

# FORESTRY BOWL PRACTICE QUESTIONS FOR THE NATIONAL 4-H FORESTRY INVITATIONAL



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This compilation of questions comes from several sources, including questions which have been used in years for forestry bowl competitions at the National 4-H Forestry Invitational. Hopefully, this collection assist 4-H agents and leaders in helping their young people prepare for the Invitational's Forestry Bowl competition. The split page design of these questions is intended to make it easier to work with the quest forwards and backwards (like "Jeopardy"). It is more important for 4-Hers to learn the information than to memorize rote questions and answers. This document is a revision of an earlier compilation done by Del Hill and Diana Olszowy, with the assistance of David Cooper. It does contain some questions specific to Kentucky. These can be ignored when preparing for the Invitational.

The questions in the document are organized by subject matter area. To go to one of these specific areas, on the corresponding name below:

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## ECOLOGY

1. What is chlorophyll?

A. The green coloring matter in plants necessary for photosynthesis.

2. In addition to wood products, what are some of the other values of forests?

A. Water, oxygen, recreation, forage, windbreaks, noise and vision buffers, wildlife habitat.

3. The parts of an ecosystem can be described as abiotic materials, producers, consumers and decomposers. What are consumers?

A. Animals which cannot produce their own food and are therefore dependent on producers for food.

4. The parts of an ecosystem can be described as abiotic materials, producers, consumers and decomposers. What are producers?

A. Green plants, living organisms, that transform the energy of the sun and inorganic materials into substances needed by consumers.

5. The parts of an ecosystem can be described as abiotic materials, producers, consumers and decomposers. What are the abiotic materials?

A. The physical environment made up of non-living materials including carbon dioxide, oxygen, water, soil nutrients needed by plants, light and heat from the sun.

6. The parts of an ecosystem can be described as abiotic materials, producers, consumers and decomposers. What are decomposers?

A. The fungi and bacteria, primarily in the upper soil layer, that change dead organic matter into basic nutrients for reuse.

7. How do trees help in cleaning the air?  
A. During normal gas exchange, trees absorb carbon dioxide, sulphur dioxide, etc. and give off oxygen.
8. What do forest trees provide for wildlife?  
A. Food and shelter.
9. What is percolation?  
A. The process of water moving into the soil.
10. How is surface runoff affected by forest tree litter?  
A. The unevenness of forest floor litter slows the flow of water long enough for it to percolate into the soil.
11. What is a watershed?  
A. An area of land bounded by ridges in which brooks and streams flow into common larger water bodies (lakes, rivers).
12. How do trees control runoff of rain water?  
A. Leaves and branches break up the impact of rain and allow it to reach the forest floor with less impact.
13. What is photosynthesis?  
A. The process through which the chlorophyll in leaves, in the presence of sunlight, makes food and oxygen from water, soil nutrients and carbon dioxide.
14. What two main purposes do tree roots serve?  
A. 1) Large roots hold or anchor trees firmly.  
2) Feeder roots absorb moisture and small amounts of dissolved mineral nutrients from the soil.

15. What is succession?

A. 1) The progressive development of the vegetation toward its highest ecological expression, the climax.

2.) The replacement of one plant community by another.

16. Do trees ever give off carbon dioxide? If so, when?

A. Yes, during respiration in dark periods of the day, and when growth slows down such as in overmature trees.

17. What is ecology?

A. The science of the interrelationships of organisms in and to their entire environment.

18. What is transpiration?

A. The process by which water vapor leaves a living plant in the day time and enters the atmosphere.

19. What is a difference between "deciduous" trees and "evergreens"?

A. Deciduous trees lose all their leaves at one time - evergreens have green leaves all the time.

20. Explain what a deciduous forest is.

A. A forest in which dominant trees shed their leaves and grow new ones during certain seasons of the year.

21. Name 3 things that determine the kinds of trees that grow in a forest.

A. Climate, soil, moisture.

22. What is a coniferous forest?

A. A forest with tree species that are usually evergreen and that bear cones.

23. What is a deciduous forest?  
A. A forest with trees that drop their leaves annually.
24. What is the main cause of forest fires?  
A. Carelessness of humans.
25. When did the first forests develop?  
A. The first forests developed about 365 million years ago, during the Devonian period.
26. What plant is most commonly used to provide relief from poison ivy, oak and sumac?  
A. Jewelweed.
27. What is the blackjack oak said to be a sign of?  
A. Poor soil.
28. What are bacteria?  
A. Very tiny living plants, some of which cause diseases, and others of which are useful.
29. What are plant cells?  
A. Microscopic units containing protoplasmic substances and a nucleus and separated by cell walls consisting of cellulose.
30. What is cellulose?  
A. A fibrous substance made up of carbohydrates (carbon, hydrogen, and oxygen) which forms the cell walls of plants. Common examples of cellulose are cotton fibers and paper made up of tiny matted wood fibers.

31. What is a cotyledon?
- A. One of the first leaves of the embryo plant in a seed. In corn and bean seeds the cotyledons are thickened with a store of food for the young plant.
32. What is erosion?
- A. The mechanical moving of soil, usually downslope, by water or wind.
33. What is ground water?
- A. Water that stands or flows beneath the ground surface in soil or rock material which is thoroughly saturated. The upper surface of this saturated zone is called the water table.
34. What is relative humidity?
- A. The ratio of actual mass of water vapor per unit of volume to mass of water vapor that would saturate that volume at the same temperature and pressure, or roughly the percent saturation of the air space.
35. What is the forest litter layer?
- A. The uppermost layer of the organic debris composed of freshly fallen or slightly decomposed organic materials. Commonly designated by the letter L.
36. What is nitrate?
- A. A type of compound that contains nitrogen. Nitrates are one kind of mineral found in the soil and required by plants.
37. What is precipitation?
- A. Deposits of atmospheric moisture in liquid or solid form, including rain, snow, hail, dew, or frost.

38. What are root hairs? A. Tiny feeder roots which absorb water and nutrients.
39. What is the process by which rock is broken down? A. Weathering.
40. In Kentucky, rock is mostly sandstone and \_\_\_\_\_ . A. Limestone (or shale).
41. What is Kentucky's biome? A. Temperate deciduous forest.
42. What are fungi? A. Non-green plant forms that obtain food by breaking down their host-site with enzymes.

#### GENERAL

1. How many square feet in an acre? A. 43,560 square feet.
2. An instrument for measuring the speed or force of the wind is called . . . A. An anemometer.
3. The layer of wood - including springwood and summerwood is called . . . A. An annual ring.
4. What is the cambium layer? A. One cell's thickness of tissue between the bark and wood that repeatedly divides to form new wood and bark cells.

