



Name: _____

Date: _____


Class: _____

Lab sheet 10.1

Machines and Forces

Inquiry Flipchart p. 47

Directed Inquiry

 20-25 minutes

 pairs

Objective

- Follow directions for an investigation to make a seesaw.

Inquiry Skills

- Predict
- Compare
- Identify and Control Variables
- Experiment

Materials

- ruler
- 1 hexagonal pencil (per pair)
- 2 stickers (per pair)

Observation	
	The ruler is balanced when we add the same number of coins on each end. As you apply force on one end (using coins), you can lift another load on the other side.

Conclusion	Simple machines have few moving parts that makes the job easier.
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- 10 pennies (per pair)

Machines and Forces



You can build a simple machine to see how machines reduce the force needed to do work.

Materials

- 2 labels
- ruler
- 1 hexagonal pencil
- 10 pennies



Follow This Procedure

- 1 Write the letter *L* for *load* on one label. Write the letter *F* for *force* on the other label.
- 2 Place one label on each end of the ruler.
- 3 Lay the pencil flat on your desk. Place the center of the ruler on the pencil. Balance the ruler.
- 4 Put 2 pennies on the *L* sticker. What happens?
- 5 Place pennies, one at a time, on the *F* sticker. How many are needed to lift the pennies on the *L* side?

- 6 Experiment with different numbers of pennies as the load. Change the position of the pencil, too. Make a table to record your results.

Analyze Your Results

- 7 What simple machine did you use?
- 8 What purpose does the pencil serve?
- 9 How does the position of the pencil change the load that can be lifted?

