

Name _____

Webquest: Types of Forces

Use the following link to answer the following questions:

<http://www.darvill.clara.net/enforcemot/forces.htm>

A. Forces Tab: Make sure you have clicked on the forces tab at the right of the screen for the following questions.

1. **Forces** are measured in **Newtons (N)**. Why are forces considered to be *vectors*?
2. List three things that can change a force?
3. Explain the force of *gravity*. (Is it weak or strong? Which direction does act on objects?)
4. What is *weight*?
5. What is the Earth's gravitational strength at ground level?

Read and answer the gravity questions on your own.

6. Explain what a *balanced force* and an *unbalanced force*.
7. Observe the parachute picture and answer the questions below:
 - What forces are acting?
 - What can you say about the **size** of the forces?
8. The *resultant force* is also called the *net force*. Explain resultant force.

B. Friction tab: click on the friction tab on the right and answer the questions below

1. What is friction?

2. What are the two main types of friction?

3. What does friction depend upon?

Watch and read the animation about friction!!

4. What is fluid friction?

5. What does fluid friction depend upon?

6. What is drag?

7. What is a viscous liquid?

8. What is terminal velocity?

Click on the terminal velocity graph to watch what happens to the graph when the sky diver descends

9. List 3 to 5 ways to reduce friction.

10. List 3 to 5 ways to use friction to your advantage.

Read and answer the questions about friction on your own.

Newton's Laws

Explain each of Newton's three laws in your own words:

- A. Law of Inertia <http://www.physicsclassroom.com/class/newtlaws/u2l1a.cfm>

- B. Law of Force and Acceleration <http://www.physicsclassroom.com/class/newtlaws/u2l3a.cfm>

- C. Law of Action/Reaction <http://www.physicsclassroom.com/class/newtlaws/u2l4a.cfm>

1. Part 1 - (<http://www.physicsclassroom.com/mmedia/newtlaws/il.cfm>)
2. Watch the truck and ladder animation. What is another name for Newton's First Law?

3. What do people wear in cars to protect themselves against this law?

4. Investigate and apply Newton's Laws to vehicle restraints.
 - a. Go to <http://regentsprep.org/Regents/physics/phys01/accident/default.htm>
 - b. Choose one of the eight videos and observe Newton's Laws in relation to car crashes.
 - c. Describe 3 ways that Newton's Laws can apply in a car crash.

 - d. Compare and contrast the results of a crash while the passengers are **not** wearing seat belts and while they are wearing seat belts.