

## B.1.1 Irregular Shape

Key Concepts: Center of Gravity  
Materials: Irregular object  
Support rod and pivot  
Chalked plumb line

Set Up Time:  
Time Estimate:

### Set Up And Display

Suspend the irregular object by any of its holes from the pivot. Hang the plumb line from the pivot. Use one hand to hold the line taut against the bottom of the object. Use the other hand to draw the line directly away from the object and let it snap against the object to leave a line of chalk. Suspend the object by another hole, repeating more than twice if desired.

### Explanation

The plumb line hangs straight from the pivot under the influence of gravity. The irregular object's center of gravity does as well, no matter which hole is used to suspend it. By using the chalk lines from different holes, the center of gravity is illustrated as all lines will intersect at it.

It should be pointed out that the center of gravity is not the center of mass. For the irregular object and many other items, they do coincide, though.

Related Demonstrations: B 1.4 B 1.5 B 1.8 B 1.9  
B 1.10 B 2.9 B 4.2 B 4.5