PROJECTILE LAB…. Individual

2) EXPERIMENT 3-2 (follow model in text)

Design a procedure for determining where a ball will land when rolled on a ramp off a table. Test by placing a cup there to see if the ball lands in it.(Dx)
Constraints: Ball CANNOT roll off the table and hit the floor until the final test.
Flatline distance between bottom of ramp and end of table should be at least 20 cm.

Measurements that CAN be made (not all NEED to be made):

Length of ramp. Time down ramp. Velocity at bottom of ramp.
Length along table. Time along table.
Horizontal Velocity as ball leaves table. Height of table.

MATERIALS: Balls, plastic rulers, metal sheets, wood ramps, plumb bobs, cups, metersticks, CBL's and photogates, CBL's and motion detectors, stopwatches, etc...

TO WRITE:
Procedure, with a labeled PICTURE of your setup
Data, showing all the measurements, trials, and calculations
Calculation of Dx of cup.
Error Analysis, how close you came, conclusions on procedure, precision, and accuracy.
Does the experiment support the premise that the horizontal and vertical components of motion are not affected by each other.? Speculate on how the results might have changed with a longer and/or higher table, a lighter or heavier ball, or a different ramp and why.