

4-H Virtual Forest User's Guide

Timberrr!

Concept

Timber harvesting is a necessary and useful process for getting trees from the woods to the factories that make products we use in everyday life. This module will illustrate the timber harvesting process.

This module supports the following Science SOLs:

Earth Resources

4.8 d) forests, soil, and land

6.9 a) natural resources are important to protect and maintain

6.9 b) renewable and nonrenewable resources can be managed

Module Description

Begin: Intro. An introduction that addresses the importance of timber harvesting and the forest products industry to Virginia's economy. The text reads:

"Timber harvesting, or cutting trees to make products, is a significant industry in Virginia. Our forests provide many of the products we use every day, and they also create jobs for many people in our state."

"Foresters are experts who study forests in detail, while loggers are responsible for cutting and transporting the trees. At factories, these trees are turned into finished products, and a whole team works in offices behind the scenes to ensure everything runs smoothly."

"How many jobs do you think the forest industry and supporting businesses provide for Virginia's citizens? Click on your answer below."

A) 1,350

B) 42,895

C) 76,984

D) 131,762

The correct answer is (D) 131,762. According to a 2022 economic report by the University of Virginia's Weldon Cooper Center for Public Service, Virginia's forests

provide 131,762 jobs in the forest industry and supporting businesses and thousands of jobs in recreation, tourism, retail and service. The total forest industry ranks third in employment in the manufacturing sector.

If the student selects A, B, or C, a message appears that reads "Think higher...". When the student selects (D), the following popup appears:

“Correct! The forest industry in Virginia supports 131,762 jobs!”

There are two steps that are important for landowners to consider prior to harvesting timber: management planning and timber cruising.

Management Plan. Foresters encourage landowners to have a management plan done on their property prior to making management decisions. This involves examining forest health, collecting maps that show soils, topography, and other features, and talking with the landowner about his or her objectives, among other things.

Timber Cruise. If the landowner and forester decide that a timber harvest is necessary to improve forest health, create income, or regenerate a declining forest, then a timber cruise is performed.

A timber cruise provides the volume of material to be sold. A value is then placed on this material. Without a cruise, the landowner does not know what they are selling.

The actual timber harvesting process is very involved and takes a lot of planning. Loggers undertake several steps to harvest timber and transport the wood to factories that make many of the products we use on a daily basis. These steps include felling, skidding, processing, and transportation.

Felling. In much of Virginia, trees are cut down using the **feller/buncher**. This machine approaches the tree, grabs onto it, holds it steady, and cuts the tree off at the ground with either a set of powerful shears or a sawhead. The feller/buncher then lays the tree (or bunch of trees) on the ground and proceeds on to the next one. In some logging operations, people use chain saws for felling trees. One variation of a feller-buncher is shown here in a video.

Skidding. After the feller/buncher lays the trees down in a pile, a **skidder** comes along, grabs onto them, and drags the trees to a common area called a log deck or landing. Skidders hold the trees with either a large clamp or a strong cable. The clamp is called a grapple. A grapple skidder is shown in a video clip.

Processing. There is a lot of activity at the log deck. The skidder brings in loads of trees and drops them off. Then, another machine picks the trees up, removes the limbs, cuts them to the appropriate length, and loads them onto the **log truck**.

Sometimes, different machines handle each of these jobs. Sometimes one machine can perform all three operations. The machine that loads logs onto a truck is called the **loader**.

Transporting. After trees have been processed, they are loaded onto log trucks for transportation to a wood-using mill or factory. Tie-down straps help to keep the logs held firmly in place while the truck travels down the road. Log trucks take logs to different factories. Characteristics such as tree size, species, and quality all help determine which trees will go to which factory.

Summary. The summary frame deals with the myth that harvesting trees will make us run out of oxygen.

“It might seem like cutting down trees would reduce the amount of air we have to breathe. But here's the thing:

1. While trees do release oxygen, more than half of the oxygen in our atmosphere comes from trillions of tiny plant-like organisms in the oceans.
2. Making products from wood is often better for our air than using materials like metals or concrete.
3. Young, actively growing forests can produce more oxygen than declining, unhealthy forests.

Smart timber harvesting can help keep our forests healthy and our air fresh!”

References

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