

Name _____
AP Physics
Period _____

Date _____
Lab Activity #4 (20 pts)
Mrs. Nadworny

Partners:

Due Date _____

See-Saw

NO Lab Write-Up Required
must be neatly written in pencil

Purpose

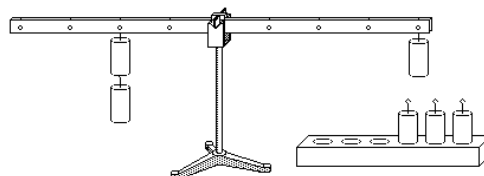
To explore how see-saws balance

Materials

- meterstick
- different masses
- stand
- fulcrum hanger
- 3 hangers
-

Diagram

Include other necessary labels on the diagram. (2)



Procedure

1. Balance the meter stick on the fulcrum as best you can and keep it there as you attempt parts a) – c). In each part, balance the meter stick as directed and then sketch and label a diagram with appropriate numerical data. [Hint: Where should the distance be measured from?]
 - a) Balance two 200 g masses, one on each side of the fulcrum. (2)
 - b) Balance one 100 g and one 200 g masses, one on each side of the fulcrum. (2)
 - c) Balance two 100 g masses at separate locations on one side of the fulcrum with one 100 g mass on the other side. (2)

Data Analysis

1. Consider the previous cases and make a conclusion regarding the placement of the masses in order to achieve equilibrium. (2)

2. Now, move the fulcrum so that it is under the meter stick 20 cm from the center of mass. Then hang a 100 g mass so that the meter stick is balanced. Sketch and label a diagram with appropriate numerical data. (2)

3. Use the data you obtained from #2 to determine the mass of the meter stick. Show your calculations below. (HINT: Use the relationship you derived in your conclusion in #1.) (3)

4. Measure the mass of the meter stick on an electronic balance. Calculate a percent error between the accepted value from the balance and your calculated value. (3)

(2)
neatness