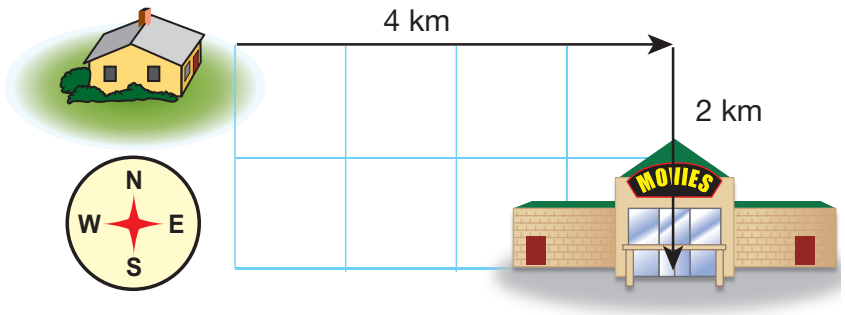
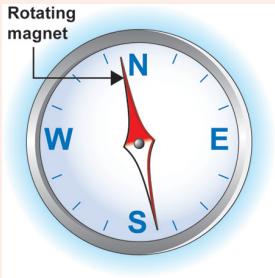
3.1 Section Review

1. What two pieces of information do you need to know to get from one location to another?
2. What is the difference between *distance* and *position*?
3. You start at the origin and walk 3 meters east, 7 meters west, and 6 meters east. Where are you now?
4. Give an example of a situation in which you would describe an object's position in:
   a. one dimension
   b. two dimensions
   c. three dimensions



5. A movie theater is 4 kilometers east and 2 kilometers south of your house.
   d. Using your house as the origin, give the coordinates of the movie theater.
   e. After leaving the movie theater, you drive 5 kilometers west and 3 kilometers north to a restaurant. What are the coordinates of the restaurant? Use your house as the origin.
6. Does the origin of an object always have to be at zero on a number line or map? Why or why not?
7. What velocity vector will move you 200 miles east in 4 hours traveling at a constant speed?

How a Compass Works



Imagine you are at sea far from sight of land. There are clouds overhead and you cannot see the sun. How do you know which way to steer?

You may know that the north pole of one magnet attracts the south pole of another magnet. A simple compass has a magnetic needle that can spin. The north magnetic pole of the compass needle points toward the south magnetic pole of any nearby magnet.

The Earth itself is a large magnet! You can tell direction with a compass because the compass needle always points toward the same place on Earth. Can you figure out where the magnetic north pole of the compass needle points and why?