FORESTRY- PARTICIPANT RESPONSE SHEET
MENTOR (OHIO) INVITATIONAL 2005

SCHOOL_____**TEAM #** _____

NAMES _____ **AND** _____

STATION #1

1. _____

2. _____ and _____

3. _____

STATION #2

4. _____ ***5.*** _____ ***6.*** _____ ***7.*** _____

8. _____

9. _____

STATION #3

10. _____

11. _____

12. _____

STATION #4

13. _____ ***14.*** _____ ***15.*** _____ ***16.*** _____ ***17.*** _____ ***18.*** _____

STATION #5

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

STATION #6

25. _____

26. _____

27. _____

28. _____

29. _____

STATION #7

30. _____

31. _____

32. _____

33. _____

34. _____

STATION #8

35. _____

36. _____

37. _____

38. _____

39. _____

STATION #9

40. _____

41. _____

42. _____

43. _____

44. _____

45. _____

STATION #10

46 . _____

47. _____ ***48.*** _____

STATION #11

49. _____ ***50.*** _____ ***51.*** _____ ***52.*** _____ ***53.*** _____ ***54.*** _____

55. _____

56. _____

STATION #12

57. _____

58. _____

59. _____

60. _____

61. _____

STATION # 13

62. _____

63. _____

64 _____

65_____

STATION # 14

66. _____

67. _____

68. _____

69. _____

STATION #15

70. _____

71. _____

72. _____

73. _____

STATION # 16

74. _____

75. _____

76. _____

77. _____

STATION #17

78. _____

79. _____

80. _____ ***81.*** _____ ***82.*** _____ ***83.*** _____

84. _____

STATION # 18

85. _____

86. _____

87. _____

88. _____

STATION #19

89. _____

90. _____

91. _____

92. _____

93. _____

STATION #20

94. _____ ***95.*** _____ ***96.*** _____ ***97.*** _____ ***98.*** _____ ***99.*** _____

100. _____

All photos are taken from the Virginia Tech Dendrology site:

http://www.cnr.vt.edu/dendro/dendrology/main.htm

STATION #1

1. Identify the tree from which this cone was taken by genus and species.

2. What are two common names for this tree?

3. How did the Native Americans use this tree?

STATION #2

Match the leaf of each of these trees with the seeds or fruit they produce.


leaf #4


leaf #5


leaf #6


leaf #7


A


B


C


D

8. How do you distinguish the tree from which leaf #4 came from the tree from which leaf #5 came?

9. Name an obvious way that tree #6 differs from the others?

STATION #3

10. Identify the tree from which this twig was taken by genus and species.

11. After what is the tree's genus named?

12. What is the habitat of this tree?
    a. Alluvial flats and lower slopes (elevations sea level to 3000ft) not adjacent to the ocean.
    b. In montane coniferous forests in the Sierra Nevada at elevations from 2700 ft to 8800 ft.
    c. Dry slopes and canyons at elevations of 2000 ft to 6000 ft.
    d. In montane coniferous forests, woodlands and chaparrals throughout much of western North America at elevations of 500ft to 9500 ft.

STATION #4

Match the term with its proper definition:

13. Pome	a. a pulpy indehiscent developed from a single pistil containing one or more seed but no true stone.
14. Drupe	b. has a single seed with a flat, dry wing.
15. Berry	c. single seed with a hard shell
16. Legume	d. a fleshy, usually one-seeded indehiscent fruit with the seed enclosed in a hard, bony endocarp.
17. Key	e. many seeded fruit of the apple family consisting 1of an enlarged, fleshy receptacle surrounding the pericarp.
18. Nut	f. dry dehiscent, one celled fruit developed from a 4 simple superior ovary and usually splitting into two equal parts

STATION #5

19. Identify the tree from which this fruit was taken by genus and species.

20. What is the family to which this species belongs?

21. This tree is native to _____?

22. What is unique about each leaflet?

23. Why is it planted in cities?

24. What is characteristic of the male flowers?

STATION #6

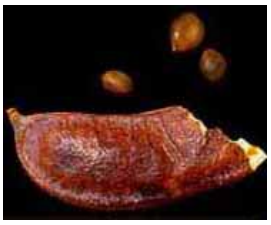
25. Identify this leaf by genus and species.

