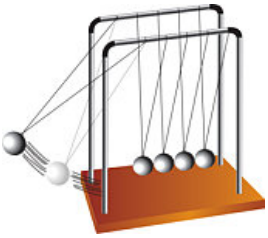
Name _____ Date _____ Period _____



MOVING BODIES

BACKGROUND: A rocket's movement depends on **Newton's Third Law of Motion – For every action there is an equal and opposite reaction**. When a rocket blows out gas at high speed in one direction (action force), the rocket is pushed in the opposite direction (reaction force). In other words, when there is a force on one thing in one direction, another force is acting on something else in another direction. The gas pushes against the rocket and the rocket pushes back just as hard against the gas.

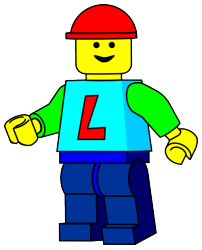
PROBLEM: To observe Newton's Third Law of Motion

MATERIALS:

- Small box
- Small cart
- Marble
- Lego

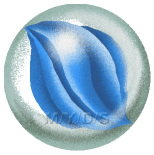
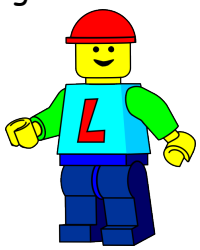
PROCEDURE

1. Put the marble in the box
2. Slide the box across the table.
3. Stop the box suddenly.
4. Observe and record the motion of the marble.



5. Balance the Lego figure in the middle of the cart.
6. Push the cart forward suddenly. Observe the movement of the cart and the Lego figure.
7. Record your observations.
8. Balance the Lego figure in the middle of the cart.
9. Roll the cart across the table smoothly, so that the figure does not fall.
10. Crash the cart into your have or notebook. Observe the movement of the cart and the Lego figure.
11. Record your observations.

OBSERVATIONS:

OBSERVATIONS OF MOVING BODIES	
Marble in the box 	
Lego in the box 	

ANALYSIS/CONCLUSIONS:

DATA ANALYSIS:

Based on your observations, describe what must happen to make an object move or stop moving. Be very specific.

_____

_____

_____

_____

_____

CONCLUSIONS:

1. Compare the results of this investigation with what you feel when you are riding in a car that starts and stops suddenly.

   _____

   _____

   _____

   _____

2. Based on your statements above; why do you think wearing seatbelts is a law?

   _____

   _____

   _____

   _____

Use your textbook to define and give an example of ***inertia***:

_____

_____

_____

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