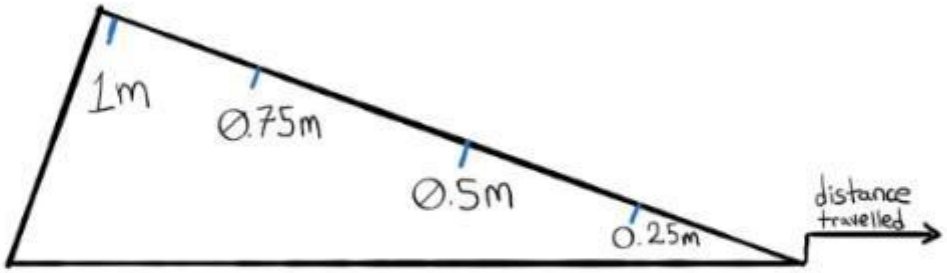
Lab A : the Ramp

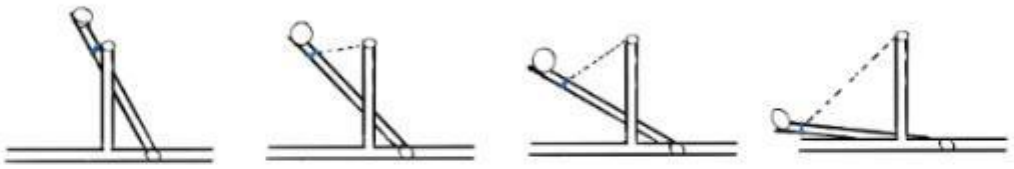


1. Measure the mass of three different types of balls with different masses.
2. Place a ball on a ramp at one of the positions shown in the diagram above.
3. Release the ball and measure the time it takes for the ball to roll 5 meters once it has left the ramp.
4. Repeat the process with the two other balls of different masses.

	Distance from end ramp(cm)	Mass (grams)	Seconds to reach 5 meters
Large ball			
Large ball			
Large ball			
Medium ball			
Medium ball			
Medium ball			
Small ball			
Small ball			
Small ball			

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Lab B : the Catapult



1. Measure and record the masses of the objects in the table below.
2. Load a catapult with a ping pong ball.
3. Pull the catapult arm to the release angle shown in the graph above.
4. **(in class)**Measure the distance between the arm and stopping point.
   (digital) Measure the angle of the arm in the table below.
5. Release the catapult arm and measure the distance the object traveled.
6. Repeat the process with the two other objects and record your results.

	Distance between arm and stopping point (in cm)	Mass (grams)	Distance traveled (in cm)
small ball			
small ball			
small ball			
medium ball			
medium ball			
medium ball			
Large ball			
Large ball			
Large ball			

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