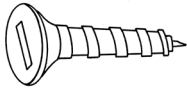


SECTION SIX SIMPLE MACHINES HAVE MANY USES.

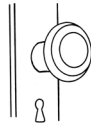
**5.2 Reinforcing Key Concepts****BIG IDEA** Machines help people work by changing the force applied to an object.**KEY CONCEPT** Six simple machines have many uses.

- 1. There are six simple machines.** There are six simple machines on which all other mechanical machines are based. Identify each type of simple machine shown in the illustrations below.



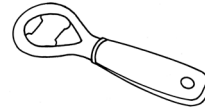
a.

\_\_\_\_\_



b.

\_\_\_\_\_



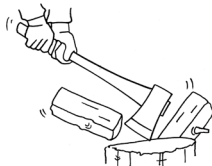
c.

\_\_\_\_\_



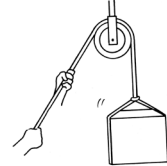
d.

\_\_\_\_\_



e.

\_\_\_\_\_



f.

\_\_\_\_\_

Choose one machine and describe how that machine affects the input force or output force when doing work.

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- 2. The mechanical advantage of a machine can be calculated.** The mechanical advantage of a machine compares output force with input force. It can be equal to, greater than, or less than 1. Explain why each situation below would result in the mechanical advantage given.

- a. A single fixed pulley is used to raise a large box. Mechanical Advantage = 1

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- b. A baseball player exerts a large force on his bat in order to move the end of the bat at a high speed. Mechanical Advantage < 1

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