

Using a Triple Beam Balance to Measure Mass

Name _____
Date _____
Period _____

First - Make sure that the balance is calibrated. Push all the sliders to zero (far left) and align the pointer(far right) at zero.

There are two methods of measuring the mass (weight) of an object.

A. Measuring the mass directly

1. Place the object on the pan of the balance.
2. Move the hundreds slider one notch at a time until the beam drops below zero, then move it back one notch.
3. Repeat with the tens slider.
4. Slide the front slider across the beams until the pointer rests on zero.
5. Add the numbers from all three beams together and record the results in your data table.

B. Finding the mass by difference

1. Find the mass of an empty beaker. Record the mass on paper.
2. Put the object in the empty beaker.
3. Find the mass of the beaker and the object together.
4. Subtract the mass of the beaker from the mass of the beaker and the object.

Practice:

1. The mass of a beaker is 50 grams. The mass of a beaker and an object is 75 grams. What is the mass of the object by itself without the beaker?

Mass of beaker and object grams

Mass of beaker = _____ grams

= _____ grams

2. The mass of a beaker is 50 grams. The mass of the beaker full of water is 125 grams. What is the mass of just the water?
3. The mass of a beaker is 50 grams. The mass of a beaker with 190 ml of water is 240 grams. What is the mass of just the water?

Use the TRIPLE BEAM BALANCE to measure the mass of the following objects. Make sure that you label the units on each measurement. (Grams)

Objects	Mass of Object
Rubber Stopper	
Rubber Bar	
Metal Bar	
Metal Cube	
Wood Block # 1	
Wood Block # 6	
Wood Block # 8	
Wood Block # 9	
Wood Block # 10	
Wood Block # 11	
Wood Block # 12	
Your Pencil	
Glue Stick	
Empty 100 ml Graduated Cylinder	
Empty 250 ml Beaker	
Graduated Cylinder with 75ml of water	
75 ml of water (<i>mass of just the water</i>)	
250 ml beaker with 25 ml of water	
25 ml of water	
250 ml beaker with 75 ml of water	
175 ml of water by itself	
250 ml beaker with 150 ml of water	
225 ml of water	

4. Using your answers from the beaker measurements above, what is the mass of:

(a) 200 ml of water by itself

(b) 375 ml of water by itself

5. Using questions (a) and (b), what would be the mass of 100 ml of water? (Don't Measure with the balance! Estimate!)