5. Trees that have leaves instead of needles and often called hardwoods are what?

A. Broadleaf or deciduous trees.

6. What are budscale scars?

A. Scars left where terminal budscales formed, often visible for several years.

7. Name two methods of reproducing trees *artificially*.

A. 1) Cuttings.

2) Budding and grafting.

8. What is a conifer?

A. Trees and shrubs, mostly evergreens, including former (as pines) with true cones and other (as yews) with arellate fruit.

9. What is a cutting?

A. A short piece of vigorous branch or stem of the past season's growth used in artificial reproduction of trees.

10. The head of foliage of a tree or shrub - part of a tree bearing limbs or branches, including twigs, leaves, flowers and fruit is referred to as the \_\_\_\_\_.

A. Crown.

11. The mass of leaves of a plant is referred to as \_\_\_\_\_.

A. Foliage.

12. In the process of grafting, what is a host?

A. The root stock to which the scion is grafted.

13. In the process of grafting, what is a scion?

A. A vigorous twig or cutting grafted to a root stock to artificially reproduce trees.

14. What is grafting?
- A. A method of reproducing a tree by joining the scion from one plant to the root stock of a plant of the same genus called the host tree.
15. The offspring of two different species or genera which often has greater vigor than the parent stock is called \_\_\_\_\_
- A. A hybrid.
16. What is an increment borer?
- A. A tool to determine growth or tree age from a small sample bored from the trunk of trees.
17. What are lateral roots?
- A. Roots of nearly equal size growing from the bottom of the trunk at ground level or just below.
18. Trees with bean-like pods such as black locust belong to a group called \_\_\_\_\_.
- A. Legumes.
19. What are lenticels?
- A. A pore in the stem of woody plants that is the path of exchange of gases between the atmosphere and stem tissue.
20. What is natural reproduction?
- A. The reproduction or growing of trees from seed or roots, without human assistance.
21. What is phloem?
- A. Inner bark, the principal or main tissue which carries food or sugar made in the leaves down to the roots.

22. What is pith?  
A. Small core of soft, spongy tissue at the growth center of the stem.
23. What are resin blisters?  
A. Lumps or blisters of a yellowish to brown natural organic substance formed by plant secretions, usually on conifers.
24. The stage in a tree's growth from germination to the point where it is no more than six feet high and inch in diameter is called a \_\_\_\_\_.  
A. Seedling.
25. What is a species?  
A. Group of organisms having similar characteristics and showing close relationship to each other.
26. What is that part of the annual growth ring formed during the early part of the season's growth called?  
A. Springwood.
27. A new stem growing from a stump or root is called a \_\_\_\_\_.  
A. Sprout.
28. Small openings through which the leaf exchanges gases are called \_\_\_\_\_.  
A. Stomata.
29. To store seeds in layers, alternating with moisture holding materials such as sand, earth or peat is to \_\_\_\_\_.  
A. Stratify.
30. New growth as from buds hidden in the bark and previously shaded by other growth  
A. Sucker.

is called a \_\_\_\_\_.

31. What is the portion of the annual growth ring called which is formed after springwood formation has stopped?

A. Summerwood.

32. What is the deep central or primary root that grows vertically downward called?

A. Tap root.

33. What is the final bud of a branch or stem called?

A. Terminal bud.

34. What are lateral buds?

A. Buds growing below or behind the terminal bud.

35. What is the layering or grouping of branches at the beginning of each year's growth called?

A. Whorl.

36. What is xylem?

A. Inner bark cells that conduct water and nutrients upward and form the strengthening and storage tissues of branches, stems and roots.

37. What is a tree?

A. A woody plant over 20 feet tall with a well-defined crown and commonly a single stem.

38. What is a shrub?

A. A woody plant between 6 and 20 feet tall lacking a well-defined crown, and having few to many stems.

39. What part of the trunk is inactive, because the cells have died, but provides strength to that trunk?  
A. Heartwood.
40. How can the age of a tree be determined?  
A. Count rings on the stump; count rings in the core from an increment borer.
41. What are compound leaves?  
A. A single leaf with many leaflets.
42. What gas is given off by trees in their active growth process?  
A. Oxygen.
43. What is meant by alternate branching or bud arrangement?  
A. Buds or branches grow in staggered intervals along the twig or stem.
44. How do trees provide a cooling effect in the summer?  
A. Shade from sun and evaporation of moisture through the leaves.
45. Why is it warmer in the woods in the winter than in a field?  
A. Trees break up wind patterns, reducing their cooling effect.
46. Where is the food for trees manufactured and what is the process called?  
A. Leaves; photosynthesis.
47. What is the basic function of the outer bark of a tree?  
A. Protection from injuries.
48. Cells are the building blocks of both the xylem and phloem. Where are these cells created?  
A. Cambium.

49. What will happen to a tree if the cambium is destroyed all around the trunk?

A. Death.

50. What is the term which refers to all weather components such as temperature, moisture, wind and evaporation?

A. Climate.

51. What is a climax forest?

A. The stable stage of a tree and plant community which has stabilized its population after all stages of succession; this stage stays the same as long as the climate and soil remain unchanged by nature or people.

52. A tree or tree species which grows better and taller than any other in the stand or forest is referred to as a \_\_\_\_\_.

A. Dominant.

53. Elevation refers to . . .

A. Height above sea level.

54. Trees that need full sunlight to grow well are termed \_\_\_\_\_.

A. Shade intolerant.

55. A substance formed in a living cell that influences the activity of other cells is called \_\_\_\_\_.

A. A hormone.

56. Practices of land management that serve two or more forest values are called \_\_\_\_\_.

A. Multiple use.

57. A forest management practice which

A. Prescribed burning.

uses controlled fires is called \_\_\_\_\_.

58. The beginning of a new tree's life cycle is called \_\_\_\_\_.

A. Regeneration.

59. What is sawtimber?

A. Those trees large enough in diameter (usually >14" dbh) to saw into boards.

60. The portion of water from rain, snow and fog that flows over land and eventually reaches streams is called \_\_\_\_\_.

A. Runoff.

61. What is the term used to describe a group of trees in the same area suitable for the same kind of management?

A. A stand.

62. What is the term for progressive growth of a forested area from pioneer plants to a climax forest?

A. Succession.

63. What is topography?

A. The shape or form of the land surface, changes in elevation.

64. Why would you thin a stand of trees?

A. To remove poor quality and slow-growing trees and allow the most commercially desirable trees more space for their crowns and roots to grow.

65. What two things does planting or seeding do for a present or future forest area?

A. 1) Promotes the most desirable species to be present on the land

2) Assures proper spacing of trees to allow the best growth conditions.

