Virginia Cooperative Extension

2000

CITY OF HAMPTON
3RD GRADE
URBAN FORESTRY PROJECT

Virginia Tech
1872

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

VIRGINIA STATE UNIVERSITY

A Special note to parents

Your child is participating in a joint project between the City of Hampton Public Schools, Hampton Clean City Commission, Virginia Department of Forestry and Virginia Cooperative Extension. The project is designed to enhance the science curriculum using the urban forest as a study site. Teachers will be using *Project Learning Tree* activities that are correlated with the Virginia Standards of Learning (SOL's). These activities offer a special, hands-on approach to learning. Along with these activities, your child is encouraged to complete the sections of this project book, which is designed to be like a real scientific report.

Related Virginia Standards of Learning

Science SOL 3.1- conducting a scientific investigation

Science SOL 3.8- animal and plant life cycles

Math SOL 3.21- collecting data and making a bar graph

Math SOL 3.22- interpreting bar graphs

Suggested Goals for this project

Activity one: Conduct a life-cycle survey of trees at school and at home.

Activity two: Draw a picture of tree life cycle stages.

Activity three: Draw graphs of data.

Activity four: Write conclusions.

Why study urban forestry?

Urban forests can be amazingly diverse. In our preliminary study of Hampton City Schools we found 52 species of trees growing on school properties. Many of the city's older schools and neighborhoods are actually the most diverse and attractive from a forestry viewpoint. Because harvesting trees for forest products is generally not practical in urban areas, urban forests present an opportunity to manage for old-growth characteristics. Urban forests provide beauty, filter the air we breathe, reduce noise, provide habitat for wildlife and protect us from the summer sun. The urban forest is too good to ignore!

Tree Life Cycle Stages in the City of Hampton- a scientific investigation

by the 3rd grade students in the City of Hampton

Introduction

Trees have life cycles, just like insects, mammals and other animals. Tree life cycle stages include seedlings (also called sprouts), saplings, mature trees, dead trees and rotting logs (Figure 1). Each of these life cycle stages is important. For example, a rotting log provides habitat for animals, such as salamanders. A dead tree provides a home for cavity-nesting animals such as squirrels, woodpeckers, opossums, and owls. A sprout is important because it will take the place of a mature tree when it dies.

In this study we will compare tree life cycle stages in three places: at school, at home, and at a natural area. We will collect data and report our results. Then we will answer questions to help us make conclusions. Foresters do studies like this to assure that there will be trees and homes for wildlife in the future.

Figure 1.

Tree life cycle stages include seedlings, saplings, mature trees, dead trees and rotting logs. *(Use the space below to draw the five tree life cycle stages.)*

Define the following:

Seedling _____

Sapling _____

Mature tree _____

Dead tree _____

Rotting log _____

Methods

A forester went to the Sandy Bottom Natural Area and counted all the sprouts, saplings, mature trees, dead trees and rotting logs that appeared on circular plots in the forest. Sandy Bottom was chosen as a study site because it has a forest where humans have made few changes.

At school we chose a representative area defined by our teacher. Like Sandy Bottom, we counted all the sprouts, saplings, mature trees, dead trees and rotting logs we found on circular plots.

At home we chose a representative area of our yard or nearby grassy area with the help of a parent or other adult. Instead of circular plots, we counted everything we found in the backyard, front yard, side yard or whatever area we chose to study. (Figure 2) We did this because we did not think everyone would be able to measure circular plots.

Figure 2.

A map of the area we studied at home. *(Use the space below to draw a map of the area you studied at or near your home. Indicate the location of any buildings, roads, grassy areas or trees.)*

Results

The graph below shows how many trees are found in each stage of the life cycle and found at Sandy Bottom.

Use the graph to answer the questions below.

