

## Pre and Post Test – Simple Machines II, The Odd Machine

Name: \_\_\_\_\_ Teacher's Name: \_\_\_\_\_

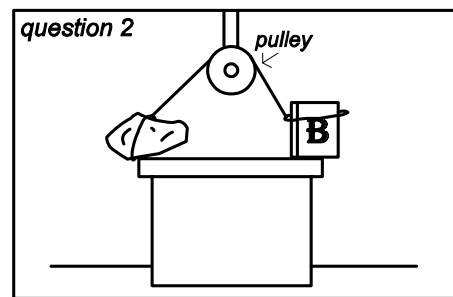
Circle the best answer.

**1. If you were to go down a slide on a playground, what force helps you to slide down?**

- a) friction
- b) magnetism
- c) gravity
- d) anti-gravity

**2. Predict what will happen in the following situation if a force knocks the rock off the table and the rock is heavier than the book.**

- a) the book will move toward the ground
- b) the book will rise above the level of the rock
- c) the rock will rise above the level of the book
- d) the rock will move toward the book.



**3. Which force keeps you from floating up in the air?**

- a) friction
- b) magnetism
- c) push
- d) gravity

**4. When a spring is compressed what happens?**

- a) energy is stored
- b) energy is released
- c) energy is changed into heat
- d) nothing happens

**5. How does a wedge work to split things apart?**

- a) takes downward force and turns it into outward force
- b) takes outward force and turns it into upward force
- c) takes downward forces and turns it into upward force
- d) there are no forces at work here

**6. Which simple machine would allow a person to lift a heavy weight by PULLING down on a rope?**

- a) wedge
- b) lever
- c) inclined plane
- d) pulley

**7. If the wind blows a piece of paper across the room, what force is acting on the paper?**

- a) pull
- b) push
- c) gravity
- d) friction

**8. What force causes water to go down a drain?**

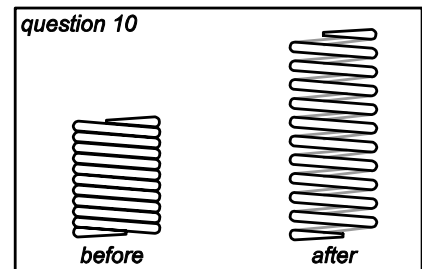
- a) pull
- b) push
- c) gravity
- d) friction

**9. What force is used on one end of a seesaw (lever) to raise the other end of the lever?**

- a) pull
- b) push
- c) gravity
- d) friction

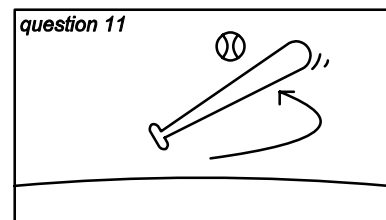
**10. Predict what has happened in the picture to the right.**

- a) energy is released
- b) energy is stored
- c) nothing happens, no energy is involved



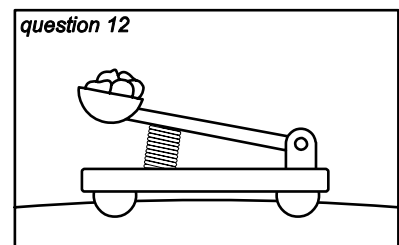
**11. Predict what will happen after the bat hits the ball.**

- a) ball moves toward bat
- b) ball moves toward batter
- c) ball moves away from the bat



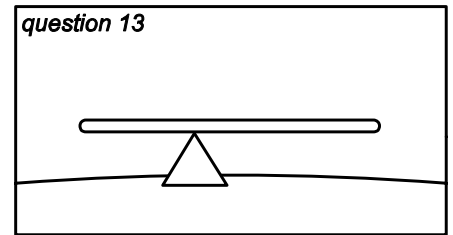
**12. Predict what will happen if the catapult below is released.**

- a) the spring will contract, storing energy
- b) the spring will expand, releasing energy
- c) the spring will not move at all
- d) nothing will happen



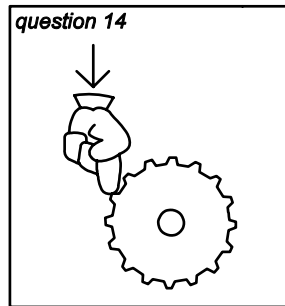
**13. The forces on a lever are unbalanced. There is more downward force on the right side of the fulcrum. What do you think will happen?**

- a) the left side will rise
- b) the left side will fall
- c) the right side will rise
- d) the right side will move sideways.



**14. A downward force is applied to the left side of a gear. Which direction will the gear turn?**

- a) clockwise
- b) counterclockwise
- c) won't turn at all

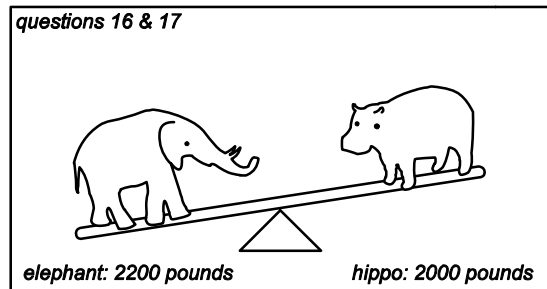


**15. If a car is sitting at the top of a hill by itself and suddenly begins to roll down the hill, what force might be causing this?**

- a) gravity
- b) pull
- c) magnetism
- d) friction

**16. In the picture below, which has the most downward force?**

- a) the hippopotamus
- b) the elephant
- c) the fulcrum
- d) the pivot point



**17. In the picture above, what would you have to do to balance the seesaw?**

- a) add 2,000 pounds to the elephant's side
- b) add 2,000 pounds to the hippo's side
- c) add 200 pounds to the elephant's side
- d) add 200 pounds to the hippo's side

A shovel is an example of a compound machine because it consists of several simple machines. See the chart below. As the chart shows, a shovel has an inclined plane, a lever and a wedge. It does NOT have a wheel and axle.

Show which simple machines are found in each of these compound machines.

<b>Compound Machine</b>	<b>Inclined Plane</b>	<b>Wheel and Axle</b>	<b>Lever</b>	<b>Wedge</b>
<b>Shovel</b>	Yes	No	Yes	Yes
<b>Wheelbarrow</b>				
<b>Axe</b>				