

VIRGINIA'S CHANGING FORESTS

(Science SOLs 3.6,3.10,4.5, 4.9, 6.7, 6.9, LS.10, LS.11, ES.6, BIO.8)

Tell students they will be doing an activity to help them understand how the amount of forest land in Virginia changes over time, in response to human and natural influences.

Tell students that, currently (2014), 62% of Virginia's land is forested. You may wish to print a large version of the Virginia Forest Cover map on p. 2 to show the class, and point out the green forested areas.

Make 3 columns on the board, with the headings "increase", "conserve", and "decrease". Ask students to list things that could happen to increase, decrease, or conserve the amount of forest land in Virginia. (You may need to define the word "conserve" during the discussion.) Try to list all of their ideas without "correcting" them. Tell students you will return to this list later.

Give each student or pair of students a map page and a small bag of split peas. Each pea will represent one parcel (area) of forest land. Refer to the green areas on the forest cover map to see where real forests are located. Students should place peas on the forested areas of their blank map. To represent large chunks of unbroken forest, the peas should touch. Students should save a small pile of peas off the map, for later use.

Choose a scenario from pages 3-4 and read it aloud. Students will add, remove, or leave (conserve) peas in the correct portion of the state, depending on the statement you read. Continue reading statements until you have covered a good representation of the types of changes that can occur. You may wish to repeat some of them, changing the details slightly.

Discussion Questions:

Use as many of these as you need to help students understand this activity.

- Did you have more forests before or after the activity?
- What were some of the ways forests were conserved? Added? Lost?
- Did you have any areas that were once large, unbroken areas of forest, but now have gaps between patches of forest? What are some problems with breaking forests into small patches?
- Looking at the lists we made earlier, would you add or change anything?
- Does harvesting trees lead to a loss of forest land? Why or why not?
- Why do we need forests in our state?
- Virginia actually loses about 16,000 acres of forest land each year, through conversion to other uses. What effects could this forest loss have?
- How can we balance our need for developed areas, such as neighborhoods and shopping areas, with our need for forests?

Lesson Plan Developed by Ellen Powell, Virginia Dept. of Forestry

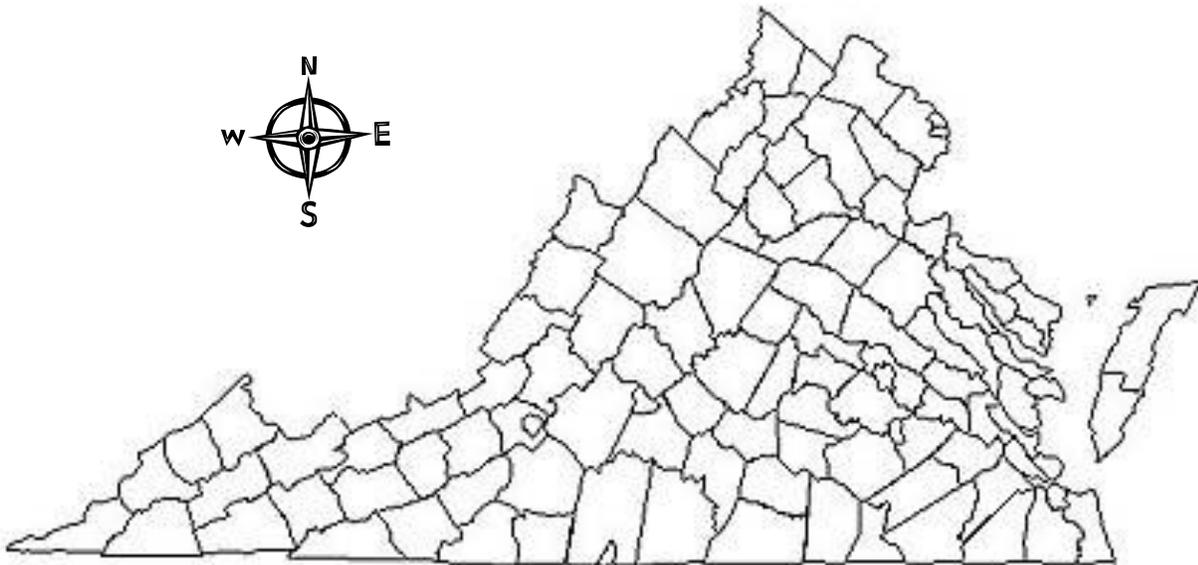
Virginia Forest Cover

62 % Forest



From year 2000 Landsat satellite imagery, classified by the Virginia Department of Forestry

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Action Statements: Virginia's Changing Forests

Landowners in eastern Virginia harvest their loblolly pine stands and replant young pine seedlings. Conserve 12 forest parcels.

Developers remove all the trees from land to make way for new home subdivisions in central Virginia. Remove 8 forest parcels.

Landowners in southwestern Virginia find a market for medicinal plants that grow on the forest floor. The income they receive allows them to keep their land instead of selling it to developers. Conserve 5 forest parcels.

Emerald ash borer is found in a large northern Virginia park and spreads quickly through the park and surrounding city. Remove 2 forest parcels.

Wildfire burns its way through acres of forest land in western Virginia. After the fire, invasive species of plants move in to cover the disturbed area. Remove 4 forest parcels.
Gypsy moth caterpillars defoliate a part of the George Washington National Forest, killing most of the oaks. Remove 3 forest parcels.

Schoolchildren across the state plant trees for Arbor Day. Add 5 forest parcels.

Farmers in south central Virginia stop mowing some of their pastures and allow trees to seed in naturally. Add 6 forest parcels.

Scout troops plant hardwood trees along miles of creek, to create riparian buffers. Add 4 forest parcels.

Asian bittersweet invades forest land in Shenandoah National Park, overtopping trees and breaking branches with its heavy vines. Remove 2 forest parcels.

Landowners in northeastern Virginia use good forest health practices, such as monitoring and thinning, to prevent outbreaks of southern pine beetle that might damage their pine forests. Conserve 7 forest parcels.

Several counties in eastern Virginia approve permits for new shopping centers. Remove 5 forest parcels.

Landowners in southwestern Virginia establish conservation easements on parts of their property. Conserve 6 forest parcels.

A citizen deeds his forest land in southeastern Virginia to the state, to be managed as a new State Forest. Conserve 2 forest parcels.

The US Forest Service purchases some farmland to add to the Jefferson National Forest, and begins planting news trees. Add 3 forest parcels.

A city in central Virginia starts a program to increase its amount of forest cover. Add 2 forest parcels.

Homeowners plant trees around their homes to save energy by shading their homes in the summer. Add 2 forest parcels.