ACTIVITY 18–1

Observing Bones

LAB PREVIEW
1. Where are red and white blood cells produced? ____________________________
2. Why is the sharp object safety symbol necessary? __________________________

Problem: What are the parts of a long bone?

Materials
- beef bone
- hand lens
- scalpel
- microscope slide
- coverslip
- dropper
- water

Procedure
1. Use the table below to record your data.
2. Obtain a beef bone that has been cut in half along the length and width.
3. Observe the bone with a hand lens. Identify the periosteum, compact bone, spongy bone, and any marrow that is present.
4. Draw a diagram of the bone and label the parts you have been able to recognize. In the table, describe each part.
5. Use a scalpel to remove a very small piece of red marrow. CAUTION: Always use extreme care when using sharp instruments.
6. Make a temporary wet mount slide of the marrow. Examine it under low power. Describe what you see below and draw what you see on the next page.

Data and Observations

<table>
<thead>
<tr>
<th>FEATURES OF BONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part</td>
</tr>
<tr>
<td>Periosteum</td>
</tr>
<tr>
<td>Compact bone</td>
</tr>
<tr>
<td>Spongy bone</td>
</tr>
<tr>
<td>Marrow</td>
</tr>
</tbody>
</table>
Activity 18–1 (continued)

Drawings

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Analyze
1. What parts of the bone are you able to identify?  

2. Describe the portions of the bone that contain marrow.  

3. What differences did you observe in the overall shape of the bone?  

Conclude and Apply
4. How might the functions of spongy bone and compact bone be related to the shape of the areas in which they are found?  

5. From your observations, where would you say that most calcium is stored in a long bone?