

SIMPLE MACHINES, BALANCE BEAM

RST-LAB-001

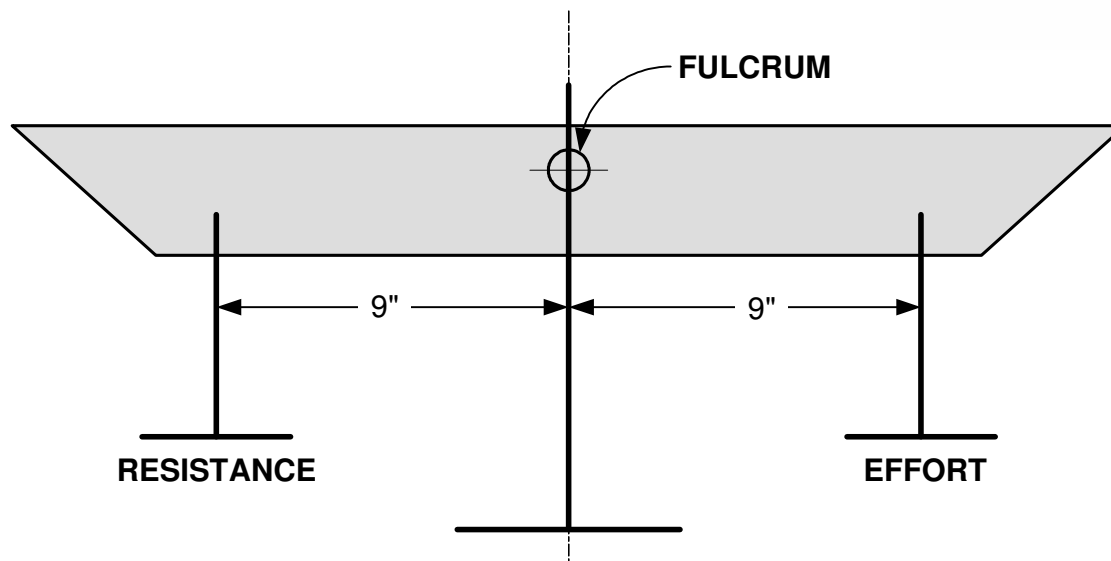


A) OBJECTIVE

Observe and measure the operation of a lever

B) BACKGROUND

A Simple Machine is a device that performs work by converting forces and distances. This exercise explores the operation of a Simple Machine called the LEVER.



C) PROCEDURE

1. Construct the balance beam per instructions.

SIMPLE MACHINES, BALANCE BEAM

RST-LAB-001



2. Slide the trays so they are both exactly 9" from the fulcrum (Refer to Figure #1)
3. Place one nut on the RESISTANCE TRAY- how many nuts are required to balance the EFFORT tray?
Record this number in the DATA section.
4. Move the EFFORT tray exactly 6" from the FULCRUM. DO NOT MOVE THE EFFORT TRAY. How many nuts are required to balance the RESISTANCE TRAY? Record this number in the DATA section.
5. Move the EFFORT tray exactly 4 ½" from the FULCRUM. DO NOT MOVE THE EFFORT TRAY. How many nuts are required to balance the RESISTANCE TRAY? Record this number in the DATA section.
6. Move the EFFORT tray exactly 3" from the FULCRUM. DO NOT MOVE THE EFFORT TRAY. How many nuts are required to balance the RESISTANCE TRAY? Record this number in the DATA section.

D) DATA

Resistance	Effort
9 inches	
6 inches	
4 1/2 inches	
3 inches	

SIMPLE MACHINES, BALANCE BEAM
RST-LAB-001



E) QUESTIONS

- 1) What is happening as the RESISTANCE tray is moved closer to the fulcrum? How can this be explained?
- 2) How does this relate to the definition of a Simple Machine?