

Name \_\_\_\_\_

## Introduction to Simple Machines

### Short Answer Key

1. An example of a simple machine used in modern medical technology is the lever system in surgical instruments. It allows surgeons to perform precise movements and control during surgeries.
2. Simple machines contribute to the efficiency of transportation systems, such as automobiles, by reducing friction in the wheel and axle assemblies, allowing vehicles to move with less resistance and consume less energy.
3. A lever can amplify force by allowing you to apply a smaller force over a longer distance, making it easier to lift heavy objects. It can also increase the distance over which a force is applied, useful in activities like rowing.
4. An example of a complex machine in manufacturing is a robotic assembly line. Simple machines like conveyor belts (wheel and axle) and gears are integrated into the system to transport and manipulate components efficiently.
5. Inclined planes reduce the force required to move objects by allowing them to travel along a sloping surface. They can be commonly found in wheelchair ramps and loading docks.

