Muscle Map Lab

Name _____

Date _____

Period _____

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Do Now Clench your teeth. Put your fingertips on your cheeks, just in front of your ears. Relax, then clench again. 2 minutes, before you open the lab

A. What did you feel under your fingers when you clenched?

_____

B. About how many skeletal muscles are in your body? ☐ About 60 ☐ About 200 ☐ More than 600

☐ I can find 20 major skeletal muscles on a body map.

☐ I can use the parts of a muscle's name to tell where it is or what it does.

☐ I can name the muscle that does a move, and its partner.

Part 1. Find the muscles (Tab 1)

SEP 2 Developing and Using Models · CCC Systems and System Models

Click all 20 numbered dots. Use both views: Whole body, and Head and neck.

1. Write the name of each numbered muscle.

1		**6**		**11**		**16**	
2		**7**		**12**		**17**	
3		**8**		**13**		**18**	
4		**9**		**14**		**19**	
5		**10**		**15**		**20**	

2. Count the muscles in each region. Use the graph.

Head and neck		**Trunk**		**Shoulder and arm**		**Hip and leg**	

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 3 to 5.

3. Which region is each muscle in? Tick one in each row.

Trapezius	☐ Head and neck	☐ Trunk	☐ Shoulder and arm	☐ Hip and leg
Deltoid	☐ Head and neck	☐ Trunk	☐ Shoulder and arm	☐ Hip and leg
Sartorius	☐ Head and neck	☐ Trunk	☐ Shoulder and arm	☐ Hip and leg
Masseter	☐ Head and neck	☐ Trunk	☐ Shoulder and arm	☐ Hip and leg

4. Is each muscle on the front or the back? Tick A (anterior, front) or P (posterior, back).

Rectus abdominis	☐ A ☐ P	**Tibialis anterior**	☐ A ☐ P	**Gastrocnemius**	☐ A ☐ P	**Biceps brachii**	☐ A ☐ P	**Latissimus dorsi**	☐ A ☐ P

5. Play Find It. My score: _____ of 10. The muscle that was hardest to find, and where it is:

_____

Part 2. Read the name (Tab 2)

SEP 4 Analyzing and Interpreting Data · CCC Patterns

Decode at least 8 names. Then read the graph.

6. Decode the names. Write what each word part means.

Name	Word part	What it means
Biceps brachii	bi + ceps	
	brachii	
Latissimus dorsi	latissimus	
	dorsi	
Sternocleidomastoid	sterno + cleido + mastoid	

7. Read the graph. Which kind of clue is used most? _____ In how many of the 20 names? _____

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 8 to 10.

8. What kind of clue is each word part? Tick one in each row.

masseter = chewer	☐ Location ☐ Shape ☐ Size ☐ Heads ☐ Direction ☐ Action
deltoid = triangle	☐ Location ☐ Shape ☐ Size ☐ Heads ☐ Direction ☐ Action
rectus = straight	☐ Location ☐ Shape ☐ Size ☐ Heads ☐ Direction ☐ Action
maximus = largest	☐ Location ☐ Shape ☐ Size ☐ Heads ☐ Direction ☐ Action
triceps = three heads	☐ Location ☐ Shape ☐ Size ☐ Heads ☐ Direction ☐ Action

9. Decode new names. Tick one in each row.

Tibialis posterior. Where is it?	☐ front of the shin ☐ back of the thigh ☐ back of the shin
Gluteus minimus. Next to the gluteus maximus, it is	☐ bigger ☐ smaller ☐ the same size
Extensor digitorum. What does it do?	☐ straightens the fingers ☐ bends the fingers ☐ pulls the arm in

10. The adductor longus is on the inside of the thigh. Use its name. What does it do, and what is its shape?

Part 3. Move it (Tab 3)

SEP 6 Constructing Explanations · CCC Structure and Function

Try at least 8 moves. Do each move yourself and feel for the muscle. Press I felt it when you do.

11. Copy four moves you tried.

Move	Muscle that pulls	Felt it?

12. Copy the mass of each leg muscle from the graph.

Quadriceps femoris	Gluteus maximus	Hamstrings	Gastrocnemius
g	g	g	g

13. The quadriceps is about how many times heavier than the hamstrings? Show your math (SEP 5). _____

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 14 to 16.

14. Which muscle pulls the other way? Tick its partner in each row.

Biceps brachii bends the elbow.	☐ Triceps brachii ☐ Latissimus dorsi ☐ Hamstrings ☐ Tibialis anterior
Quadriceps femoris straightens the knee.	☐ Triceps brachii ☐ Latissimus dorsi ☐ Hamstrings ☐ Tibialis anterior
Deltoid lifts the arm out.	☐ Triceps brachii ☐ Latissimus dorsi ☐ Hamstrings ☐ Tibialis anterior
Gastrocnemius points the foot down.	☐ Triceps brachii ☐ Latissimus dorsi ☐ Hamstrings ☐ Tibialis anterior

15. Model check (SEP 2). The lab map shows 20 muscles. Name one thing about real muscles that this map leaves out.

16. Explain it (SEP 6). Why is the quadriceps more than twice as heavy as the hamstrings? Think about its job.

Claim	
Evidence from the lab	
Reasoning	