracy using a calculator.

• Students then make a decorated model.

• Using a pattern, students construct the kite.

• Students then fly their kites.

ICLE Essential Skills

Know how to compute the ***distance between two points*** (i.e., length of a line segment) on a coordinate plane. (m9)
Know the metric system and the units of metric measure and convert metric units to English units. (s4)
Exhibit good data management skills by collecting, organizing, and graphing data. (s19)
Know how to obtain accuracy and precision using common measuring devices. (s33)
Follow oral or written directions. (ela4)

Scoring Guide:

Score each of the following characteristics on a scale of 4 to 0, where 4= surpasses expectations; 3= high quality performance; 2=satisfactory quality performance; 1=minimum quality performance; 0= does not meet expectations.

Task	Criteria	Score
• Student represents correct mathematical formula	• Correct formula and answer	_____
• Student uses calculator to check all answers	• Calculator and student answers match	_____
• Student is able to build a kite	• Kite matches all proportions	_____
• Student 's will fly kite	• Student will demonstrate that their kite can stay in flight 1 minute.	_____

Keywords

English Language Arts	Mathematics	Science
Reading Integration Sequencing Listening	**Algebra** Computation Expressions Problem solving Calculators Measurement	**Earth Science** Weather Wind
Writing	**Geometry**	**Life Science**
Communications	**Statistics**	**Chemistry**
Literature	**Calculus**	**Physics**
Other	**Trigonometry**	**Other**
	Other	

Picture, Chart, or Graph file name(s):

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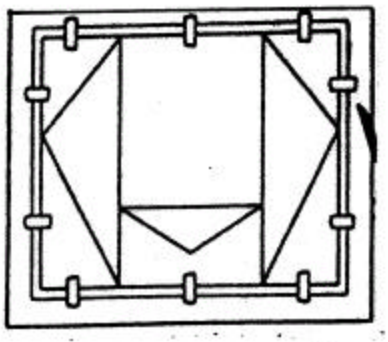
How to Make a Sled Kite

1. **Measure the sides of the kite.**
2. **Scale up the drawing by adding the measurement 3 times. Ex. 10+10+10=30cm. (one side of kite is 10cm)**
3. **Measure every line on the kite pattern, and scaling it up 3 times bigger by adding.**
4. **Make a stencil by measuring out the new kite dimensions. Cut out stencil from cardboard material.**
5. **Tape white garbage bag to the cardboard stencil.**
6. **Cut out the vent.**
7. **Tape dowels to the kite. Use 1/8 inch dowels.**
8. **Cut two tails from surveyors marking tape-found at local hardware stores. It is about 1 inch wide and made of florescent colors. Attach just below dowels.**
9. **Attach a bridle to the kite. Bridle should be 3 times the distance from dowel to dowel.**

See chart on next page

Kite Assembly



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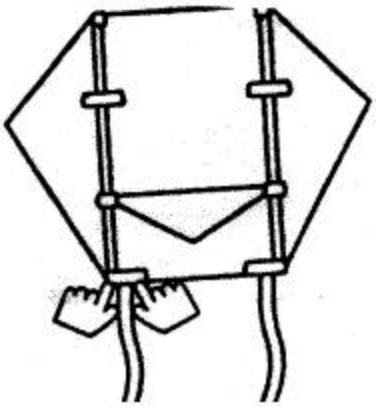

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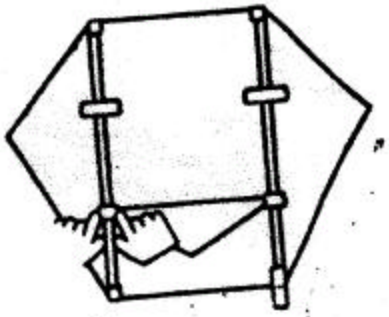

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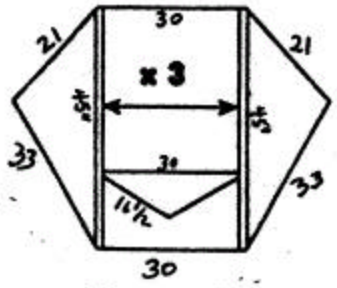

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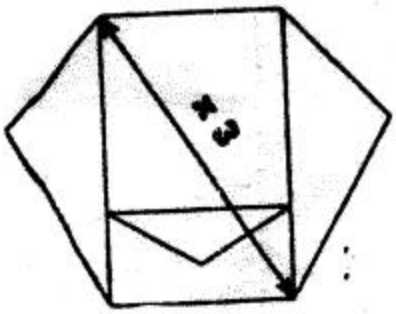

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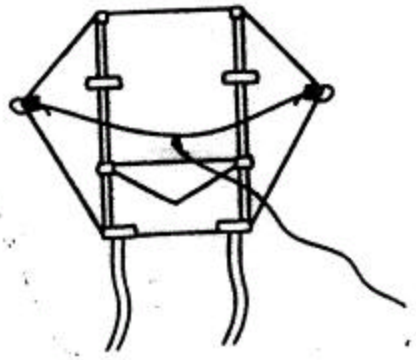

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