Drop It Crush It!

Problem: How can energy/work exchanges for falling bottles be determined using soda/pop cans?

Materials: Smart Bottles, drainage pipe for septic systems, rod to vary release height for the bottle assorted pop/soda cans, meter tapes or sticks.

Procedure:

Describe the procedure that uses a free-falling smart bottle, a drainage pipe in which drop height can be varied, and soda cans to determine the energy/work transformations.

Identify the variables and measure the "crush" of the cans for each variable tested,

Data table

Summing Up:

Qualitatively describe the relationship using the variables: mass, drop height and "crush" of cans. Submit a photo or sketch a visual of the "crush" cans as experimental evidence of the relationship.

Construct graphs of crush vs the variables tested.

Extension: Students are to design a device using paper and tape to protect a pringles potato chip from crushing. The device may not be taller than 15 cm and must fit completely inside the pipe.

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