Tree Life Cycle Stages at Sandy Bottom Natural Area
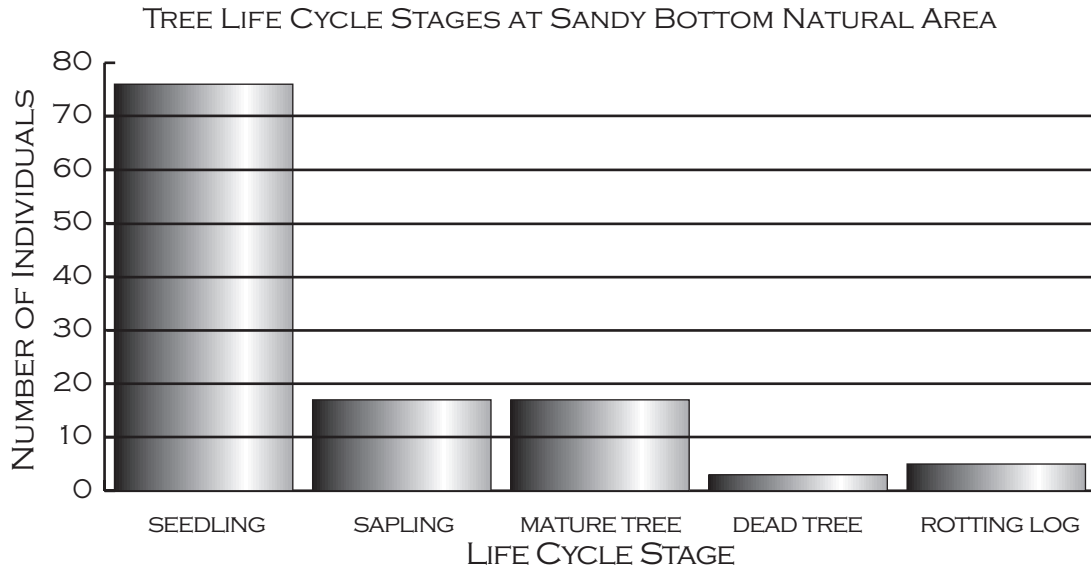
Questions

What life cycle stage is most common at Sandy Bottom? _____
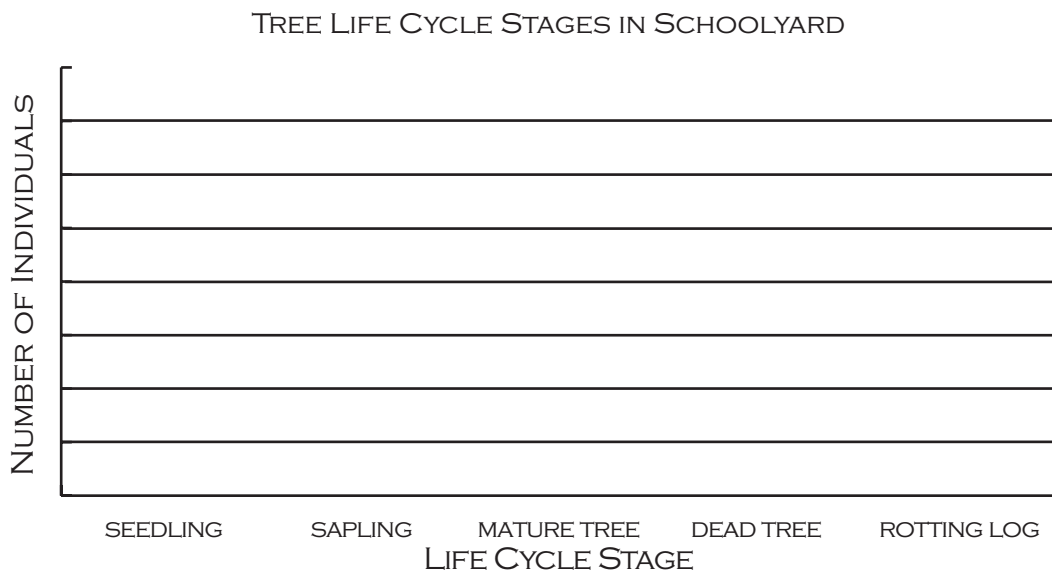
What stage is the least common? _____

Are all life stages present? _____

About how many saplings are present? _____

Now do a schoolyard survey with the help of your teacher. Use the chart to tally the number of individuals in each life cycle, and make a bar graph of your data.

