Scan Lesson 2 in your book. Think of three questions you have about cells. Write those questions in your Science Journal. Then try to answer your questions as you read.

## Main Idea

### Cell Shape and Movement

Compare cell parts by completing the chart. Put a check mark in the Plant or Animal column to indicate which types of cells contain the cell part listed. You might need to reference the cell diagrams to decide.

<table>
<thead>
<tr>
<th>Cell Part</th>
<th>Description</th>
<th>Plant</th>
<th>Animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell membrane</td>
<td>a flexible covering around the cell</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cell wall</td>
<td>a stiff structure outside the cell membrane</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cytoplasm</td>
<td>fluid inside a cell that contains salts and molecules</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cytoskeleton</td>
<td>threadlike proteins joined together</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

I found this on page 52.

I found this on page 52.

I found this on page 53.

I found this on page 53.
Identify and describe 2 examples of cell appendages.

1. Example: cilia  
   Description: short, hairlike structures  
   Purpose: can move a cell or move molecules away from a cell

2. Example: flagella  
   Description: whiplike structures  
   Purpose: movement

Classify cells as prokaryotic or eukaryotic by writing “E” or “P” in the right-hand column.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Cell Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell’s genetic material is surrounded by a membrane.</td>
<td>E</td>
</tr>
<tr>
<td>Cell is usually unicellular.</td>
<td>P</td>
</tr>
<tr>
<td>It is usually the smaller of the two types of cells.</td>
<td>P</td>
</tr>
<tr>
<td>Cell contains organelles.</td>
<td>E</td>
</tr>
</tbody>
</table>

Identify four facts about organelles. Sample answers shown.

1. surrounded by a membrane
2. have a specialized function
3. inside eukaryotic cells
4. enable a cell to carry out many functions at once

Describe some functions of organelles.

- What Organelles Do for Cells
  - process energy and get rid of waste
  - store genetic information
  - make macromolecules
Lesson 2 | The Cell (continued)

**Main Idea**

Classify information about organelles. In the right-hand column, indicate whether the organelle is in a plant cell, an animal cell, or both.

<table>
<thead>
<tr>
<th>Organelle</th>
<th>Function</th>
<th>Plant, Animal, or Both?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleus</td>
<td>directs all cell activity and stores genetic information</td>
<td>both</td>
</tr>
<tr>
<td>Nucleolus</td>
<td>makes ribosomes</td>
<td>both</td>
</tr>
<tr>
<td>Ribosome</td>
<td>makes proteins</td>
<td>both</td>
</tr>
<tr>
<td>Rough endoplasmic reticulum</td>
<td>provides a site for making proteins</td>
<td>both</td>
</tr>
<tr>
<td>Smooth endoplasmic reticulum</td>
<td>makes lipids and helps remove harmful substances from cell</td>
<td>both</td>
</tr>
<tr>
<td>Mitochondria</td>
<td>releases energy from ATP molecules</td>
<td>both</td>
</tr>
<tr>
<td>Chloroplast</td>
<td>uses energy from sunlight and makes glucose</td>
<td>plant</td>
</tr>
<tr>
<td>Golgi apparatus</td>
<td>prepares proteins for their specific jobs and packages them into vesicles</td>
<td>both</td>
</tr>
<tr>
<td>Vesicle</td>
<td>transports substances to different areas within the cell</td>
<td>both</td>
</tr>
<tr>
<td>Central vacuole</td>
<td>stores food, water, and waste material</td>
<td>plant</td>
</tr>
<tr>
<td>Lysosome</td>
<td>helps break down and recycle cellular components</td>
<td>animal</td>
</tr>
</tbody>
</table>

Sample answer: Yes; cells without chloroplasts also depend on sunlight for their food. They use the sugars made by cells with chloroplasts for energy.