**Force**: A push or pull on an object. A force can cause an object to accelerate, slow down, remain in place, or change shape.

**Friction**: A force that resists (holds back) the movement of a sliding or rolling object.

**Gravity**: A force attracting objects toward the center of the earth.

Set your racer frame down on a table or desk. Complete the following questions.

1. A _______________ is needed to move the frame.

2. List two different types of force you could use to move your frame.
   **Hint**: How could you use your mouth to apply a force?
   a. __________________________________________
   b. __________________________________________

3. Apply a force to your racer frame (push it). Why does the frame stop moving after you stop applying a force? Tip: Read the top of this page.

   ________________________________________________________________________________________
   ________________________________________________________________________________________
4. Rub your hands together fast. The motion is converted through friction into what type of energy? Hint: You should feel it.

_______________________________________________________________

Use the letters from the diagram to fill in the blank lines.

5. Force of Gravity _____

6. Force of Friction _____

7. Forward Motion _____

8. If _____ is greater than _____, the sled will move.

9. If _____ is greater than

10. _____, the sled will not move.

11. Sometimes you want friction. Other times you don’t. Tell us if the following items are designed to increase, or decrease friction.

A tire is designed to __________ friction.

Ice Skates are designed to __________ friction.

A frying pan surface is designed to __________ friction.