

## COMPUTER LAB 1

### Log-in & Start

1. Double click on the internet browser to start.
2. Point your browser to :  
<http://www.glenbrook.k12.il.us/gbssci/phys/phys.html>
3. Click on **Physics Classroom** link.
4. Once in the classroom, click on each subject link.
5. Follow the instructions in each lesson given below.

### 1-D Kinematics

#### **Lesson 1**

A. Study the various sections in this lesson and write a brief definition for each of the following terms:

<i>Scalar</i>	
<i>Vector</i>	
<i>Distance</i>	
<i>Displacement</i>	
<i>Speed</i>	
<i>Velocity</i>	
<i>Acceleration</i>	

B. Click on the 2<sup>nd</sup> **animation** button at the bottom of the acceleration page:

Describe and compare the direction of the velocity and acceleration of the hot-wheel car as it travels around the track (downhill, on the flat, and around the turn).

**Lesson 2**

C. Using vector diagrams show how constant and accelerating motions are different from each other.

**Lesson 5**

D. Give the two characteristics of free fall:

1. \_\_\_\_\_

2. \_\_\_\_\_

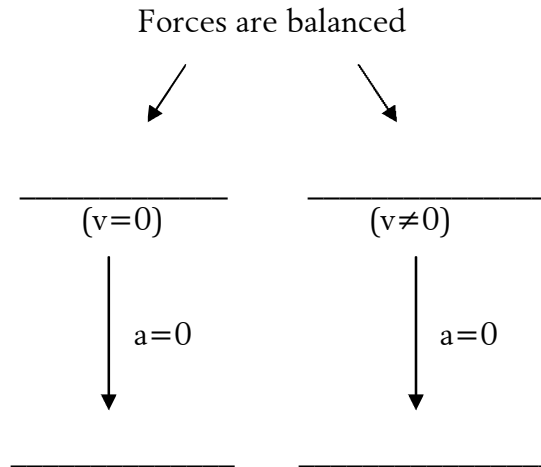
E. Use the information in "How Fast and How Far" section to complete the table below with the missing information:

<i>Time (s)</i>	<i>Velocity (m/s)</i>	<i>Distance (m)</i>
0		
1		
2		
3		
4		
5		

F. What is the Big Misconception by people described at end of this lesson. Give the correct explanation.

Newton's Laws  
*Lesson 1*

1. Complete the following diagram:



2. In the “Pass the Water Lab”, when did the water have a tendency to spill:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

3. Click on the 1<sup>st</sup> *Animation link* at the bottom of the page, and answer the following questions:

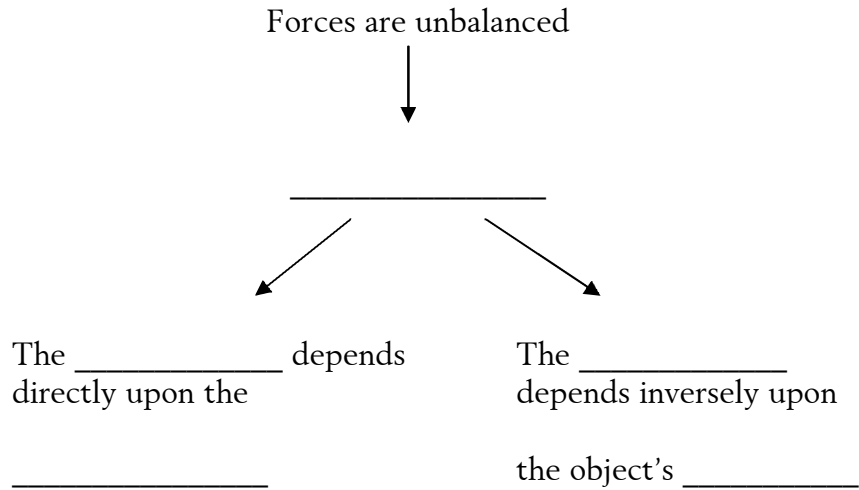
What happens when the car slams into the wall? Explain why this happens.

**Lesson 2**

1. What is a force?
2. Name the two categories of forces and give two examples of each.

**Lesson 3**

1. Complete the diagram below with the missing information:



2. Complete the Test Yourself section, and record your answers. Check your answers after you have completed the table.

Net Force (N)	Mass (kg)	Acceleration (m/s <sup>2</sup> )
10	2	
20	2	
	2	5
10		10

**Lesson 4**

1. Complete the following statement:

For every \_\_\_\_\_ there is an \_\_\_\_\_ and \_\_\_\_\_ reaction