66. Which method of regeneration has the greatest control of numbers of trees in the area?

A. Planting.

67. What is the principal softwood used for lumber in Massachusetts?

A. White pine.

68. What forest industry sponsors the National 4-H Forestry Invitational?

A. International Paper Company.

69. Dendrology is . . .

A. The identification and classification of trees.

70. What are the three major parts of a tree?

A. Crown, trunk, roots.

71. What are the growing parts of a tree?

A. The buds, root tips and cambium.

72. In wood anatomy - what is a ray?

A. A ribbon-shaped strand of tissue formed by the cambium and extending in a radial direction from bark to pith.

73. What is lignin?

A. The non-carbohydrate, structural constituent of wood which encrusts the cell walls and cements them together.

74. What is the Tree Farm System?

A. A national organization which recognizes

landowners who are practicing good forest management, and which provides information and assistance to them.

75. What percent of the earth's surface is covered by trees?

A. One-third of the earth's surface and approximately one-third of the continental United States.

76. Explain what a midrib is.

A. The largest vein in a leaf, usually running lengthwise along the axis from base to tip.

77. What is forest utilization?

A. That branch of forestry concerned with the operation of harvesting and marketing the forest crop and other resources of the forest.

78. What part of a tree carries water and minerals from the roots to the crown?

A. Sapwood and xylem.

79. What is the general formula for photosynthesis?

A. Carbon dioxide + water + chlorophyll + sunlight = glucose + oxygen.

80. What does decidere mean?

A. To fall off.

81. What is a forestry technician?

A. A person who is familiar with the principal field activities connected with the practice of forestry. Usually trained in vocational, technical, or ranger school as distinguished from a professional forestry course at university.

82. What is germination?

A. The process where viable seeds meet

favorable conditions that allow them to burst through their seed coats and grow.

83. What is multiple land use?

A. A term used to indicate the management of timber, wildlife, watersheds and recreation in an integrated, consolidated program.

84. On what continent are maples most abundant?

A. Asia.

85. What is the tool called used in fire fighting that is made from a square of rubber attached to the end of a stick?

A. A flap.

86. What is a forest called from which trees have never been cut?

A. Virgin forest.

87. What is arboriculture?

A. The science and art of growing trees, especially as ornamental or shade trees in an urban environment.

88. What is a section?

A. A unit of land measurement, 640 acres, 1 mile or 80 chains square; 1/36 of a township.

89. What is silvics?

A. The study of life history and general characteristics of forest trees and stands, with particular reference to environmental factors.

90. What is the top layer of a tree's vertical

A. Canopy.

stratification?

91. What is the common name for the leaves of a pine tree? A. Needles.
92. How many species of pines are native to the U.S.? A. 36.
93. What are four things the annual rings of a tree can record? A. 1) age, 2) fire, 3) drought, 4) disease
94. What is the most widely distributed conifer of tree size in the United States? A. Eastern redcedar.
95. What ash is the most widely distributed? A. Green ash.
96. How many species of hickories are there? A. 15.
97. What is the most commercially used hardwood? A. Oak.
98. What is the most commercially used softwood? A. Pine.
99. What is the greatest limitation for growth of urban trees? A. The rooting space.
100. Why are monocultures not a good A. Susceptibility to insect and disease

choice for the urban forest?

problems.

101. Define the term "agroforestry".

A. The intentional integration of agronomic crops, tree crops and/or animals (usually livestock) on the same land area, usually at the same time.

102. What are the five agroforestry techniques?

- A. 1) Alley cropping
- 2) Windbreaks
- 3) Riparian buffer strips
- 4) Silvopasture
- 5) Forest farming

#### TREE IDENTIFICATION

1. Trees which retain their leaves during the winter are referred to as \_\_\_\_\_.

A. Evergreens.

2. What is the scientific genus name for the spruces?

A. Picea.

3. What is the scientific genus name for the pines?

A. Pinus.

4. Sugar maple has how many lobes on its leaves?

A. Five.

5. What is the distinctive shape of a grey birch leaf? A. Triangular.
6. What is the unique branching habit of Norway spruce? A. Lower branches sweep upward.
7. What is a distinguishing feature between red oak and black? A. Black oak has a yellow inner bark, and orange hairs on the backs of leaves.
8. If the male and female flower parts occur in separate flowers on the same tree, the species is called \_\_\_\_\_ . A. Monoecious.
9. Which oak is evergreen? A. Live oak.
10. What is the distinctive bark pattern of sycamore? A. Patchy pattern of brown, green and gray, "camouflage".
11. What is a "knee"? A. A round or spurlike growth rising from the roots of some swamp trees such as bald cypress and water tupelo.
12. Longleaf pine has how many needles in a fascicle (bundle)? A. 3 (sometimes 5).
13. What is the aroma which is an identifying characteristic of black and yellow birch? A. Wintergreen.
14. Pitch pine has how many needles in a A. Three.

fascicle?

15. Gymnosperm is a classification for what type of tree?

A. Conifer.

16. Angiosperm is a classification of what type of tree?

A. Broadleaf.

17. How many needles in a fascicle does a red pine have?

A. Two.

18. Red maple commonly has how many lobes on its leaves?

A. 3 - 5.

19. Mountain, black and white ash all have what kind of leaves?

A. Pinnately compound.

20. Eastern redcedar has a quality which makes it popular for furniture chests. What is it?

A. Strong cedar aroma for clothes protection and a rosy red appearance when finished.

21. Which maple has a very distinctive multi-colored bark?

A. Striped maple.

22. If the male and female flowers of a tree species occur on separate trees, the species is said to be \_\_\_\_\_.

A. Dioecious.

23. How many needles does shortleaf pine have in a fascicle?

A. 2 or 3.

24. What distinguishes the needles of Virginia pine from other pines?  
A. There are two needles, usually small and twisted.
25. Name 5 ways to identify trees.  
A. Leaves, fruits, bark, twigs, growth habit, flowers, wood.
26. Colorado blue spruce can be identified by which distinctive features?  
A. Stiff, sharp, bluish needles.
27. What is distinctive about the shape of a sweetgum leaf?  
A. Star-shaped.
28. Sassafras can be easily identified because of what unique leaf habit?  
A. Three leaf shapes growing on the same tree . . . oval, mitten-shaped or 3-lobed.
29. What is a fascicle?  
A. The grouping of needles on pine.
30. What language is generally used for scientific names of trees?  
A. Latin.
31. What is the distinctive shape of yellow-poplar leaves?  
A. Tulip-shaped, or "topped" maple leaf.
32. What is the major identifying characteristic of Eastern white pine?  
A. Five needles in a fascicle.
33. What rooting habit do pitch pine and ponderosa pine have in common?  
A. Both have a tap root.



