

Freefall Trajectories

This neat experiment demonstrates that horizontal speed has no effect on how fast an object falls.

What You Need

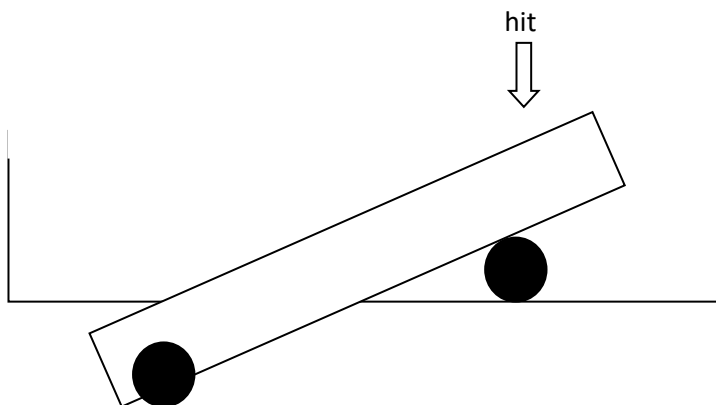
ruler

marble or coin x 2

Instructions

Place the ruler diagonally over the edge of a table. Place one coin on the overhanging end of the ruler. Place the other on the table in front of the ruler. This works best on a hard floor and you will need a decent bit of space in front of the table.

Swiftly hit the end of the ruler that is on the table outwards. One coin will drop and the other will be flung across the room.



Comment

Horizontal and vertical components of motion are independent. Both coins are dropped from pretty much the same height so should hit the ground pretty much together even though one has a large horizontal speed (velocity would be an even better word).