Content Practice A **LESSON 3**

Simple Machines

Directions: *On the line before each statement, write* T *if the statement is true or* F *if the statement is false.*

_____ **1.** There are a total of three types of simple machines.

_____ **2.** A lever consists of a bar that pivots about a fixed point called the focus.

_____ **3.** There are four classes, or kinds, of levers.

_____ **4.** The mechanical advantage of a second-class lever is always less than 1.

_____ **5.** The forearm of the human body works like a third-class lever.

_____ **6.** The length of a wheel's input arm is the diameter of the wheel.

_____ **7.** The purpose of a ramp, which is a type of inclined plane, is to make it easier to move a heavy object over a vertical distance.

_____ **8.** A wedge is a sloped surface that forces materials apart.

_____ **9.** When you turn a screw into a piece of wood, the input force of the screwdriver is converted to an output force by the threads of the screw.

_____ **10.** A combination of fixed and movable pulleys working together is called a pulley system.

_____ **11.** When two or more simple machines work together, it is called a composite machine.

_____ **12.** The efficiency of such a machine is determined by multiplying the efficiencies of each simple machine.

Name _____ Date _____ Class _____

Content Practice B

LESSON 3

Simple Machines

Directions: *Answer each question on the lines provided.*

1. What is a simple machine, and what are the six types of simple machines?

2. Which factors determine whether a lever is a first-class lever, second-class lever, or third-class lever?

3. How does the MA of a 6-m ramp compare with the MA of a 4-m ramp if both are used to load crates onto trucks that have cargo areas that are 1 m off the ground?

4. What is a compound machine?

5. How does the input force applied by a large gear change when the force is applied to a smaller gear?

6. How do you calculate the overall efficiency of a compound machine?