

5 Force and Acceleration

Worksheet: Concepts & Calculations

Name _____

Inquiry Physics

ANSWER IN COMPLETE SENTENCES

1. How can you determine by watching a body whether or not an unbalanced force is acting on it?

2. Joe made a toy rocket-powered car. He wanted to measure the average acceleration of the car. To do that, he timed the car over a distance of 0.500 m. He found that the car, starting from rest, passed the 0.500 m mark so rapidly that he could not accurately measure the time. Joe's friend Jack suggested that he increase the distance until the time became measurable. Joe said that changing the distance would change the measurement of the acceleration, even though the car was still moving under full power. If you were there, how would you respond to the argument?

3. Joe found that his car traveled 2.00 meters in 0.900 seconds. What was the car's acceleration?

4. Assuming the acceleration of the car does not change, find the time required for the car to to 4.00 meters starting from rest.

5. Assuming the acceleration and weight of the car do not change, how does the force acting on the car change as time and distance increase?