Physics sl lab report design

Design

Focused problem: Investigate the relationship between the surface area of a circular hole and the time water takes to drain through it. Variables: Independent: Surface area of the hole Dependent: Time water takes to drain Fixed: Amount of Water Container Environmental Conditions Aspect 2: Control of the Variables The independent variable in this case Is the surface area of the hole, and the dependent will be the time water takes to drain through It, as hypothetically It will be affected by the surface area.

Fixed variables are going to be controlled by using a measuring a fixed amount of water, and using that same amount throughout the experiment. The container were water Is going to be placed will be also the same throughout the experiment. Environmental conditions are going to be controlled by performing the experiment In a place with no air currents; this Is going to be achieved by closing any type of window and by assuring that no artifact Is emitting alarm currents. Aspect 3: Method: 1. Make a circular hole of 0. 5 CM of diameter In a container (It can be a plastic bottle). Measure and pour 500 ml of water Into the container, assuring no water drains through the constructed hole. 3. Let the water flow through the hole and Immediately start recording time. 4. Record the time taken for all the water to drain. 5. Repeat steps (1) to(4), but for hole diameters of 1 CM, 1. 5 CM, 2 CM, 2. 5 CM, 3 CM, 3, 5 CM, 4 CM, 4. 5 CM and 5 CM. 6. Put the recorded data In a table with the following headlines Hole diameter 0. 1 CM) Time (B±0. 1 s) 7. Plot a graph of time against the hole surface area, bearing In mind that surface area = TAXI re. 8.

Draw the best fit line. 9. Draw a conclusion based on the graph. Physics SSL Lab Report Design By commonsensical Aspect 1: The independent variable in

this case is the surface area of the hole, and the dependent will be the time water takes to drain through it, as hypothetically it will be experiment. The container were water is going to be placed will be also the same performing the experiment in a place with no air currents; this is going to be achieved by closing any type of window and by assuring that no artifact is emitting air currents.