

# Muscles and Movement

## Enrichment Activity

**Skills:** researching, applying concepts, identifying

**PART A** The scientific names of some muscles are listed below. Use reference materials to identify the body movement that each muscle controls.

1. Rectus femoris \_\_\_\_\_
2. Orbicularis oculi \_\_\_\_\_
3. Sternocleidomastoid \_\_\_\_\_
4. Vastus lateralis \_\_\_\_\_
5. Masseter \_\_\_\_\_
6. Gastrocnemius \_\_\_\_\_
7. Trapezius \_\_\_\_\_
8. Pectoralis major \_\_\_\_\_
9. Gluteus maximus \_\_\_\_\_
10. Sartorius \_\_\_\_\_

**PART B** Complete the following.

1. What is the minimum number of muscles that the body would need in a joint that allows both side-to-side movement and up-and-down movement? Why? *Hint:* Think of the need to move in four directions as opposed to the need to move in only two directions, such as in a hinge joint.  
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2. Why do you think that hinge joints, such as the elbow and knee, only bend in one direction?  
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3. What is the minimum number of muscles that the body would need to be able to move your neck in all the different directions that it can move? \_\_\_\_\_  
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# Answer Key

## Muscles and Movement

### Enrichment Activity

#### PART A

1. moves lower leg
2. opens and closes eyes
3. rotates head
4. straightens knee
5. moves lower jaw or closes the jaw
6. bends foot
7. raises shoulder
8. pulls arm toward chest
9. extends leg
10. turns leg

#### PART B

1. You would need four muscles, or two pairs of muscles, because you would need a pair of muscles for each different direction. For example, one pair for side to side, and one pair for up and down.
2. Your skeleton is more balanced if it can support itself without needing to always use muscular strength. If your knee joints bent both ways, it would take a lot more energy to balance and stand up.
3. You would need at least six muscles: one pair for bending forward and backward, one pair for bending sideways, and one pair to allow your neck to twist.