

Basketball Freefall



Purpose: To show that the acceleration of gravity is constant during freefall and that its sign is independent of the direction of motion.

Location: room 136, shelf L3

Throw the basketball vertically upward above the motion sensor and catch it just before it hits the sensor. (Make sure you are not beneath a lighting fixture.) Graph the results using Data Studio and display on big screen. It should be apparent when you release and catch the ball by looking at the corresponding velocity graph, which should be a straight line (which passes thru zero) during the freefall.