



# WORK

**Work** (wûrk) the use of a force to move an object some distance

## Using SCIENCE Words

1. How do you know that work is being done?
  - A. Work is not fun.
  - B. A force is used.
  - C. People use energy.

- 1 Objects can't move by themselves. They move only when pushed or pulled. A force is needed to move an object. A **force** is the effort made to push or pull an object.
2. What is needed to move an object?
- wheels
  - force
  - another object
- 2 Think about cleaning your room. You pull clothes from the floor. You put them in your closet. You push the door closed. You pick up toys. You put them away. In each case, a force is acting upon the objects.
- 3 **Work** is done when a force moves an object. The object moves some distance. **Distance** is how far something moves.
3. An object \_\_\_\_\_ when work is done.
- moves some distance
  - moves far away
  - is a force
- 4 Work always involves a force. It also involves a distance. The force can be a small amount. Or it can be great. The distance moved also can be large or small.
- 5 Are you really doing work when you clean your room? Yes. When you put away a book, you move it some distance. You apply a force to move it from the floor to a shelf. The distance might not be very far. But it is a distance.
4. You apply a \_\_\_\_\_ to put away a book.
- distance
  - work
  - force
- 6 Suppose you want to clean under your bed. You want to move the bed. You push it as hard as you can. But the bed doesn't move. You try pulling the bed. It still doesn't move. By now, you are tired and sweaty. You stop to rest for a minute.
- 7 Have you done any work? No. You are tired from pushing and pulling. But you have not done any work. You have not moved the bed.

- 8 You applied force to push and pull. But the bed didn't move. Work always involves distance. The bed didn't move any distance. So no work was done.
5. What is the main idea of the paragraphs above?
- Work is done only when an object moves.
  - Moving a bed is hard work.
  - Pushing and pulling are forces.
- 9 You might not think of riding a bicycle as doing work. But it is work. You apply a force. You push your feet against the pedals. The bicycle moves some distance. Both force and distance are involved. Riding a bicycle is work.
6. What force is used to ride a bicycle?
- pushing
  - pulling
  - distance

## LEARN ABOUT WORDS

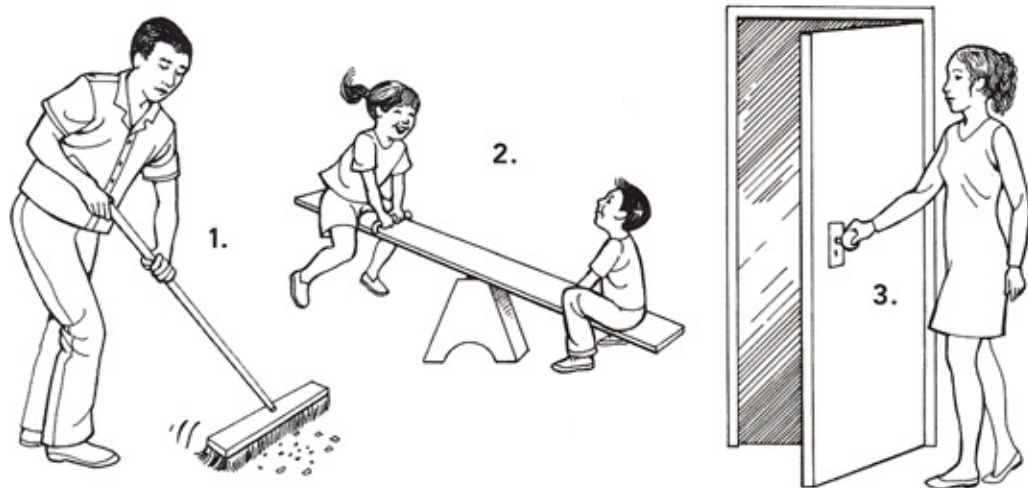
fix + **able** = fixable (can be fixed)  
bake + **er** = baker (one who bakes)

Many words end in *-able* and *-er*. Often, *-able* means "can be," and *-er* means "one who does." Read each word in **bold type** and the incomplete definition of it. Write the word that completes the definition.

7. **moveable**: can be \_\_\_\_\_
8. **worker**: one who \_\_\_\_\_
9. **biker**: one who \_\_\_\_\_
10. **player**: one who \_\_\_\_\_
11. **changeable**: can be \_\_\_\_\_
12. **driver**: one who \_\_\_\_\_
13. **stoppable**: can be \_\_\_\_\_
14. **viewer**: one who \_\_\_\_\_
15. **catcher**: one who \_\_\_\_\_
16. **pitcher**: one who \_\_\_\_\_

## THINK ABOUT IT

Look at the drawings. Then answer the question.



17. Which statement is **not** true for 1–3?
- A. The people are all applying a force.
  - B. The people are all doing work.
  - C. The people are all pushing an object.

## Using SCIENCE Words

1. B

## Comprehension

2. b
3. a
4. c
5. a
6. a

## Learn About Words

7. moved
8. works
9. bikes
10. plays
11. changed
12. drives
13. stopped
14. views
15. catches
16. pitches

## Think About It

17. C

## Writing About Science

Think of a fun activity. Explain how it could also be work.