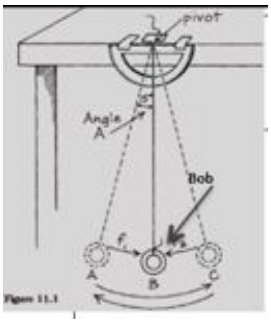
Engineering & Design: GENERATION & Evaluation of SOLUTIONS (S)

Pendulums: Name Period



A PENDULUM is a BOB, or w_ _ _ _ _, suspended from a pivot point so it can swing freely. Due to the pull of gravity, a PENDULUM changes potential or sto _ _ _ energy to kinetic energy, or energy of mo_ _ _ _ . The speed and/or frequency of the pendulum is determined by its length and by the strength of gravity.

Cycle: One complete swing back and f_ _ _ _.
Frequency: Number of cycles or s_ _ _ _ _ per minutes.
Amplitude: Angle or distance of swing from the c_ _ _ _ _ or equilibrium position.
Length: The distance from the pivot to the b_ _.

SOLUTIONS (S)

1) GENERATE and DESCRIBE a variety of SOLUTIONS.
2) EVALUATE each SOLUTION in terms of data, criteria and constraints.
3) SELECT and defend a solution design, based on criteria and constraints.

Problem: Design a portable, ___ minute timer, using a pendulum.

Solution 1 Description: _____

Drawing⬇ Data:

Did this solution meet the criteria and constraints? Yes_ No_ Explain how or why not.
Criteria: _____
Constraints: _____

Solution 2 Description: _____

Drawing⬇ Data:

Did this solution meet the criteria and constraints? Yes_ No_ Explain how or why not.
Criteria: _____
Constraints: _____