**PFC2 Guided Reading chapter 2 section 1**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a variable that describes an object’s location relative to an origin.
2. Origin is the place where the position has been given a value of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. If a car starts at the 75 cm position on a track and moves 15 cm, can you determine its final position? If so, what is the final position? If not, what else do you need to know?
4. What is the definition of *displacement*?
5. What is the difference between a displacement of +25 cm and a displacement of –25 cm?
6. The velocity of an object tells you both its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. Is it possible for a car to maintain a constant velocity while turning? Explain.
8. Is the speedometer in a car used to find average velocity or instantaneous velocity?
9. Amanda takes 0.5 hours to ride her bike from home to school. The school is located 10 kilometers north of her home.   
   Can this information be used to find her average velocity, her instantaneous velocity, or both?
10. A child tosses a stick into a stream. The stick moves downstream at a rate of 1.5 m/s.  
    a. How fast is the stick moving relative to the shore?  
    b. How fast is the stick moving relative to the stream?  
    c. The child can paddle a canoe at a rate of 2.0 m/s on a still pond.   
     If the child paddled the canoe at the same rate downstream, how fast would the canoe  
     move relative to the shore?
11. Define acceleration.
12. Calculate the acceleration of a car that goes from 0 to 100 km/h in 8 seconds.