

Force & Motion Pre-test

A pitcher throws a smokin' fastball to the batter. The batter connects and hits a homerun over the center field wall.

Complete the table below to describe the ball for each of the conditions.



	<i><u>Just before</u> the ball gets to the batter.</i>	<i><u>Exactly</u> when the ball and bat make contact.</i>	<i><u>Just after</u> the ball leaves the bat.</i>
Identify ALL forces acting on the ball.			
Indicate if the forces acting on the ball are <u>balanced</u> or <u>unbalanced</u> .			
Indicate if the ball is <u>speeding up</u> , <u>slowing down</u> , or at <u>constant speed</u> .			

Force & Motion Post-test

- 1) Correct your pre-test above, if necessary.
- 2) A car is moving at a constant 40 mph on a level road with a consistent surface. Are the forces acting on the car balanced or are the forces unbalanced? _____ Make a sketch to indicate the forces acting on the car that supports your thinking that the forces are balanced or unbalanced (label forces and indicate relative sizes).
- 3) Consider the pitcher throwing the fastball. At what point during the ball's path is the ball moving the fastest? _____ Provide a rationale for why the ball is moving fastest at this point.