Life Cycle Stages	Number of Individuals
Seedling	_____
Sapling	_____
Mature Tree	_____
Dead Tree	_____
Rotting Log	_____

TREE LIFE CYCLE STAGES IN SCHOOLYARD

NUMBER OF INDIVIDUALS

SEEDLING   SAPLING   MATURE TREE   DEAD TREE   ROTTING LOG

LIFE CYCLE STAGE

QUESTIONS

Based on your data answer the following questions.
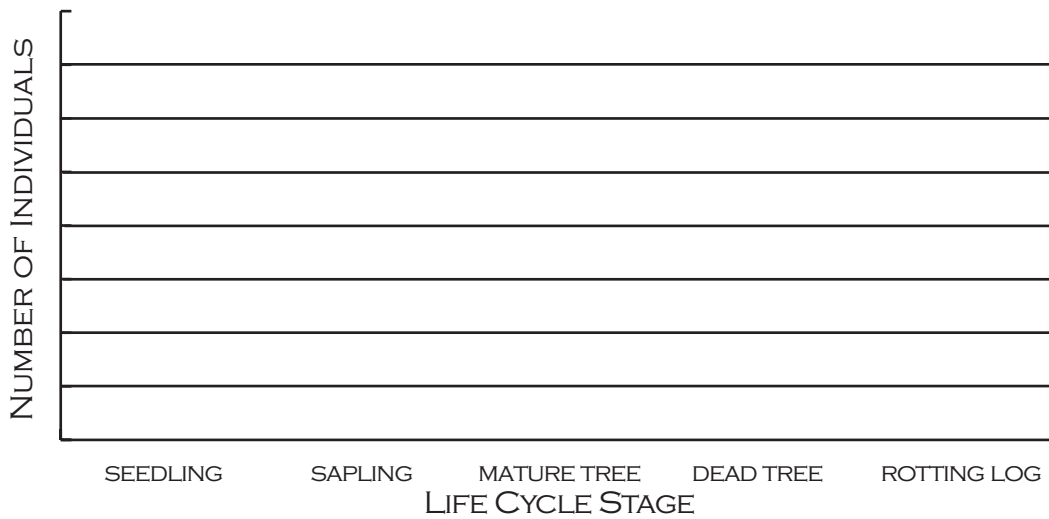
What is the most common life cycle stage in your backyard? _____

What is the least common life cycle stage? _____

Are there any stages missing? _____

Now do your own survey at home. If you do not have a backyard, find a grassy area near your home and select a small area to study. Use the chart to tally the number of individuals in each life cycle, and make a bar graph of your data.

Life Cycle Stages	Number of Individuals
Seedling	_____
Sapling	_____
Mature Tree	_____
Dead Tree	_____
Rotting Log	_____

TREE LIFE CYCLE STAGES IN MY BACKYARD

NUMBER OF INDIVIDUALS

SEEDLING   SAPLING   MATURE TREE   DEAD TREE   ROTTING LOG

LIFE CYCLE STAGE

QUESTIONS

Based on your data answer the following questions.

What is the most common life cycle stage in your backyard? _____

What is the least common life cycle stage? _____

Are there any stages missing? _____

Conclusions

What is the main difference between the forest at Sandy Bottom and at school? Are some life cycle stages missing at school? Why?

_____

_____

_____

What could you do to make the forest at home look more like the forest at Sandy Bottom?

_____

_____

_____

Would you like to have all the life cycle stages present at your school? Why or why not?

_____

_____

_____

Describe any major differences between the data you collected at home and at school.

_____

_____

_____

Compare your data with other groups. Did all the groups have the same results? If not why not?

_____

_____

_____