

**SAINT JOSEPH'S PREPARATORY SCHOOL**  
**PHYSICS LAB EXERCISE**  
**WASHER DROP – OCTOBER 2010**

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ PERIODS: \_\_\_\_

COLLABORATORS: \_\_\_\_\_

Six pair of washers are to be attached to approximately 5 m of string in such a way that when the entire length of string is fully extended and dropped, the time between impacts is equal. The washers are to be firmly attached to the string and clearly marked using masking tape so that they can easily be identified in a video recording. Experimenters are expected to make a value judgment regarding the sound and carefully analyze the video recording. No practice is allowed. Each group gets only one drop. The last pair of washers must fall at least 4.9 m.

Washer Drop Data Table							
Washer Set	Position of Washers	Calculated Time to Ground	$\Delta t$	Number of Frames	Frames Between Washer Sets	Actual Time	Actual $\Delta t$
1							
2							
3							
4							
5							
6							

Analysis:

- Explain how the distances were calculated.
- Explain how the time was measured from the video.
- What conclusions can be drawn from the work. Refer to the Lab Report format.

Additional Questions to be answered and included in the lab report.

- How does the initial height of the highest washers effect the outcome of the experiment?
- Is it reasonable to consider the washers to be in free fall even though they are all tied together?