

## Physics IA

How does the diameter of a crater relates to diameter, mass and height of the ball?

Apparatus:

box with 10cm layer of sand

table tennis ball, tennis ball

ruler

stop watch

Diameter of crater depends on the velocity that the ball possess. Thus kinetic energy is the major affecting factor for this experiment. Due to conservation of energy law  $PE=KE$ , so theoretically both mass and height should directly correlate to the fore that ball will exert on the sand.

table for experiment:

Ball type	Mass	Height	KE	PE	Diameter of crater					
					Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Average

According to obtained data, perform an analysis.