

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Activity**

Look at the list of muscles below. Try to decide if the muscles are voluntary or involuntary. If a muscle is voluntary, write a V on the line. If a muscle is involuntary, write an I on the line. (Remember, some muscles can be both!) Good luck!

- \_\_\_\_\_ 1. Arm muscles
- \_\_\_\_\_ 2. Heart muscles
- \_\_\_\_\_ 3. Lung muscles
- \_\_\_\_\_ 4. Foot muscles
- \_\_\_\_\_ 5. Small intestine muscles
- \_\_\_\_\_ 6. Blood vessel muscles
- \_\_\_\_\_ 7. Leg muscles
- \_\_\_\_\_ 8. Hand muscles
- \_\_\_\_\_ 9. Eyelid muscles
- \_\_\_\_\_ 10. Bladder muscles
- \_\_\_\_\_ 11. Finger muscles
- \_\_\_\_\_ 12. Jaw muscles
- \_\_\_\_\_ 13. Large intestine muscles
- \_\_\_\_\_ 14. Throat muscles
- \_\_\_\_\_ 15. Eye muscles

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Questions**

1. What are the two basic groups of muscles?

\_\_\_\_\_

2. Which muscles help you move when you want to?

\_\_\_\_\_

3. Why aren't all your body muscles voluntary muscles?

\_\_\_\_\_

\_\_\_\_\_

4. Why can your eyelid muscles be classified as voluntary or involuntary muscles?

\_\_\_\_\_

\_\_\_\_\_

5. What kind of muscles could be described as striped sausages?

\_\_\_\_\_

6. What are three places where skeletal muscles can be found?

\_\_\_\_\_

\_\_\_\_\_

7. Which part of your nervous system controls smooth and cardiac muscles?

\_\_\_\_\_

8. What do smooth muscles look like?

\_\_\_\_\_

\_\_\_\_\_

9. What are three places where smooth muscles can be found?

\_\_\_\_\_

\_\_\_\_\_

10. What is the only place where cardiac muscle can be found?

\_\_\_\_\_

\_\_\_\_\_

## Holding it All Together: Tendons

When you read about the skeletal system, you learned that bones are attached to other bones by ligaments. Ligaments are special connective tissues that are stretchy, allowing bones to move. You also read that the skeletal system works with the muscular system to move the body. Well, muscles also need to be attached to the bones to get them moving.

Each muscle is attached to bone at two ends. At one end of the muscle, the attachment is firm; it does not move. This may be called the **origin** of the muscle. The muscle is attached directly to the bone at that end. At the other end of the muscle, which is called the **insertion**, the attachment can move. At that end, the muscle is attached with a connective tissue called a **tendon**.

As a muscle works, or contracts, it gets smaller. The insertion end of the muscle gets closer to the origin end of the muscle. The tendon stretches to let the muscle shorten. When the muscle relaxes, it gets longer again. The tendon shortens back to its original length. A tendon reminds me of a big, thick rubber band!

You need to be careful with your tendons, and the rest of your muscular system. If you work your muscles too hard or too suddenly without warming them up properly, you can injure yourself. The covering around the tendons may become swollen and very sore in a condition called **tendonitis**. Sometimes tendons are actually torn away from the bone where they are supposed to be attached. You may need to have surgery to fix that kind of problem! Have you ever heard of anyone having a **sprain**? A sprain is a ligament, tendon, or muscle that has been stretched too much. It can take a long time for some of these injuries to get better.



