

## Ball and Ring



**Purpose:** To demonstrate thermal expansion of solids

**Location:** room 136, shelf O6

Show that the ball fits through the ring when both are at room temperature, then heat the ball in the burner flame for a few minutes and show that the ball no longer fits.

Alternatively, you can immerse the ring in liquid nitrogen for a few minutes and show that the ring hole has contracted and the ball will no longer fit thru. Get students to predict whether the ring hole will get larger or smaller when the ring contracts from cooling. You will likely have some students who think the hole should get bigger. Demonstration and careful reasoning about how things expand and contract are necessary to overcome this misconception.