# Live RED At Home Days

## Day’s # 21-25

### School Name
Livingston Central High School

### Teacher Name
Tamra Clinger

### Contact Information
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<table>
<thead>
<tr>
<th>Assignment Description</th>
<th>Completed (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 21</strong>: Read through chapter 11 online ...Complete 11.1 Workbook Pages...</td>
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<td><strong>Day 22</strong>: Complete 11.2 Workbook</td>
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<td><strong>Day 23</strong>: Complete 11.3 Workbook</td>
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<td><strong>Day 24</strong>: Complete the Vocab Review</td>
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<td><strong>Day 25</strong>: Complete the Central Case Inquiry</td>
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- Check your day off when the work is completed
- Bring all assignments first day back from missed school days
- Scan and send back to me if you can...make sure I can read it 😊

Online Accounts for Text...
www.pearsonrealize.com
login: first.last2019
password: cp3science

Online Accounts for Text...
www.pearsonrealize.com
login: first.last2019
password: cp3science

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11.1 Resource Management

Key Concepts

- People need to manage the harvesting of renewable resources in order to ensure their availability.
- Maximum sustainable yield, ecosystem-based management, and adaptive management are three approaches to resource management.

**Vocabulary Preview**

Define each vocabulary term in your own words. Then, write yourself a quick note on how you will remember each. One term has been done for you.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>How I Remember</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum sustainable yield (MSY)</td>
<td>The largest amount of a resource that can be used without long-term damage to the resource</td>
<td>I remember that this practice is meant to <strong>maximize</strong> harvest and <strong>minimize</strong> damage.</td>
</tr>
<tr>
<td>Ecosystem-based Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive management</td>
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</tr>
</tbody>
</table>
Renewable Resource Management

1. What are four examples of renewable resources?

2. Why must renewable resources be managed?


4. Explain the importance of maintaining healthy topsoil.

5. How are soil and fresh water resources dependent on each other?

6. What is the difference between game and nongame species?

7. What types of wildlife are targeted by poachers?

8. Why is timber so important to people?
Management Approaches

9. Fill in the table with information about three common approaches to types of renewable resource management.

<table>
<thead>
<tr>
<th>Maximum Sustainable Yield</th>
<th>Ecosystem-Based Management</th>
<th>Adaptive Management</th>
</tr>
</thead>
</table>

10. Explain how managing a population using the maximum sustainable yield approach can change the whole ecosystem?

11. What is the focus of ecosystem-based management?

12. What is one drawback to ecosystem-based management?

13. Which management approach can be considered a cyclical process in which practices are constantly being adjusted based on new information?

14. Why is adaptive management considered a union between science and management?
15. Fill in the cluster diagram on resource management.

16. In addition to scientific research, name at least two factors that influence resource management decisions.

17. Why might a resource manager choose to focus on an entire ecosystem and not just on a particular resource?

18. What are three main resource management approaches?

19. What is one benefit and one drawback of adaptive management?
### 11.2 Forests and Their Resources

#### Key Concepts
- Forest resources have great ecological and economic value.
- There are costs and benefits to every method of timber harvesting.
- Deforestation may help nations develop, but it can be ecologically destructive in the long run.

#### Vocabulary Preview

Define each vocabulary term in your own words. Then, write yourself a quick note on how you will remember each. One term has been done for you.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>How I Remember</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even-aged</td>
<td></td>
<td>I imagine the trees &quot;standing up&quot; unevenly, at all different heights because they are at different ages.</td>
</tr>
<tr>
<td>Uneven-aged</td>
<td>Forest regrowth in which the trees are different ages; occurs after selective logging</td>
<td></td>
</tr>
<tr>
<td>Clear-cutting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed-tree Approach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelterwood Approach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deforestation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old-growth forest</td>
<td></td>
<td></td>
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</tbody>
</table>
Forest Resources

1. Complete the following paragraph with terms from the word bank.

Forests provide many different _____________ for plants and animals. Forests provide many ecosystem services, such as slowing runoff, minimizing flooding, and preventing soil _________________. Forest plants help to moderate the ________________ by storing carbon and releasing oxygen. Forests also have ________________ value, providing wood for shelter, fuel, and many products that people use daily.

