

Experiment 4

DATA SHEET

Name: _____

Section: _____

QUESTIONS

1. From your velocity versus time graphs, can you conclude that the acceleration of the cart was constant in each case? State your reasons.
2. When the mass of the cart was increased and the suspended mass held constant, what happened to the magnitude of the acceleration? Why?
3. When the suspended mass was increased and the mass of the cart held constant what happened to the magnitude of the acceleration? Why?
4. When the suspended mass was decreased (by a factor of one half) and the mass of the cart held constant what happened to the magnitude of the acceleration? Why?
5. Relate the results of your experiment to the statement of Newton's second law.
6. If a cart has a weight of 10 N and is pulled by a constant 20 N force, what is the resulting acceleration?
HINT: You must distinguish between mass and weight.