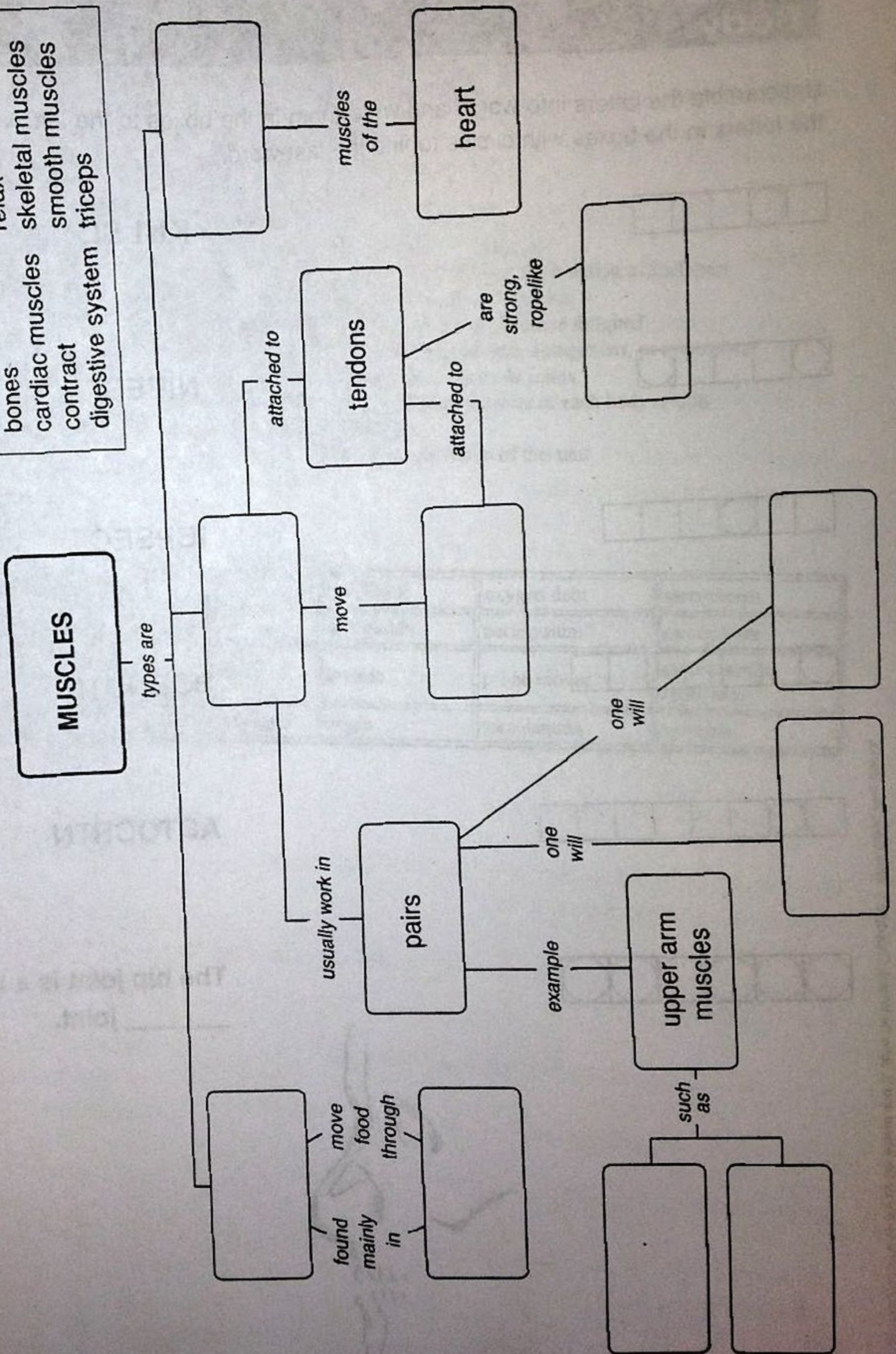
Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

**WORD LIST**

- biceps
- bones
- cardiac muscles
- contract
- digestive system
- fibers
- relax
- skeletal muscles
- smooth muscles
- triceps

**Concept Map: Muscles**

Directions: Select words from the word list and fill in the blank map items. Use each word only once, and use all the words on the list.



# Human Body

Unscramble the letters into words and write them in the boxes to the left. Now unscramble the letters in the boxes with circles to find the last word.

□ ○ □ □ □ □

KULSL

○ □ □ □ □ ○

NIPES

□ □ ○ □ □ □

IBPSEC

○ □ □ □ □ □ □ □

SOENDTN

□ ○ □ □ □ □ □ □ □ □

ACTOVRTN

○ ○ ○ ○ ○ ○ ○ ○

The hip joint is a ball and \_\_\_\_\_ joint.