42. How are the many species of oaks divided?

A. The red oak and the white oak groups.

43. What is the common name for the flowers of a pussy willow?

A. Catkins.

44. What gave buckeyes their name?

A. The buckeye fruit resembles a buck's eye.

45. The sycamore and the \_\_\_\_\_ have roughly similar fruits.

A. Sweetgum.

46. What name did the native Americans give to paper birch? Why?

A. 1) Canoe birch

2) They made their canoes from it.

47. What kind of arrangement of leaves does the buckeye have?

A. Opposite.

48. Describe two (2) differences of a black locust and a honeylocust.

A. 1) Honeylocust grows much taller than black locust.

2) Honeylocust's thorns are larger.

3) The flowers have different colors.

4) Pod arrangement is different.

5) Honeylocust thorns have three points.

49. Name a tree that is a member of the custard apple family.

A. Pawpaw.

50. What is the best known of our native magnolias? A. Cucumbertree.
51. Name a relative to the shagbark hickory. A. Mockernut, butternut, pignut hickories, pecan.
52. What is the tallest American spruce? A. The Sitka spruce.
53. What is a correct, common name of the "big tree"? A. Giant sequoia or redwood.
54. What is another name for redcedar? A. Juniper.
55. What is the proper name for a pussy willow? A. Glaucous willow.
56. What types of trees are classified under the birch family? A. Birches, hornbeams, alders.
57. Give an example of a tree seed that has wings. A. Elm, pine, maple, ash, basswood.
58. What is it called when you have one leaf to a stem? A. Simple.
59. What is the state tree of Ohio? A. Ohio buckeye.
60. List four trees that have no commercial value. A. Eastern hophornbeam, hornbeam, umbrella magnolia, eastern redbud.

61. How many needles are on a shortleaf pine fascicle? A. 2 or 3.
62. What five groups of trees have opposite branching? A. Maples, ashes, dogwoods, buckeye/horsechestnut, paulownia.
63. What is the common name for genus Quercus? A. Oak.
64. What are the 3 most important ashes? A. White, black, and green.
65. How many leaflets does each leaf have on an ash? A. 3-11.
66. How tall can yellow-poplars get? A. 200 feet.
67. What family does the hickory belong to? A. Walnut.
68. What family is the boxelder classified in? A. Maple.
69. What is a bract? A. Modified leaf attached to a flower.

#### INSECTS AND DISEASES

1. Long leaf pine may go through what is commonly called a "grass stage". What causes this condition? A. Brown spot fungus.

2. Spruce budworm overwinters in what stage? A. Larvae.
3. The southern pine beetle overwinters in what stage? A. Adult.
4. What are the primary hosts of the spiny elm caterpillar? A. Elm, willow.
5. The primary host of the various conifer sawflies is? A. Pines.
6. Ips bark beetles attack which species? A. Pines, spruces.
7. Which two insects produce webs or tents which can be seen on branches of trees? A. Eastern tent caterpillar, fall webworm.
8. What is the primary host of eastern tent caterpillar? A. Wild cherry.
9. What is the sign or indicator of black turpentine beetle presence? A. Whitish to reddish pitch tubes on bark surface of infected trees.
10. Hemlock looper feeds upon hemlock and other species. What are the other primary species? A. Balsam fir and white spruce.
11. The European elm bark beetle feeds during two stages of its life cycle. What are the two stages and where does each one A. Adult - crotches of branches and twigs; larval - inner bark.

feed?

12. What is a parasitic plant?

A. A plant that lives in or on another living organism of a different kind (host) and derives substance from it without returning any benefit.

13. What is a saprophyte?

A. A plant organism that cannot synthesize its nutrient requirements from purely inorganic sources, and feeds on dead organic material, assisting in its decay.

14. Name a parasitic plant.

A. Mistletoe.

15. Name 4 species of trees that white pine weevil attacks.

A. Eastern white pine, Norway spruce, blue spruce, Scotch pine, mugo pine, red pine, jack pine and red spruce.

16. How can you identify the tent of eastern tent caterpillar versus the tent of fall webworm?

A. 1) Tent is in the crotch of the tree; webworm is in branch tips.

2) Eastern tent caterpillar appears in spring; fall webworm appears in fall.

17. The native elm bark beetle, while a vector for Dutch elm disease, is not as significant in the U.S. as what other country?

A. Canada.

18. In what stages do black turpentine beetles injure trees?

A. Larval and adult.

19. What are the injurious stages of the western pine beetle? A. Larval and adult.
20. White pine weevil overwinters in what stage of life? A. Adult.
21. What is a gall? A. A pronounced, localized swelling or greatly modified structure which occurs on plants from irritation by a foreign organism.
22. The Ips bark beetle overwinters in what stage? A. Adult.
23. Conifer sawflies overwinter in what stages? A. Larval.
24. What is a symptom of conifer sawfly attack? A. A group of larvae clustered around defoliated twigs.
25. The spiny elm caterpillar overwinters in what stage? A. Adult.
26. What is the primary host of the spruce budworm? A. Balsam fir.
27. What is the injurious stage of the spruce budworm? A. Larval.
28. Why should gooseberry bushes be destroyed? A. Because they are the alternate host for white pine blister rust.

29. Which stage of the gypsy moth life cycle is the damaging one? A. Larval.
30. What kind of damage is produced by spruce gall aphid? A. Cone-like galls.
31. Cooley spruce gall aphid has alternate hosts. What are they? A. Colorado blue spruce and Douglas-fir.
32. What secondary damage can result from heavy sawfly defoliation? A. Attack by bark beetles or other borers.
33. What is the sign or symptom of spiny elm caterpillar? A. Single limb defoliation.
34. An indicator or sign of Ips bark beetle's presence is . . . A. Yellowish to reddish boring dust in bark crevices or small piles of dust around entrance holes.
35. What is an aphid? A. A plant louse, a very small sap-sucking insect that lives on leaves or new stems of plants.
36. What are the primary hosts of western pine beetles? A. Ponderosa and coulter pines.
37. Why should cedars be removed from apple growing regions? A. Because they are the alternate host for cedar apple rust.
38. White pine weevil will damage what part A. Terminal leaders.

of a tree?

39. Where does the bacteria that causes verticillium wilt come from?

A. Soil particles.

40. The European elm bark beetle is the principal vector of Dutch elm disease. How is the disease transmitted by this insect?