2. Name at least two products, besides timber and paper, that come from forest resources.

____________________________________________________________________

3. Forest X has some of the country’s oldest trees and has never been logged. Forest Y was planted around 30 years ago. In which of the two forests would you expect to find greater biodiversity? Explain.

____________________________________________________________________  

____________________________________________________________________

Timber Harvesting

4. Which type of regrowth harbors greater biodiversity—uneven-aged or even-aged regrowth? Explain.

____________________________________________________________________  

____________________________________________________________________

5. What do most logging methods have in common?

____________________________________________________________________  

____________________________________________________________________  

____________________________________________________________________

6. Which logging method has the greatest impact on forest ecosystems? Explain.

____________________________________________________________________  

____________________________________________________________________  

____________________________________________________________________
7. Fill in the concept map with terms from the word bank.

- clear-cutting
- selection systems
- even-aged
- shelterwood approach
- seed-tree approach
- uneven-aged

Timber Harvesting Methods

results in regrowth that is mostly

results in regrowth that is mostly

results in regrowth that is mostly

Deforestation

8. What are the costs and benefits of deforestation?

9. How does deforestation add carbon dioxide to the atmosphere?

10. How has deforestation shaped the landscape of the United States?

11. What has allowed developing nations today to exploit their resources faster than the United States did?
**SKILL BUILDER** Organize Information

12. Complete the Venn diagram below comparing timber harvesting and deforestation. Write details about each in the circles. Where the circles overlap, write characteristics that the concepts share.

EXTENSION Choose a third concept to add to the Venn diagram. Add a third circle and label it with the name of the concept. Then, fill in the characteristics of the new concept and the characteristics that the new concept shares with one or both of the other concepts.

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**11.2 SELF-CHECK**

*Answer the questions to test your knowledge of lesson concepts. You can check your work using the answers on the bottom of the page.*

13. Name at least one way that forests are economically valuable and one way that they are ecologically valuable.

14. Describe the costs and benefits of clear-cutting.

15. Why is there so little old-growth forest in the United States today?
11.3 Forest Management

Key Concepts

Logging in national forests is managed by the Forest Service, but profits go to timber companies.

Most logging in the United States today takes place on tree plantations owned by timber companies.

Suppression of all wildfires can endanger ecosystems, property, and people.

The response of timber companies to consumer demand is helping to promote sustainable forestry.

Vocabulary Preview

Define each vocabulary term in your own words. Then, write yourself a quick note on how you will remember each. One term has been done for you.

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<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>How I Remember</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monoculture</td>
<td>A large planting of just one kind of crop</td>
<td>The prefix mono– means “one,” so a monoculture is a planting of just one type of crop</td>
</tr>
<tr>
<td>Prescribed burn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salvage logging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable forestry</td>
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</table>
SKILL BUILDER  Reading Strategy

As you read the lesson, take notes on key terms and concepts covered under the headings. Make an outline and summarize lesson concepts in the chart below.

<table>
<thead>
<tr>
<th>Key Words</th>
<th>Outline</th>
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<tbody>
<tr>
<td>Summary</td>
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</tbody>
</table>

U.S. National Forests

1. What is the role of the Forest Service? What controversy surrounds its practices?

2. Describe the policy of multiple use that guides national forest management.

3. Describe the effect the passage of the National Forest Management Act in 1976 had on the trend in logging between the 1980s and early 2000s.
Private Land

4. Where are monocultures in the United States typically located?

5. Why do most ecologists and foresters consider tree plantations to be more like cropland than forestland?

6. How can plantations be managed so that they are more similar to natural forests?

Fire Policies

7. Fill in the cause-and-effect diagram with information about the effects of prescribed burns.

8. What results from the suppression of small, natural fires?

9. Describe how the Kirtland’s warbler depends on fire for survival.

Sustainable Forestry Products

11. How can consumers be assured of a timber company’s sustainable practices?

12. Fill in the cluster diagram about sustainable forest products. Continue adding circles and writing in facts and details.

