Name_____

Date_____ **Pd**____

Feelings in the Elevator

Have you ever felt heavier or lighter when riding in an elevator? Is this sensation caused by the music or by the motion of the elevator? Does everyone feel heavier or lighter at the same times?

Describe the times in the elevator when you feel your "normal" weight.

Describe the times in the elevator when you feel heavier than your "normal" weight.

Describe the times in the elevator when you feel lighter than your "normal" weight.

Do these "feelings" occur when you are moving at a constant speed or when you are accelerating?

You discover in the last activities that unbalanced forces always produce accelerations.

What seems to be the relation between the direction of the Fnet and the acceleration?

Hang a 0.50 kg or 1.0 kg mass on the end of a spring balance and record the force reading on the balance.

F_g = ___ N

Start the mass just above the floor and try to lift the mass to simulate an elevator ride.

Describe the force reading when the mass was accelerating upward, then moving at a steady speed, then slowing down (accelerating downward).

Next, start the mass at about 2.0 meters above the floor and perform the downward ride, stopping before the kg hits the floor.

Describe the force reading when the kg was accelerating downward, then moving at a steady speed, then slowing down (accelerating upward).

Group discussion to analyze the results.

Application of the concept

Suppose that you entered the elevator carrying a package. Would the package feel heavier or lighter during certain parts of the ride? Defend your answer!