A. Adults feed in the crotches of twigs, usually in the outer perimeter of the crown.

41. What damage is caused by conifer sawflies?

A. Partial to complete defoliation.

42. What is the injurious stage in the life cycle of the spiny elm caterpillar?

A. Larval.

43. How are nests of spruce budworm formed?

A. Tying together two or more twigs.

44. Forest entomology is . . .

A. The science of insects and their relation to forests and forest products.

45. Forest pathology is . . .

A. The science that pertains to diseases of forest trees or stands and the deterioration of forest products by organisms.

46. The white pine cone beetle is injurious in two stages of the life cycle. What are the stages and what is the resulting damage?

A. Larvae feed on seed or tissue until full grown. Adults bore into stems of young cones to lay eggs.

47. How do larvae of black turpentine beetle

A. Feed on phloem, excavating large

damage their host?

cavernous galleries.

48. What is a conk?

A. A definite, individual, woody, spore-bearing fruiting body of a wood-destroying fungus, which projects beyond the bark.

49. Diseases kill more trees than forest fires - true or false?

A. False.

50. What insect is reported to be the most serious pest to hickory in the United States?

A. Hickory bark beetle.

51. What insect is the most costly to the pine industry in the south?

A. Southern pine beetle.

52. Where does the pitch-eating weevil breed?

A. In freshly cut pine stumps.

53. How is nectria canker identified?

A. By the target-shaped openings or scars.

54. What is the scientific name for red heart fungus?

A. Fomes pini.

55. What is the most preferred host species for the gypsy moth?

A. Oaks.

56. Can trees infested by the southern pine beetle be saved?

A. No.

57. How do tree crickets injure tree twigs? A. By laying eggs in them.
58. What does the insect order Diptera mean? A. 2 wings.
59. What is the difference between infectious and noninfectious diseases? A. Noninfectious or physiological diseases are caused by unfavorable environmental factors whereas infectious diseases are caused by organisms.
60. What disease has wiped out many of the American elms? A. Dutch elm disease.

#### TREE MEASUREMENT

1. What is a Biltmore Stick? A. A tool to measure the diameter, height and volume of standing trees.
2. What is the most accurate tree volume measure? A. 1/4" International Rule.
3. How is firewood measured? A. Cord.
4. When pine trees are pruned, what is the recommended height? A. 17 feet.
5. Volume in timber trees is established in log lengths. How long is that log? A. 16 feet.

6. If a standard cord contains 128 cu. ft., what are its dimensions? A. 4' x 4' x 8'.
7. A chain is a metal tape which foresters use to measure distance. How long is a chain? A. 66 feet.
8. What tree measurement can be made with an Abney Hand Level? A. Tree height.
9. What are the measurements of a board foot? A. 1' x 1' x 1".
10. What is D.B.H. and at what height is it measured? A. Diameter Breast Height; 4.5'.
11. What is forest mensuration? A. The measurement of standing timber or logs cut from it.
12. What do the Doyle, Scribner and International Rules refer to? A. Merchantable volume of standing lumber.
13. What are tree calipers? A. An instrument used to measure diameters of trees or logs. It consists of a graduated rule with two arms, one fixed at right angles to one end of the rule, the other sliding parallel to the fixed arm.
14. Name three instruments for measuring tree diameter. A. Biltmore stick, diameter tape, and calipers.

1. What is a forest?  
A. A community of plants and animals in which trees are the dominant species.
2. Define the term bole.  
A. The trunk of a tree.
3. What does T.S.I. mean?  
A. Timber Stand Improvement.
4. What is the overstory?  
A. That portion of the trees in a stand forming the upper crown cover.
5. What is pitch?  
A. The resin occurring in the wood of certain conifers.
6. What is duff?  
A. Forest litter and organic debris in various stages of decomposition on top of the mineral soil. Typical of coniferous forests in cool climates.
7. What is humus?  
A. The plant and animal residues of the soil which are undergoing decomposition.
8. What is spot seeding?  
A. Planting specific numbers of seed in spots at regular intervals in the desired area.
9. What is broadcast seeding?  
A. Scattering seed randomly.
10. What is direct seeding?  
A. The sowing of seed on an area where trees are desired.

11. Of the trees named, which is not a pioneer species: aspen, grey birch and white oak?

A. White oak.

12. What do you do when you transplant?

A. 1) Replant a nursery seeding in another part of the nursery for further development.

2) Move a plant from one location to another.

13. What is a blaze on a tree?

A. A mark cut on a standing tree to call special attention to the tree.

14. Forest soils in the northeast are commonly basic or acidic?

A. Acidic.

15. Name 3 examples of naval stores.

A. Tar, pitch, turpentine, pine oil and resin.

16. What does wind-firm mean?

A. Able to withstand heavy wind.

17. Name two vines that cause damage to trees.

A. Grape, kudzu, honeysuckle.

18. What is a wolf tree?

A. Abnormally large, low commercial value tree taking up more space than its value warrants.

19. What is considered the most disastrous enemy of the forest as noted in the handbook?

A. Wildfire.

20. What is old growth? A. Forests with trees over 100 years old.
21. What is a browse line? A. The height to which a grazing animal (e.g. deer) can reach.
22. Name a deciduous conifer. A. Bald cypress, larch, tamarack.
23. What are suppressed trees? A. Trees of species that could be in the canopy but which grow in the understory with reduced light.
24. What is a codominant tree? A. Shares canopy of forest with other trees.
25. What are pioneer species? A. The first tree species to grow in succession from a meadow or other treeless area.
26. What is a sucker? A. A shoot from the lower portion of a stem - especially from the root.
27. What is rot? A. Wood in a state of decay.
28. What is a plant habitat? A. The site where a plant naturally lives or grows.
29. What two factors slow down the cell division in the cambium during the course of the growing season? A. Lack of moisture; hot temperatures.

30. What is a prescribed burn?
- A. Burning used as a forestry tool to manipulate vegetation and prevent fuel accumulation.
31. What are the 3 sources from which a stand of trees may originate?
- A. Buried seed, sprout or coppice, planted seed or seedling.
32. What makes eastern larch different from other conifers?
- A. It loses its needles in the fall.
33. What is uneven-aged?
- A. A term applied to a stand in which there are considerable differences in age of trees and in which three or more age classes are represented.
34. Why is it important to estimate the annual growth of timber stands?
- A. To determine if the stand is growing timber at its optimal rate and to determine the amount of timber available for harvesting.
35. What is the distinctive branching habit of black gum or tupelo?
- A. Branches grow at right angles from the trunk.
36. What is a simple test to determine if a cone is ripe?
- A. Place in container of SAE 20 oil; if ripe, the cone will float.
37. What are red knots?
- A. Knots in pine lumber resulting from live branches; usually tight and sound.
38. What are black knots?
- A. Knots in pine lumber resulting from dead branches; often loose.

