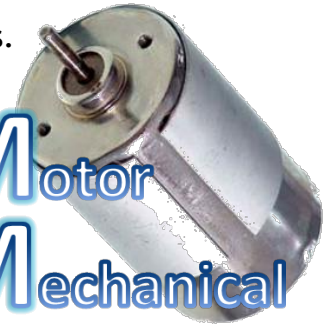


Lab Activity: Understanding Simple Electric Motors

Name _____

Simple Electric Motors are used in common items such as CD players and toy cars. These motors operate by converting electrical energy into mechanical energy (kinetic energy). A trick to remember the energy transformations that occur in a simple electric motor is to look at the first letter in each word.

Electric Motor
Electrical → Mechanical



Objective:

1. Observe and understand the energy conversions that occur in a simple electric motor.
2. Calculate the amount of work done by each battery arrangement.

Step 1: Ensure that the pegboard set up looks like Figure 9.1.

Step 2: Fill in the table below as your group determines the maximum number of washers that can be lifted by the motor with each battery arrangement.

Number of Batteries (in series)	Total Number of Washers Lifted	Force (N) to Lift Washers	Distance Washers Lifted (m) *convert cm into m	Amount of Work (J)
1				
2				
3				

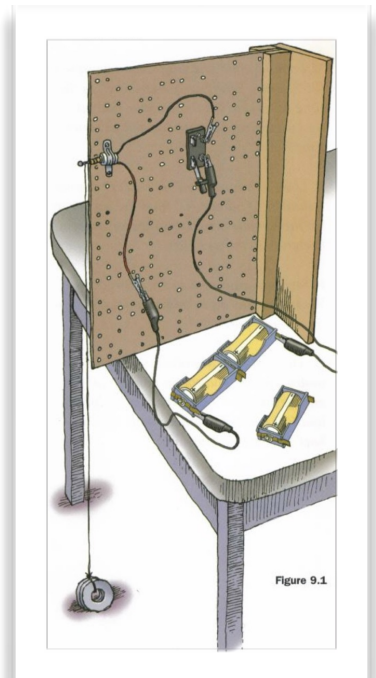
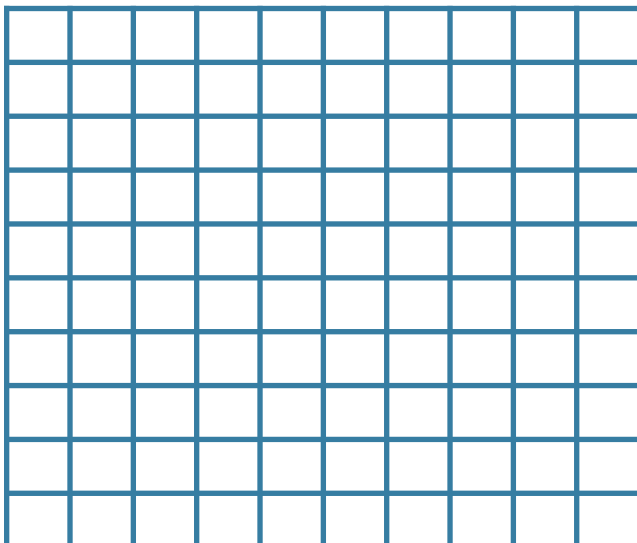


Figure 9.1

Step 3: Create a bar graph of the amount of work done by each battery arrangement.



- What is the energy transformation that takes place with the use of the simple electric motor In this investigation? _____ into _____ into _____
- What provided the electrical energy for the motor to use?

- What is the evidence of the motor producing mechanical energy?

- How does the battery arrangement affect the amount of work done by the motor?
