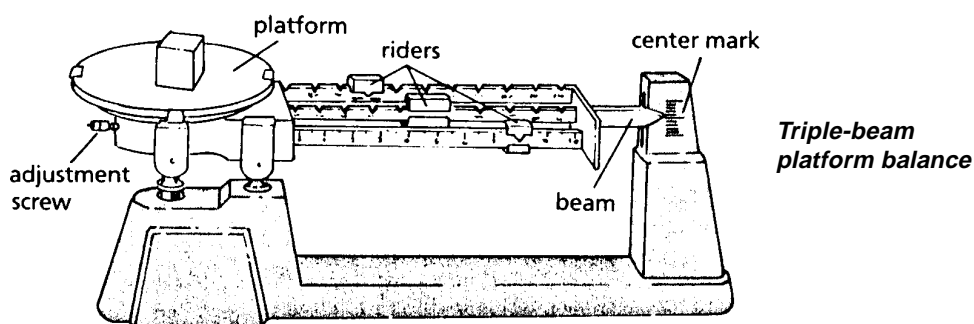


## Using the Balance

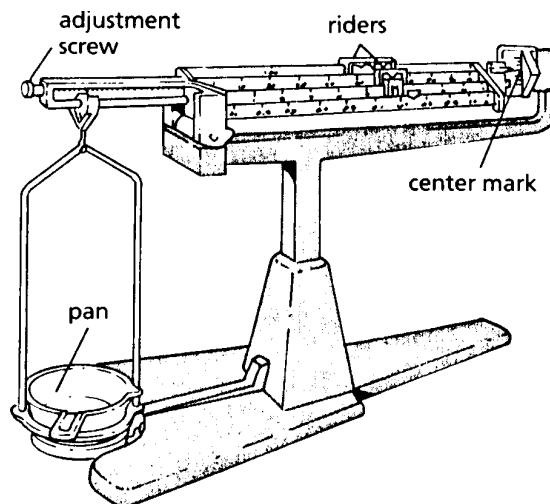
Two types of balances are commonly used in high school laboratories. The two balances shown below are a triple-beam platform balance and a four-beam pan balance.



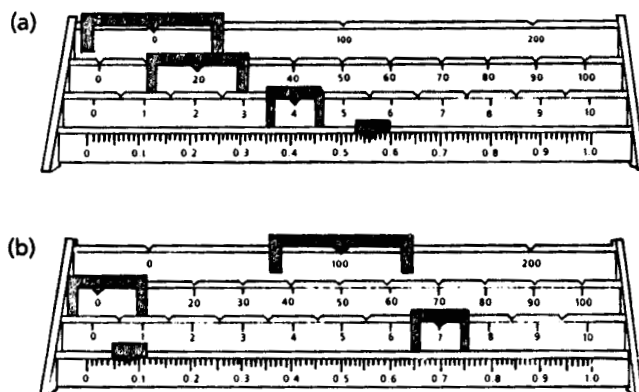
*Four-beam pan balance*

The proper use of the balance is described in the following steps:

1. Check to see if the balance is properly adjusted. To adjust, set all riders at zero with all objects removed from the pan or platform. The pointer should swing an equal distance at each side of the zero. If it does not, use the adjustment screw to obtain equal swing of the pointer.
2. Place a piece of premeasured paper or a premeasured container on the platform or pan; then place the object to be measured. Allow all hot objects to cool before measuring their masses.
3. Move the rider of greatest mass along this beam one notch at a time until it causes the pointer to drop. Then move the rider back one notch. Repeat this procedure with each succeeding rider of smaller mass. Make sure each rider is securely in each notch. The front beam, which is marked off in the smallest increments, is not notched. Slide the rider on this beam until it swings an equal distance on each side of the zero scale.



4. When the pointer is zeroed, sum up the masses shown on the beams. The mass of the object is equal to the sum of the masses shown on the beams minus the premeasured mass of the paper or container.



*Sample readings of a four-beam balance*