39. How can brown spot in longleaf pine be controlled economically?

A. Prescribed burning.

40. The process of gathering information about timber volume, growth, and other factors used to make decisions about the forest is called . . .

A. Cruising timber.

41. A tree leader is . . .

A. The primary or terminal shoot above the topmost whorl.

42. What are two differences between the red oak group and the white oak group?

A. Red oaks have bristle-tipped leaves and the acorns mature in two years; white oaks have rounded lobe leaves and the acorns mature in one year.

43. What is shelterwood cutting?

A. 1/4 to 1/2 of the trees are harvested at one time. Remaining trees serve as seed source and shelter for young seedlings.

44. What is a weed tree?

A. A tree of a species with relatively little or no commercial value.

45. What is a sanitation cutting?

A. Removal of diseased, insect-infested, or damaged trees from a stand.

46. What percentage of the types of oak trees bear acorns?

A. 100 percent.

47. Name two ways of harvesting timber.

A. Clearcutting, seed tree cutting, coppicing, shelterwood cutting, and selection cutting.

48. What is silviculture?
- A. The science of growing and harvesting trees in accordance with owner objectives.
49. What is clearcutting?
- A. A harvesting method which removes all of the merchantable trees in an area.
50. What is slit planting?
- A. A rapid method of planting using a special tool called a planting bar.
51. What are the 4 crown classes of trees?
- A. Dominant, co-dominant, intermediate, suppressed.
52. "Cut the best and leave the rest" is commonly called what?
- A. High grading.
53. How many cubic feet in a cord of wood?
- A. 128 cubic feet.
54. What does the term merchantable height mean?
- A. The length of the tree stem from the top of a 1-foot stump to the top end of the last tree section considered merchantable (4-6" in diameter, depending on species).
55. What is a residual stand?
- A. The portion of trees left after any partial harvest.
56. What is stocking in a forest?
- A. The coverage of an area with trees. Can be classified as over-, under- or optimal.
57. What does harvest mean in forestry?
- A. The removal of marketable timber products from the forest.

58. What are the three major methods for reforestation?
- A. Natural seeding, seeding with collected seed, planting with seedlings or cuttings.
59. What are the most common timber stand improvement practices?
- A. Weeding, thinning, and sanitation cuttings.
60. What is rotation age?
- A. The age at which the stand is considered ready for harvesting under the adopted plan of management.
61. What is an alidade?
- A. An instrument used in fire towers to locate forest fires. The alidade is equipped with sights for determining direction of fire.
62. What is an all-aged stand?
- A. Applied to a stand in which, theoretically, trees of all ages up to and including those of harvestable age are found.
63. What is an allowable cut?
- A. The volume of timber which may be cut from a forest under optimum sustained-yield management.
64. What is aspect?
- A. The direction toward which a slope faces; exposure; direction water flows on slope.
65. What is azimuth?
- A. Distance in degrees in a clockwise direction from the north point of a compass.
66. What is a back fire?
- A. A fire intentionally set along the inner edge of a control line located ahead of an advancing fire. The back fire is set against the fire to be fought, so that when the two

fires meet, both go out.

67. What is "bearing" (of a line)?

A. The direction or course of a line in relation to the cardinal points of the compass.

68. What is a burl?

A. A hard, woody growth on a tree trunk or on roots, more or less rounded in form. It is usually the result of entwined growth of a cluster of buds. In lumber, a burl produces a distorted and unusual (but often attractive) grain.

69. What is age class?

A. One of the intervals (usually 10 years) into which the range of ages of forest vegetation is divided for classification and use.

70. What is a closed crown?

A. A forest canopy which has 100% cover and largely excludes sunlight.

71. What is contour planting?

A. Planting so that the rows run around the hill or slope on the same level, rather than up and downhill.

72. What is an increment core?

A. A slender cylinder of wood taken from a tree by an increment borer. Growth rings are counted on such cores to determine rate of tree growth.

73. What are crop trees?

A. Trees which are designated to make up the final or rotation timber crop.

74. What is a crown fire?  
A. A forest fire which extends to and sweeps along in the tops and branches of trees.
75. What is an improvement cutting?  
A. A cutting made in a stand grown past the sapling stage for the purpose of improving its composition and character by removing trees of less commercially desirable species, form, and condition in the main crown canopy.
76. What is crown density?  
A. The compactness of the crown cover of the forest, dependent upon a) the distance apart and b) the compactness of the individual crowns. A loose term combining the meanings of crown closure and shade density.
77. What is a dibble?  
A. A tool used in planting tree seedlings; a planting bar.
78. What is even-aged?  
A. A term applied to a stand in which relatively small age differences exist between individual trees. The maximum difference in age permitted in an even-aged stand is usually 10 to 20 years, although where the stand will not be harvested until it is 100 to 200 years old, larger differences, up to 25 percent of the rotation age, may be allowed.
79. What is meant by exotic?  
A. Not native; foreign. Of trees and plants, those introduced from other climates or countries.
80. What is a surface fire?  
A. A fire which runs over the forest floor and

burns only the surface litter, the loose debris, and the smaller vegetation. Ground fire is another similar term.

81. What is a firebreak?

A. An existing barrier, or one constructed before a fire occurs, from which all or most of the inflammable materials have been removed; designed to stop or check creeping or running but not spotting fires, or to serve as a line from which to work and facilitate the movement of firefighters and equipment in fire suppression. A fire line.

82. What is meant by "girdling" a tree?

A. Encircling the stem of a living tree with cuts that completely sever bark and cambium, and often are carried well into the outer sapwood for the purpose of killing the tree by preventing the passage of nutrients or by admitting toxic materials.

83. What is meant by "heeling in"?

A. Covering roots of trees or plants with moist earth in a shallow trench or ditch.

84. What is incendiarism?

A. Malicious setting of fires, arson.

85. What is indigenous?

A. Native to the locality.

86. What is a lookout?

A. A station or post used primarily in the detection of fires. A permanent lookout is generally equipped with a lookout tower or structure.

87. What is timber marking?

A. Selecting and indicating, usually by blaze

or paint spot, trees to be cut in a harvesting operation.

88. What is maturity?

A. For a given species or stand, the approximate age beyond which growth declines or decay begins to increase at a rate likely to assume economic importance.

89. What is a node?

A. A place on the stem where a leaf or bud grows; a joint in a stem.

90. What is a normal forest?

A. One in which growing stock is so distributed by size and age classes as to provide a sustained yield of nearly equal annual volumes through growth.

