

**Types of Simple Machines: inclined plane - screw - wheel and axle – wedge - pulley - lever**

**Q1: Write the name of the simple machine that is associated with each item of the following:**

- |  |   |
|--|---|
| 1. Stapler – <b>lever</b>                          | 2. Broom - <b>lever</b>                                   |
| 3. Slide - <b>inclined plane</b>                   | 4. Bottle cap - <b>screw</b>                              |
| 5. Knife – <b>wedge</b>                            | 6. See saw - <b>lever</b>                                 |
| 7. Shovel - <b>lever (also has wedge on blade)</b> | 8. Ramp - <b>inclined plane</b>                           |
| 9. Toy car - <b>wheel and axle</b>                 | 10. Flagpole - <b>pulley</b>                              |
| 11. Doorknob - <b>wheel and axle</b>               | 12. Hammer - <b>lever</b>                                 |
| 13. Roof on a house - <b>inclined plane</b>        | 14. Fan belt in a car - <b>pulley (or wheel&amp;axle)</b> |
| 15. Ferris wheel - <b>wheel and axle</b>           | 16. Ladder - <b>inclined plane</b>                        |
| 17. Jar lid – <b>screw</b>                         | 18. Car steering wheel - <b>wheel and axle</b>            |
| 19. Scissors - <b>levers (or wedges)</b>           | 20. Wagon wheels - <b>wheel and axle</b>                  |
| 21. Nail – <b>wedge</b>                            | 22. Light switch - <b>lever</b>                           |
| 23. Rake - <b>lever</b>                            | 24. Shoelaces - <b>pulley</b>                             |

**Q2. Answer the following questions:**

1. An ax is used to chop wood. The metal part chops through the wood, pushing it apart into two smaller sections.



Which simple machine is found on the head of this ax? **Wedge**

2. The center of this seesaw is used to balance the board with the seats. The children can easily move up and down without much force.



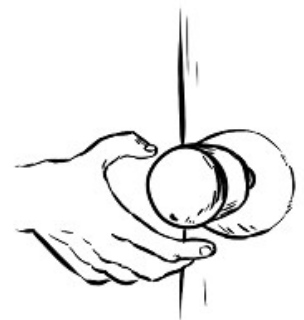
The seesaw is an example of which simple machine? **lever**

2. The cap on this water bottle has a spiral shape. When you place it on the bottle and twist, the cap pulls itself toward the bottle.



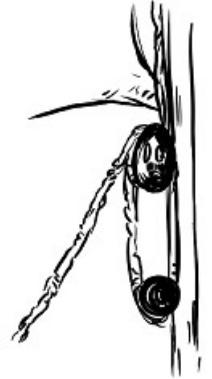
The bottle cap is an example of which simple machine? **screw**

4. When you turn the large knob on a door, a rod on the inside releases a latch that holds the door closed. It would be difficult to turn the rod, if the knob wasn't attached to it.



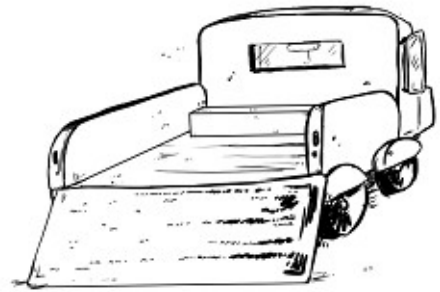
The door knob and rod make up which simple machine? **wheel and axle**

5. A wheel with a rope is used to hoist a flag up to the top of a tall flagpole. This simple machine can also be used to help lift heavy objects with less force.



The wheel and rope make up which simple machine? **pulley**

6. A ramp is used for loading this truck. A mover can pull a cart with a heavy object up the ramp. This is much easier than lifting heavy objects into the truck.



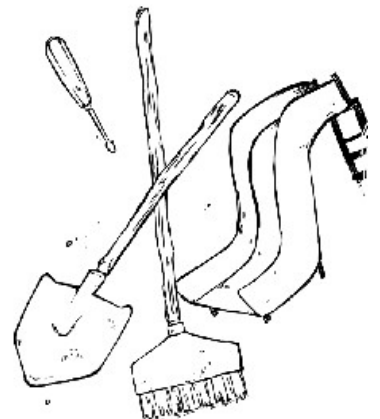
Which simple machine is on the back of this truck? **inclined plane**

7. What types of simple machines do you see in the picture?

The slide is **an inclined plane**.

The shovel is **a lever**

The broom is **a lever**



The screwdriver is **a wheel and axle**.

**(\*\*\* Note: The blade of a shovel can also be considered a wedge. The tip of a flat head screwdriver is also a wedge.)**

**Q3: Answer the following questions:**

1. An electric fan is made up of several simple machines. Tell where you would find an inclined plane on a fan. Also, tell where you would find a wheel and axle.

**The blades on an electric fan are inclined planes. They are sloped to force air forward when the blade spins. The blade can also be a wheel attached to an axle on the motor.**

2. Explain how the shoelaces on your shoes are similar to pulleys.

**Shoelaces are like the rope on a pulley system. They are threaded through the eyes of the shoes, which act like the wheel of a pulley. When you pull on your shoelaces, the eyes or pulleys cause force on the laces to change direction**

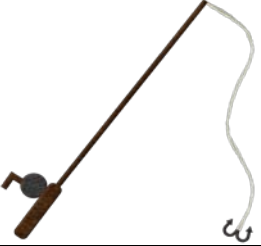



3. The floor of a bathtub is an inclined plane. Explain.

**The floor of a bathtub slopes toward the drain. This allows water to flow out with the force of gravity.**

**Q4: List two examples of each type of simple machine:**

<b>Inclined Plane</b>	<b>1. Stairs - bottom of a bathtub</b> <b>2. Fan - roller coaster</b>
<b>Wedge</b>	<b>1. Floor nail - pins</b> <b>2. Car tire wedge - old knitting needles</b>
<b>Screw</b>	<b>1. Drill - door lock</b> <b>2. Jar lid</b>
<b>Lever</b>	<b>1. Spoon - scissors</b> <b>2. Stapler - See saw</b>
<b>Pulley</b>	<b>1. Shoe laces</b> <b>2. Flag pole pulley - Window blinds</b>
<b>Wheel and Axle</b>	<b>1. Windmill - Roller skates - door knob</b> <b>2. Fan - rolling pin</b>

**Q5: Identify the simple machine in each picture. (It could be more than one)**

	
<p><b>Lever, pulley &amp; wheel and axle</b></p>	<p><b>Lever &amp; wedge</b></p>
	
<p><b>Pulley</b></p>	<p><b>Lever</b></p>
	
<p><b>Lever</b></p>	<p><b>Lever</b></p>
	
<p><b>Wheel &amp; Axle</b></p>	<p><b>Screw</b></p>



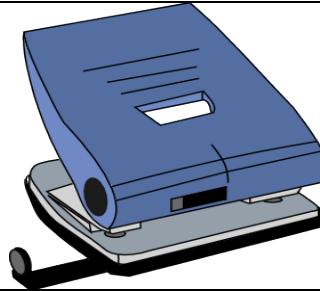
**Inclined Plane**



**Lever**



**Pulley**



**Lever & Wedge**