MICROSCOPIC ANATOMY OF SKELETAL MUSCLE

First, identify the structures in Column B by matching them with the descriptions in Column A. Enter the correct letters (or terms if desired) in the answer blanks. Then, select a different color for each of the terms in Column B that has a color-coding circle and color in the structures on Figure 6–2.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Connective tissue surrounding a fascicle</td>
<td>A. Endomysium ○</td>
</tr>
<tr>
<td>2. Connective tissue ensheathing the entire muscle</td>
<td>B. Epimysium ○</td>
</tr>
<tr>
<td>3. Contractile unit of muscle</td>
<td>C. Fascicle</td>
</tr>
<tr>
<td>4. A muscle cell</td>
<td>D. Fiber ○</td>
</tr>
<tr>
<td>5. Thin connective tissue investing each muscle cell</td>
<td>E. Myofilament</td>
</tr>
<tr>
<td>6. Plasma membrane of the muscle cell</td>
<td>F. Myofibril ○</td>
</tr>
<tr>
<td>7. A long, filamentous organelle found within muscle cells that has a</td>
<td>G. Perimysium ○</td>
</tr>
<tr>
<td>banded appearance</td>
<td>H. Sarcolemma</td>
</tr>
<tr>
<td>8. Actin- or myosin-containing structure</td>
<td>I. Sarcomere</td>
</tr>
<tr>
<td>9. Cordlike extension of connective tissue beyond the muscle, serving</td>
<td>J. Sarcoplasm</td>
</tr>
<tr>
<td>to attach it to the bone</td>
<td>K. Tendon ○</td>
</tr>
<tr>
<td>10. A discrete bundle of muscle cells</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6–2
Figure 6–3 is a diagrammatic representation of a small portion of a relaxed muscle cell (bracket indicates the portion enlarged). First, select different colors for the structures listed below. Use them to color the coding circles and corresponding structures on Figure 6–3. Then bracket and label an A band, an I band, and a sarcomere. When you have finished, draw a contracted sarcomere in the space beneath the figure and label the same structures, as well as the light and dark bands.

- Myosin
- Actin filaments
- Z disc

Figure 6–3

1. Looking at your diagram of a contracted sarcomere from a slightly different angle, which region of the sarcomere shortens during contraction—the dark band, the light band, or both?
Identify the numbered muscles in Figure 6-11 by placing the numbers in the blanks next to the following muscle names. Then select a different color for each muscle provided with a color-coding circle and color the coding circle and corresponding muscle in Figure 6-11.

1. Orbicularis oris
2. Pectoralis major
3. External oblique
4. Sternocleidomastoid
5. Biceps brachii
6. Deltoid
7. Vastus lateralis
8. Frontalis
9. Rectus femoris
10. Sartorius
11. Gracilis
12. Adductor group
13. Fibularis longus
14. Temporalis
15. Orbicularis oculi
16. Zygomaticus
17. Masseter
18. Vastus medialis
19. Tibialis anterior
20. Transversus abdominis
21. Rectus abdominis

Figure 6-11
Identify each of the numbered muscles in Figure 6–12 by placing the numbers in the blanks next to the following muscle names. Then select different colors for each muscle and color the coding circles and corresponding muscles on Figure 6–12.

1. Adductor muscle
2. Gluteus maximus
3. Gastrocnemius
4. Latissimus dorsi
5. Deltoid
6. Semitendinosus
7. Soleus
8. Biceps femoris
9. Triceps brachii
10. External oblique
11. Gluteus medius
12. Trapezius