91. What is normal growing stock?

A. The maximum volume which any given site is capable of maintaining in relation to economic conditions and the desires of the operator.

92. What is old growth?

A. Timber stand in which no cutting has been done. Synonyms: first-growth timber, virgin timber.

93. What is a petiole?

A. A leafstalk; the slender stalk by which the blade of a leaf is attached to the stem.

94. What is a pistil?

A. The female part of the flower which receives the pollen and becomes the fruit.

95. What is a management plan?

A. A written plan for the operation of a

forest property, using forestry principles. It usually records data and prescribes measures designed to provide optimum use of all forest resources.

96. What is pollen?

A. The fertilizing dustlike powder produced by stamens; functionally the same as the male sperm in animal reproduction.

97. What is pruning?

A. The removal of live or dead branches from standing trees. This may be done artificially or naturally. Natural pruning results from such causes as decay, snow, ice, deficiency of light, etc.

98. What is public domain?

A. Territory over which a commonwealth has dominion or control; used in connection with the land owned by the federal government.

99. What is a ranger?

A. An administrative officer in charge of a unit of forest land, usually a subdivision of a public forest or park. Various classifications are recognized, as forest ranger, district ranger, park ranger, and county ranger.

100. What is release cutting?

A. A cutting of larger individual trees that are over-topping young trees, for the purpose of freeing the young trees to permit them to grow.

101. What is resistance?

A. The ability of a plant to develop and function normally despite adverse environmental conditions or the attacks of disease or insects.

102. What is restocking?
- A. Applied to an area on which the forest is being re-established by natural means.
103. What is rosin?
- A. A hard, brittle, natural resin obtained from the oleoresin exudate of certain trees. Rosin is a particular kind of resin. Rosin is obtained either from gum that exudes from the living pine tree or from wood by extraction. Wood rosin and gum rosin are kinds of resin.
104. What is a sapling?
- A. A young tree less than 4" d.b.h. The minimum size of saplings is usually, though not invariably, placed at 2" d.b.h.
105. What is scarification?
- A. Tearing up the earth by disking or dragging to prepare for seeding.
106. What is fire season?
- A. The period or periods of the year during which fires are likely to occur, spread, and to do sufficient damage or otherwise warrant organized fire control.
107. What is second growth?
- A. Timber growth which comes up after removal of the old stand by cutting, fire, or other cause. Typical second growth conditions may come about in a forest that is untouched so far as lumbering is concerned.
108. What is a seed tree harvest?
- A. Usually less than 10% of trees left as a residual stand after harvesting to provide seed for the next generation of trees.

109. What is a shelterbelt?
- A. A wind barrier of living trees and shrubs maintained for the purpose of protecting farm fields. As applied to individuals farmsteads, termed windbreak; also called belt.
110. What is site?
- A. An area's ecological factors considered with reference to its capacity to produce forests or other vegetation: the combination of biotic, climatic, and soil condition of an area.
111. What is a smokechaser?
- A. A member of a fire-fighting crew.
112. What is a snag?
- A. A standing, dead tree from which the leaves and most of the branches have fallen, or a standing section of the stem of a tree broken off at a height of 20 feet or more. If less than 20 feet high, it is properly termed a stub.
113. What is a pure stand?
- A. A stand in which more than 75 percent of the trees in the main crown canopy are of a single species.
114. What is growing stock?
- A. The sum (in number and volume) of all the trees in a forest.
115. What is a strip survey?
- A. Estimating timber by measuring trees in strips placed through the stand.
116. What is a forest survey?
- A. An inventory of forest land to determine area, condition, timber volume, and species

for specific purposes such as timber purchase, forest management, or as a basis for forest policies and programs.

117. What is a volume table?

A. A table showing the average contents of trees by diameter and merchantable length, in a specified unit of volume.

118. What is thinning?

A. Cutting in an immature stand to increase its rate of growth, to foster quality growth, to improve composition, to promote sanitation, to aid in litter decomposition, to obtain greater total yield, and to recover and use material that would be lost otherwise.

119. What is a trainer?

A. A tree intermediate in size which shades lower branches of adjacent larger trees.

120. What is a forest type?

A. A descriptive term used to group stands of similar character as regards composition and development due to certain ecological factors, by which they may be differentiated from other groups of stands.

121. What is a seed year?

A. A year in which a given species produces (over a considerable area) a seed crop greatly in excess of the normal. Applied usually to trees of irregular or infrequent seed production.

122. What is sustained yield?

A. As applied to a policy, method, or plan of forest management, the term implies continuous production with the aim of achieving, at the earliest practicable time, an approximate balance between net growth

and harvest, either by annual or somewhat longer periods.

123. Are trees in an even-aged stand more uniform in circumference, diameter, site index, or height?

A. Height.

124. What is the most critical factor in competition among the individual trees in a stand?

A. Height growth.

125. What specific crown classes must be removed in order to stimulate growth of the leave trees?

A. Codominants and intermediates.

126. From what crown classes are the trees removed in a low thinning?

A. Intermediate and suppressed.

127. What is the one kind of wood that is of low utility for almost all purposes?

A. Juvenile wood.

128. What is the most serious drawback from low thinnings?

A. The small trees removed are difficult to sell.

129. Why do stands that are very dense produce less total wood volume than those intermediate stand densities?

A. Too suppressed (too much competition to grow properly).

130. What kind of stem form develops in many hardwood species when they grow in the lower crown positions?

A. Deformed, shortened boles.

131. Give a favorable result on the crop trees which can occur in a dense, competitive stand.

A. Higher proportion of clear lumber due to natural pruning, or straighter, more cylindrical stems.

132. What is advanced reproduction?

A. Reproduction appearing before any measures to establish new growth.

133. Why should openings in the canopy that occur after a thinning be kept small in most cases?

A. 1) To keep the understory from growing too rapidly.

2) To reduce breakage or windthrow from high winds.

