**Air puck as a particle in motion** Name hr.

1. Discuss the ways that you can change the velocity of an object:
2. Give the puck a push on a level surface and describe its motion **after** the push but before anyone or anything else touches the puck. Be specific. It's not legal to say "it's constant."
3. Why do you think that the puck continues to move once it leaves the hand that pushed it?
4. What horizontal forces are acting on the puck?

What can you conclude about the velocity of an object in motion when no force act on it?

1. Have one student send the puck at a constant velocity to the east. Another student is to give the puck a little tap directly toward the south but in the middle of the puck as it passes. Try your best NOT to impart a spin to the puck.

Predict the motion of the puck after the little tap.

Sketch and describe the actual motion of the puck after the tap.

1. If the puck were traveling toward the east, how would you have to tap it to get it to travel directly to the south?

Try it to see if it works.

What works?

1. Attach a rubber band or spring to the puck so that you can pull the puck in a straight line from rest (being sure to keep the rubber band parallel to the horizontal surface) across the surface with a constant tension in the rubber band or spring. This means that you are pulling with a constant force. Describe the motion of the puck. Be specific.
2. Pull on the puck from opposite directions with similar springs or rubber bands with the same force for each. Describe the motion of the puck.

How would you describe the sum of the forces on the object?

1. Describe the motion of an object when the sum of the forces on the object is zero.
2. Describe the motion of an object when the sum of the forces on the object is NOT zero.
3. What assumption about forces acting on an object can you make when an object travels with uniform velocity?
4. What assumption about forces acting on an object can you make when an object travels such that it's velocity is constantly changing?