SCIENCE 9 LAB
GRAVITATIONAL POTENTIAL ENERGY

PURPOSE: The purpose of this lab is to observe and describe the effect of height on gravitational potential energy.

MATERIALS: Empty milk carton; board; 6 books; metric ruler or meter stick; wooden ball

PROCEDURE:

1. Read all instructions for this activity before you begin.

2. Slant the board by resting it on top of two books. Measure and record the height of two books. Set the milk carton at the bottom of the board so the end of the carton touches the end of the board.
open

3. Place the wooden ball at the top of the board and let it roll. Under Trial 1 for 2 books, record the distance the ball moves the carton. Measure the distance between the board and the carton.

4. Replace the milk carton and repeat step 3. Record the distance the milk carton moves under Trial 2. Do the same for Trial 3.

5. Repeat the procedure for four and six books.

Gravitational Potential Energy

Collecting and Analyzing Data

Data Table					
		Movement of Carton			
Number of Books	Height of Books				
		Trial 1	Trial 2	Trial 3	Ave.
2					
4					
6					

1. Find the average distance the carton was moved when the ball was at 2 books. Record the average on the table. Repeat this step for four and six books.

2. Make a graph of the height of the book stack versus the average distance the carton moved.

3. What kind of energy did the ball have at the top of the board? What kind of energy did it have at the bottom of the board?

Drawing Conclusions

4. What evidence do you have that the ball had different amounts of gravitational potential energy at 2 books, 4 books, and 6 books?

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5. At what height did the ball have the most gravitational potential energy?

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