SPH 3U

**ARE YOU READY?**

**UNIT #2 – FORCES**

1. Forces are everywhere. List forces that you observe or experience. Indicate the direction the force is acting as well as the object it is acting on.
2. When your family is on a car trip, why is it unsafe to pile small objects inside the car on the rear window shelf?
3. When each of three boats of different masses is driven by the same-size motor at its maximum power, do you think the difference in mass has an effect on the acceleration of the boats? Explain.
4. A skater on an ice rink is pushed by the coach with a force in the west direction. How does the force of the skater on the coach compare with the pushing force of the coach on the skater?
5. When you drop a book in your classroom, the book falls to the floor. Will the book drop faster if it is heavier? Why?
6. Would your weight be different on the top of a mountain than it is at sea level? Why?
7. Imagine you are on Mars. Would you walk faster than you do on Earth? How would this be related to the force of gravity?
8. List three ways friction is useful to you and three ways that friction is unwanted or not helpful. Explain.
9. When brakes are applied to stop a bicycle, what factors affect the stopping distance?