134. Thinning usually encourages the growth of what category of trees?

A. The leading (dominant) trees.

135. The strength and specific gravity of wood is relative to?

A. The proportion of early and late wood in an annual ring.

136. What is usually the most difficult step in silviculture?

A. Regeneration.

137. In what form are logs when sold for the stumpage price?

A. Standing trees.

138. In what stage of natural plant succession are the more valuable commercial species usually found?

A. Climax.

139. Regulating the composition of species to improve quality of a very young stand is called \_\_\_\_\_.

A. Release.

140. The percent length of a tree stem containing living branches is referred to as

A. The live crown ratio.

141. Does the crown or the roots of a tree expand more rapidly after thinning?

A. Roots.

142. Why do stands that are very open produce less total wood volume than those intermediate stand densities?

A. Too limby.

## UTILIZATION

1. What is meant by defect?

A. Any imperfection in a tree or tree product which reduces its volume, durability, strength or value.

2. What is bucking?

A. Limbing and cutting the tree stem into log or bolt lengths.

3. What is "shake"?

A. A lengthwise separation of wood which usually occurs between and parallel to the growth layers.

4. What is a choker cable?

A. A cable which is attached to logs in order to pull them out of the woods.

5. What sweet forest product is Vermont famous for?

A. Maple syrup/sugar.

6. What are two types of saws used to convert logs to lumber in a sawmill?

A. Circular saw and band saw.

7. What is a preservative?
- A. A chemical substance which, when suitably applied to wood, makes it resistant to attack by fungi, insects, or marine borers.
8. What causes shrinkage in wood products?
- A. Drying them below the fiber saturation point.
9. What is slash?
- A. Branches, bark, tops, chunks, cull logs, uprooted stumps, and broken or uprooted trees left on the ground after logging; also, a large accumulation of debris after wind or fire.
10. What is the function of a cutoff saw in a sawmill?
- A. A saw which is used to standardize length of lumber and often improve the quality of the boards.
11. What is meant by the term "kerf"?
- A. The narrow slot cut by a saw advancing through wood.
12. What is felling?
- A. The act of cutting or severing the tree from the stump.
13. What is veneer?
- A. A thin sheet of wood of uniform thickness produced by peeling, slicing, or sawing logs, bolts and flitches.
14. What are the two most important uses for the nation's timber?
- A. Sawlogs - 51%; Pulpwood - 32%.
15. What is a tree skidder?
- A. A rubber-tired machine used for dragging trees (log length) out of the woods.

16. Of what significance was the king's broad arrow on a tree?

A. In colonial times it signified that the tree was the property of the king of England and that death would befall anyone taking such a tree.

17. What is a widowmaker?

A. A limb or branch caught in a tree and which could fall on a forest worker or logger.

18. What is a dry kiln?

A. An oven type structure used for drying wood.

19. What is wood?

A. The lignified water-conducting, strengthening, and storing tissue of branches, stems and roots.

20. What do you do when you season lumber?

A. Dry lumber either in the open or in a dry kiln.

21. What size trees are considered saw timber?

A. 12" plus in diameter (dbh).

22. What is done at the green chain in a sawmill?

A. Lumber is sorted and stacked. In some cases lumber is also graded there.

23. What size are pole timber trees?

A. 6-12" or more dbh.

24. What is a tote road?

A. A term used for smaller logging roads in some parts of the country.

25. What is sweep?  
A. A gradual bend in a log, pole or piling - considered a defect.
26. What is a slab?  
A. The exterior portion of a log removed in sawing timber.
27. What is wedging?  
A. In logging, to drive a wedge into the sawcut to prevent the saw from binding and to direct the fall of the tree.
28. Name 4 commercial byproducts from wood.  
A. Vitamins, plastics, explosives, photographic film, toothpaste, pharmaceuticals, naval stores.
29. What is a liquid product of wood that is used in mixing paints?  
A. Turpentine.
30. What percent of the land area in Kentucky is commercial forest?  
A. About 50%.
31. What are the 4 species of trees most used for pulp products?  
A. Pine, spruce, hemlock, fir.
32. What is the most important eastern hardwood timber tree species used for cooperage?  
A. White oak.
33. Name a use for the red mulberry.  
A. Fence posts.
34. What is pulpwood?  
A. Wood which is made into paper.

35. What is an access road?
- A. A road built into isolated stands of commercial timber so they can be reached by loggers, fire fighters, and others.
36. What is a barber chair?
- A. In logger's slang, a stump which leaves standing a slab that splintered off the tree as it fell. Generally, it indicates careless felling.
37. What is the abbreviation for thousand board feet?
- A. MBF.
38. What are bolts?
- A. Small logs or sections of larger logs that have been split. A bolt is usually less than 4½ feet long.
39. What is a butt?
- A. Base of tree or lower end of log.
40. What is a catface?
- A. A scar on the surface of a log, generally elliptical in shape, resulting from wounds which have not healed over; also, a fire scar at the base of a tree.
41. What is a corduroy road?
- A. A road built of logs or poles laid side by side perpendicular to the direction of the road, usually in low or swampy places.
42. What is crosshaul?
- A. A method of loading log-transportation vehicles. One end of a line is passed over the load, around the log to be loaded, and made fast to the load. Power applied to the other end of the line imparts a rolling motion to the log.

43. What is a "cut"?
- A. The yield, during a specified period, of products that are cut, as of grain, timber, or, in sawmilling, timber.
44. What is a cutting cycle?
- A. The planned interval between major felling operations in the same stand.
45. What is a log deck?
- A. A pile of logs or a rollway where material is collected in preparation for being hauled away to the mills.
46. What is a log drive?
- A. Logs or timbers that are floated on water from the forest to a mill or shipping point.
47. What is a go-devil?
- A. A small, short sled (scoot) without a tongue, used in skidding logs.
48. What is hot-logging?
- A. A logging operation in which logs go from the stump to the mill without pause.
49. What is integrated logging?
- A. A method of logging designed to make the best use of all timber products. It removes in one cutting all timber that should be cut, and distributes the various timber products to the industries that can use them to best advantage.
50. What does it mean to "log"?
- A. To cut and remove logs from an area.
51. What is a logger?
- A. 1) A person who is engaged in logging operations, 2) locally, a person who hauls logs to landings and skidways.

52. What is a lumberjack?  
A. One works on logging operations; colloquial term for a male logger.
53. What does it mean to "notch"?  
A. To cut a notch in a tree before felling it to prevent splitting and binding and to control the direction of fall.
54. What is overrun?  
A. The excess of the amount of lumber actually sawed from logs over the estimated volume or log scale, usually expressed in percent of log scale.
55. What is a peavey?  
A. A stout wood lever for rolling logs. A curved metal hook is hinged to the lower part of the handle, and the tip is armed with a sharp steel spike.
56. What is a peeler?  
A. 1) Usually one who removes bark from timber cut in the spring months when bark slips; 2) a log used in the manufacture of rotary-cut veneer.
57. What is a skidway?  
A. Two skids laid parallel at right angles to a road, usually raised above the ground at the end nearest the road. As they are brought from the stump, logs are usually piled upon a skidway for loading upon sleds, wagons, or cars.
58. What is a spud?  
A. A hand tool used in stripping bark from felled trees.
59. How many pounds of paper does a  
A. 600 pounds.

person use in a year?

### FORESTRY BOWL REFERENCES

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