Chapter 3 The Biosphere

Section 3–1 What Is Ecology? (pages 63–65)

Key Concepts
- What different levels of organization do ecologists study?
- What methods are used to study ecology?

Interactions and Interdependence (page 63)
1. What is ecology?
2. What does the biosphere contain?

Levels of Organization (page 64)
3. Why do ecologists ask questions about events and organisms that range in complexity from an individual to the biosphere?
4. Complete the table about levels of organization.

<table>
<thead>
<tr>
<th>LEVELS OF ORGANIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
</tr>
<tr>
<td>Species</td>
</tr>
<tr>
<td>Community</td>
</tr>
<tr>
<td>Ecosystem</td>
</tr>
</tbody>
</table>
5. What is the highest level of organization that ecologists study? ________________________

Ecological Methods (page 65)

6. What are the three basic approaches scientists use to conduct modern ecological research?
   a. __________________ b. __________________ c. __________________

7. Why might an ecologist set up an artificial environment in a laboratory?
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

8. Why are many ecological phenomena difficult to study? ________________________
   ________________________________________________________________
   ________________________________________________________________

9. Why do ecologists make models? __________________________________________
   ________________________________________________________________
   ________________________________________________________________

10. Is the following sentence true or false? An ecological model may consist of a mathematical formula. __________________