

SECTION 3

Reinforcement

Simple Machines

Directions: Match each simple machine in Column II to its description in Column I. Write the letter of the simple machine in the blank at the left.

Column I

- _____ 1. bar that is free to pivot about a fixed point
- _____ 2. an inclined plane with one or two sloping slides
- _____ 3. grooved wheel with a rope running along the groove
- _____ 4. two wheels of different sizes that rotate together
- _____ 5. sloping surface used to raise objects
- _____ 6. two wheels of different sizes with interlocking teeth along their circumferences
- _____ 7. inclined plane wrapped in a spiral around a cylindrical post

Column II

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

Directions: Classify each type of simple machine as either a lever or an inclined plane by writing its name in the proper column of the table.

8. Levers	9. Inclined planes

Directions: Calculate the ideal mechanical advantage for each of the following.

10. A mover uses a ramp to push a stereo into the moving van. The ramp is 3 meters long and 1.5 meters high. What is the ideal mechanical advantage of this ramp?

11. A painter uses a fixed pulley to raise a 1-kg can of paint a distance of 10 m.

12. A screwdriver with a 1-cm shaft and a 4-cm handle is used to tighten a screw.
