

Forestry Objectives

1. Know the parts of a tree and be able to explain the tree's life cycle.
IAFNR-4.1 Apply knowledge of plant classification, plant anatomy and plant physiology to the production and management of plants.
HS-LS1-5. Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.
2. Identify common tree species without a key and identify specific or unusual trees & shrubs using a key.
IAFNR-4.1 Apply knowledge of plant classification, plant anatomy and plant physiology to the production and management of plants
3. Understand the term silviculture and be able to explain the uses of the following silviculture techniques: thinning, prescribed burning, single tree & group tree selection, shelterwood method, clear-cutting with & without seed trees, & coppice management.
NR-2.7 Compare and contrast techniques associated with sustainable forestry (e.g., timber stand improvement, diversity improvement, reforestation, etc.) to develop a management plan
4. Know how to use forestry tools & equipment to measure tree diameter, height & basal area.
IAFNR-4.2 Prepare and implement plant management strategies that address environmental factors, essential nutrients, and soil management practices for productive plant growth
5. Understand how the following issues are affected by forest health & management: biodiversity, forest fragmentation, forest health, air quality, aesthetics, fire, global warming, water quality & recreation.
IAFNR-4.2 Prepare and implement plant management strategies that address environmental factors, essential nutrients, and soil management practices for productive plant growth
6. Understand how forestry management practices and policy affect sustainability.
NR-2.7 Compare and contrast techniques associated with sustainable forestry (e.g., timber stand improvement, diversity improvement, reforestation, etc.) to develop a management plan
HS-ENV6-2.* Construct an argument to explain that environmental policies/decisions have negative and positive impacts on people, societies, and the environment.
7. Understand how economic, social & ecological factors influence forest management.

NR-2.7 Compare and contrast techniques associated with sustainable forestry (e.g., timber stand improvement, diversity improvement, reforestation, etc.) to develop a management plan

NR-3.6 Examine and explain how economics affect the exploitation, conservation, and preservation of natural resources agreement plan

8. Understand the economic value of forests and know many of the products they provide to people & society.

NR-3.6 Examine and explain how economics affect the exploitation, conservation, and preservation of natural resources

HS-ENV2-7. * Analyze computational tools and other technologies that allow for the management of natural resources. Evaluate the trade-offs of these tools regarding human physical and cultural needs versus sustainability and biodiversity

9. Know the typical forest structure: canopy, understory and ground layers and crown classes.

NR-2.5 Describe the stages of ecological succession

10. Understand Forest ecology concepts and factors affecting them, including the relationship between soil and forest types, tree communities, regeneration, competition, and primary and secondary succession.

NR-5.1 Identify and assess methods (e.g. fire, grazing, harvesting, plantings, etc.) used to manage and improve forests, rangeland, wildlife habitat, and the biological health of streams

11. Know how the wood waste created by Indiana's sawmills is fully utilized.

NR-4.1 Assess the sustainable production, harvesting, processing and use of plant, animal, and aquatic wildlife species

12. Understand that actively managed forests are more efficient at carbon storage than unmanaged forests.

HS-ENV2-1.* Construct and revise an explanation based on evidence for the cycling of matter through sources and sinks and how energy is transferred

13. Understand that carbon captured by trees remains in the wood products that are produced when they are harvested

HS-ENV2-1.* Construct and revise an explanation based on evidence for the cycling of matter through sources and sinks and how energy is transferred