

Skills Worksheet

Concept Review

Section: Simple Machines

1. Name an example of each of the following types of simple machines:

- _____ a. lever
- _____ b. wedge
- _____ c. pulley
- _____ d. wheel and axle
- _____ e. inclined plane
- _____ f. screw

2. Draw the three types of levers, and label the input force, output force, and fulcrum on each.

First-class lever	Second-class lever	Third-class lever

3. Compare a wedge and a screw with an inclined plane.

4. Describe how an inclined plane increases the force without changing the amount of work done.

5. Explain how a wheelbarrow is a compound machine.

Concept Review

Section: What Is Energy?

1. Define the following terms:

a. kinetic energy

b. potential energy

c. mechanical energy

2. Calculate the gravitational potential energy of a 95 kg rock at the top of a 45 m cliff. The acceleration due to gravity is 9.8 m/s^2 .

3. Calculate the kinetic energy of a bicyclist traveling at 11 m/s. The total mass of the cyclist and the bike is 74 kg.

4. Identify the type of energy stored in a stretched bungee cord.

5. Explain how sunlight is converted into potential energy by plants.

6. Explain how the kinetic energy of an object changes when the speed of the object doubles.

7. Contrast chemical energy and mechanical energy.