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## Lesson I The Science of Forests and Trees



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What is a forest?

What are the five layers of a forest? Describe each of them.

1.

2.

3.

4.

5.

What is the difference between an individual tree and a tree species?

Describe how the layers of a forest are similar to the levels of a house.

Not all forests are the same. They can have different ages of trees, different species of trees, different densities of trees, etc. Why do you think different forests might have different tree species and structure from one another?

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## Lesson 2 A Competitive Edge



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### Autobiography of my tree

Be sure your autobiography includes the following information:

- Species
- Age
- How did the forest change over time?
- What were the effects of disturbances on my tree?
- What was the effect of time on my tree?
- What are the strengths/weaknesses of this species?
- Other information about my tree

What are the main types of disturbances that affect forests in Wisconsin?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Define forest succession:

What role do disturbances and tree characteristics play in this process?

What would happen to the composition of a forest if one tree species couldn't compete with the others?

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## Lesson 3 The Natural Divisions of Wisconsin



What are Wisconsin's 8 major forest types? List two tree species found in each.

1.

- a.
- b.

2.

- a.
- b.

3.

- a.
- b.

4.

- a.
- b.

5.

- a.
- b.

6.

- a.
- b.

7.

- a.
- b.

8.

- a.
- b.

Describe how each of the following affects Wisconsin's forest types.

The tension zone

Glacial history

Different landscapes of Wisconsin

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## Lesson 4 Wisconsin Forest History



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### Questions for the reading:

1) Why were settlers coming to Wisconsin?

What did they do when they arrived here?

2) Describe how you think Native American land use impacted Wisconsin's forest structure and composition.

3) White pines have special characteristics. What do you think they were used for?

4) Why didn't the settlers want England to have first choice of the white pines?

5) How did the transportation system in Wisconsin change?

What effect did this have on the timber industry and the northern forests?

6) How could the forest fires have started?

7) Where did the rock come from that the farmers had such problems with?

8) How can you distinguish most replanted forests from natural forests?

9) What did you learn from this story about how our ancestors treated the land?

With the advantage of the knowledge you now have, would you have done anything differently?



*“When some remote ancestor of ours invented the shovel, he became a giver; he could plant a tree. And when the axe was invented, he became a taker; he could chop it down. Whoever owns land has thus assumed, whether he knows it or not, the divine functions of creating and destroying plants.”*

Aldo Leopold, 1949 - *A Sand County Almanac*

### Questions for the quote:

What do you think Leopold means by this statement?

Analyze the quote with the following questions:

- A giver to whom?
- What is he giving?
- A taker of what and from whom?
- What has man assumed?

If you could change one thing about Wisconsin's logging history what would it be? Justify your answer by using information about the benefits and consequences of our logging you learned in this lesson.

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## Lesson 5 Forest Utility



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Write a paragraph about how your family is connected to the forest industry. It may be as an employee, an employee of a related company (such as furniture store), or as a consumer.

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## Lesson 6 Forest Value



What is a value?

List and describe the seven value categories and then list one thing you value in each category.

1.

I value:

2.

I value:

3.

I value:

4.

I value:

5.

I value:

6.

I value:

7.

I value:

Choose a forest that is valuable to you and explain why. Include which of the seven value categories you place it in (can be more than one).

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## Lesson 7 Natural Resource Careers- A Game of Life



List at least eight career opportunities related to managing natural resources.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Why is it important to have “people skills” in addition to technical skills and scientific knowledge?

What are some ways you can gain experience right now that would help you get a job in a natural resource career field in the future? Why are these experiences important?

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## Lesson 8 Forest Management



Identify and describe the three main harvest methods used in forest management. List the tree species that grow best in each.

1.

- a.
- b.
- c.
- d.
- e.
- f.

2.

- a.
- b.
- c.
- d.
- e.
- f.

3.

- a.
- b.
- c.
- d.
- e.
- f.

Four factors that influence harvesting methods are:

- 1.
- 2.
- 3.
- 4.

Suppose you have 4 hickory trees in your backyard. You use the wood from these trees to smoke, cure, and grill meat. The first of the trees is 10 years old, the second is 20 years old, the third is 30 years old and the fourth is 40 years old. To produce good fire logs the trees must be 40 years old. A 40-year-old tree will produce 200 fire logs when you cut it down. You plant a new tree every time you cut one down.

After you cut the 40-year-old tree down, how long will it be until you can cut firewood again?

Why?

How many fire logs will you have for those years before you can cut another tree?

Why?

If you have 200 logs and they have to last you 10 years, how many can you use each year?

If you plant a new tree each time you cut one down for firewood, how long can you continue to use 20 fire logs a year?

Why?



What is sustainable harvest?

Write a summary of the sources of conflict that arose when forming your management plan. Relate some of these conflicts to conflicts that exist in your hometown or somewhere in Wisconsin.

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## Lesson 9 Forestry Issues Investigation



What are the 6 steps for investigating an environmental issue?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

What are the five types of consumer action? Give an example of each.

- 1.

Example:

- 2.

Example:

- 3.

Example:

- 4.

Example:

- 5.

Example:

Based on the issue that you investigated analyze the actions presented for each player in the story. Discuss the positive and negative consequences involved. These consequences can be a direct result of the action or a result of achieving the overall goal.

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## Lesson 10 The Wisconsin Forestry Summit



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What is a forest? Answer this question without looking at the definition you wrote in lesson one.

Write a short paragraph answering the question “How can you use the knowledge and skills you developed during the Wisconsin Forestry Unit throughout your life?”