13. What were the main requirements of the National Forest Management Act?

14. Where does most logging in the United States occur?

15. How does fire suppression affect ecosystems?
Chapter Vocabulary Review

Complete each statement by writing the correct word or words.

1. The practice of _________________ was promoted by the 2003 Healthy Forests Restoration Act.

2. The seed-tree approach and the _________________ are less harmful to forest communities than clear-cutting, but still result in mostly even-aged regrowth.

3. _________________ is a resource management approach that is customized based on data from scientific investigations.

4. Plantations typically consist of large-scale plantings of a single crop, known as _________________

5. _________________ is guided by many factors, including science, politics, and economics, to ensure that the harvesting of resources does not deplete the resources.

6. The Forest Stewardship Council and other organizations offer _________________ to products from timber companies whose practices meet certain criteria of sustainability.

7. The goal of management for _________________ is to keep a population at the steepest part of its logistic growth curve.

8. Resource management that uses _________________ results in uneven-aged stands of regrown trees.

9. _________________ stands result from the regrowth of trees that were harvested by clear-cutting.

10. Due _________________ to in the late 1800s and early 1900s, very little old-growth forest remains in the United States.

Use each vocabulary term in a sentence.

11. clear-cutting ____________________________

12. prescribed burn ____________________________

13. sustainable forestry certification ____________________________

EXTENSION On a separate sheet of paper, write a paragraph about timber harvesting in the United States. Your paragraph should include at least one vocabulary term from each of the three lessons in the chapter. Underline each of the lesson vocabulary terms you use.
UNESCO Biosphere Reserves

United Nations Educational, Scientific, and Cultural Organization (UNESCO) Biosphere Reserves are intended to promote the sustainable harvest of resources while protecting ecosystem integrity. Biosphere Reserves are divided into three zones: core protected, buffer, and transition. Resources cannot be harvested in the core protected areas of the reserve. Resources can be harvested in limited amounts in buffer zones. More active resource use and human activity are allowed in the transition zones.

Clayoquot Sound became a UNESCO Biosphere Reserve in 2000. The Reserve covers nearly 350,000 hectares of Vancouver Island, British Columbia. Approximately 51 percent of the Reserve is designated as transition zone. Around 31 percent of the Reserve is core protected zone and just under 18 percent is buffer zone. In addition to old-growth temperate rain forest, the Reserve includes a diversity of ecosystems in the area’s wetlands, lakes, rivers, shorelines, near-shore ocean, and mountaintops. The map below shows the various zones of Clayoquot Sound and the villages within the Reserve.
Use the information from UNESCO Biosphere Reserves to answer the questions below.

1. Locate the village of Esowista. In which type of zone is it located?  

2. Identify the village that is not part of the biosphere.  

3. Identify the part of Clayoquot Sound that contains the largest continuous transition area.  

4. Describe the types of activities you think might take place in transition areas.  

5. Imagine you are a scientist providing advice on a possible expansion of the Clayoquot Sound Biosphere Reserve core area. Where would you suggest this expansion occur? Explain your answer.  

6. How does the Clayoquot Sound UNESCO Biosphere Reserve help address the Big Question: “How can we use Earth’s resources sustainably?”

The 21st Century Skills used in this activity include Creativity and Innovation, Critical Thinking and Problem Solving, Communication and Collaboration, Social and Cross-Cultural Skills, and Productivity and Accountability.

Log on for more information and activities on the Central Case, Battling Over Clayoquot’s Big Trees.