

## Force and Motion in the Real World Answers

**Directions:** Read and consider each real-world example. Choose the best word(s) from the list of vocabulary terms to complete each sentence. Remember, each vocabulary term can be used more than once!

|                     |                 |               |                 |                |                |
|---------------------|-----------------|---------------|-----------------|----------------|----------------|
| <b>ACCELERATION</b> | <b>DISTANCE</b> | <b>FORCE</b>  | <b>FRICTION</b> | <b>GRAVITY</b> | <b>INERTIA</b> |
|                     | <b>MASS</b>     | <b>MOTION</b> | <b>SPEED</b>    |                |                |

1. A car hits a tree and doesn't stop, but keeps going until its severely damaged. Why? **Inertia**.
2. When a space capsule returns to Earth after a mission, it glows red-hot as it enters the atmosphere because of **friction**.
3. Kimberly dropped her pen and it fell to the ground because of the **force** of gravity.
4. Valerie and Betsy raced their cars. Although both cars traveled the same distance, Betsy's car crossed the finish line first because it has more **speed** than Valerie's.
5. The blade of an ice skate melts the ice beneath it and reduces **friction**.
6. Joleen shoots an arrow at a target many feet away, but the arrow curves toward the ground before it gets to the target due to the force of **gravity**.
7. When Anthony went down the slide, he experienced **motion** because he changed position.

## Force and Motion in the Real World Answers (continued)

|                     |                 |               |                 |                |                |
|---------------------|-----------------|---------------|-----------------|----------------|----------------|
| <b>ACCELERATION</b> | <b>DISTANCE</b> | <b>FORCE</b>  | <b>FRICTION</b> | <b>GRAVITY</b> | <b>INERTIA</b> |
|                     | <b>MASS</b>     | <b>MOTION</b> | <b>SPEED</b>    |                |                |

8. Sam decided to go on a long run. They got tired part way through and decided to walk the last three blocks home. Despite slowing their speed, this still shows **acceleration**.
9. Jordan has been practicing his soccer skills. If he applies more force when he kicks the ball, it will travel a farther **distance**.
10. Scott falls off his skateboard. He comes to a crashing stop against the sidewalk, but his skateboard rolls on because of **inertia**.
11. Micha had a harder time moving the full box compared to the empty one because it had more **mass**.
12. The snowboard sits at the bottom of the hill, unmoving, until Andrea gets on it and pushes it along. **Inertia** kept it from moving.
13. Jim's little sister isn't swinging very high, so he gives her a huge push to get her higher. This shows an increase in **acceleration**.
14. Motion on the moon is different than motion on Earth because they have different **gravity**.
15. Martha rubbed two sticks together to help her start her campfire. This is an example of **friction** being used to produce heat.