Name: _____ Date: _____

Lab – Using Projectile Motion to Determine g and Horizontal Velocity

Objective: To use the horizontal speed of a ball leaving a ramp to predict where a ball will hit the floor.

Procedure:
1. Set up a "cliff" using books, a stool, or the lab table. Place a ramp on top and record the height in the table below.
2. Determine a release point for a metal ball on the ramp. Remember the location of this point because it will be the same release point for all trials.
3. Record the time the ball spends in the air.
4. Mark with tape the points on the floor where the ball lands.
5. Repeat for four different heights.

Data:

Vertical distance ball will fall	_____	_____	_____	_____	_____
Time ball spends in the air	_____	_____	_____	_____	_____
Horizontal range	_____	_____	_____	_____	_____

Analysis/Calculations:
1. Show how g was calculated for each trial.
2. Determine the horizontal speed.
3. Average your values for g and use the average to find percent error.
4. Average your values for the horizontal speed.

Conclusion:
How could falling from very large heights be a detriment to this experiment despite the fact that it would be easier to record the time?