4-H Virtual Forest: SOL Links

(http://www.ext.vt.edu/resources/4h/virtualforest/)

4-H Virtual Forest modules can be used to supplement the following Virginia Standards of Learning. You may find more!

Let's Cruise!

Science

Scientific and Engineering Practices

3.1 b) estimate length, mass, volume, and temperature; measure length, mass, volume, and temperature in metric and U.S. Customary units using proper tools

Earth Resources

4.8 d) forests, soil, and land

Math

Computation and Estimation

5.4 The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers.

Measurement and Geometry

5.10 The student will identify and describe the diameter, radius, chord, and circumference of a circle.

Old-Field Succession

Science

Scientific and Engineering Practices

3.1 e) use models to demonstrate simple phenomena and natural processes

Living Systems and Processes

4.3 a) interrelationships exist in populations, communities, and ecosystems;
4.3 b) food webs show the flow of energy within an ecosystem;
4.3 c) changes in an organism's niche and habitat may occur at various stages in its life cycle

Earth Resources

4.8 b) plants and animals
4.8 d) forests, soil, and land

Life Science

LS.8 a) organisms respond to daily, seasonal, and long-term changes
LS.11 a) mutation, adaptation, natural selection, and extinction change populations;
LS.11 c) environmental factors and genetic variation, influence survivability and diversity of organisms.

Photosynthesis: Putting Together with Light

Science

Living Systems and Processes

4.2 a) the survival of plants and animals depends on photosynthesis
2.5 a) plants and animals are interdependent with their living and nonliving surroundings

Earth Resources

4.8 d) forests, soil, and land
LS.4 The student will investigate and understand that there are chemical processes of energy transfer which are important for life. Key ideas include:

a) photosynthesis is the foundation of virtually all food webs; and
b) photosynthesis and cellular respiration support life processes.

Sprawl

Science

Scientific Investigation, Reasoning, and Logic

3.1 a) predictions and observations are made
3.1 j) inferences are made and conclusions are drawn
4.1 a) develop hypotheses as cause-and-effect relations

Living Systems

4.3 The student will investigate and understand that organisms, including humans, interact with one another and with the nonliving components in the ecosystem. Key ideas include:

a) interrelationships exist in populations, communities, and ecosystems;
b) food webs show the flow of energy within an ecosystem;
c) changes in an organism's niche and habitat may occur at various stages in its life cycle

Earth Resources

3.8 a) human activity affects the quality of air, water, and habitats
4.8 d) forests, soil, and land
6.9 The student will investigate and understand that humans impact the environment and individuals can influence public policy decisions related to energy and the environment. Key ideas include:

a) natural resources are important to protect and maintain;
b) renewable and nonrenewable resources can be managed;
c) major health and safety issues are associated with air and water quality;
d) major health and safety issues are related to different forms of energy;
e) preventive measures can protect land-use and reduce environmental hazards; and
f) there are cost/benefit tradeoffs in conservation policies.

LS.9 The student will investigate and understand that relationships exist

between ecosystem dynamics and human activity. Key ideas include

a) changes in habitat can disturb populations;
b) disruptions in ecosystems can change species competition; and
c) variations in biotic and abiotic factors can change ecosystems.

Timberrr!

Science

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;

The Tree Detective

Science

Living Systems and Processes

4.2 a) the survival of plants and animals depends on photosynthesis;
4.2 b) plants and animals have different structures and processes for obtaining energy

Earth Resources

4.8 d) forests, soil, and land

Trees: The Renewable Resource

Science

Living Systems and Processes

3.5 a) ecosystems are made of living and nonliving components of the environment; and
3.5 b) relationships exist among organisms in an ecosystem.
4.3 a) interrelationships exist in populations, communities, and ecosystems;

4.3 b) food webs show the flow of energy within an ecosystem;
4.3 c) changes in an organism's niche and habitat may occur at various stages in its life cycle

Earth Resources

4.8 d) forests, soil, and land
5.9 a) some sources of energy are considered renewable and others are not
6.9 a) natural resources are important to protect and maintain
6.9 b) renewable and nonrenewable resources can be managed