26. Which of these fruits belong to this tree?
(answer with the letter of the specimen “a”, “b”, “c”, “d”, or “e”)


fruit a


fruit b


fruit c


fruit d


fruit e

27. How is the bark of this tree distinctive?

28. How do cultivated varieties of this species differ from the most common form of this tree?

29. Livestock and wildlife find what part of this tree a favorite food?

STATION #7

30. Identify the tree from which this specimen was taken by genus and species.

31. Describe the edges of these leaves?

32. What is the habitat of this species?

33. The American Indian word *pawcohiccora* referred to what?

34. How is the bark of this tree distinctive?

STATION #8

35. Identify the tree from which this specimen was taken by genus and species.

36. This tree is native to _____?

37. What is the habitat of this tree?

38. How is this tree used?

39. What useful product is distilled from the leaves of this tree?

STATION # 9

40. Identify the tree from which this specimen was taken by genus and species

41. Describe the leaf edge (or margin) of this specimen.

42. The object marked letter “A” (the object at the top right in the twig photo) is best described as a

    a. catkin b. cone-like cluster
    c. samara d. calyx

43. The objects marked letter “B” are____?

44. What is a use for the wood of this tree?

45. This pioneer tree is also referred to as a “Nurse” tree. Why?

STATION #10

46. Identify the tree from which this gymnosperm's twig was taken by genus and species. (TB #1)

47. Match this tree to its form.

a.

b.

c.

d.

STATION #10 continued

48. What is the habitat of this tree?

a. a lawn or street tree, in humid temperate regions.
b. moist alluvial soils of lowlands, chiefly flood plains or bottomlands of streams.
c. Moist soils in understory of upland hardwood forests.
d. Moist soils of river flood plains in mixed forests; sometimes on dry upland limestone hills; also in waste places.
e. In nearly pure stands in poorly drained, wet sites, including clay soils on level wetlands.

STATION #11

49-52. Match the leaf margin diagram to its appropriate name.

49. Leaf A

50. Leaf B

51. Leaf C

52. Leaf D

53. Leaf E

54. Leaf F

Answer choices

A. Crenate	D. Double Serrate	G. Lobed
B. Dentate	E. Entire	H. Palmatifid
C. Denticulate	F. Lacerate	I. Pinnatifid

55. Sample #49 has what type of leaf venation?

56. Sample #50 has what type of leaf venation?

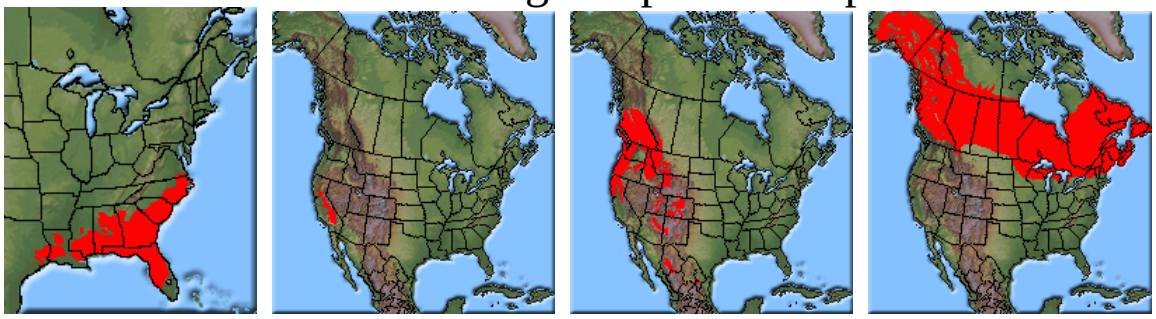
STATION #12

57. Identify the tree by genus and species to which this specimen belongs.

58. The foliage of this tree is food for what species?

59. The wood of this tree is used for what purpose?

60. What is the correct range map for this species?



Map A Map B Map C Map D

61. What other species the unique feature of this cone resemble?

STATION # 13

62. Identify this tree by genus and species from this specimen and form.


63. Match the bark of this specimen to the correct picture below:




Tree A Tree B Tree C Tree D

64. The lumber for this species was once important for what industry?

65. What is the habitat of this species?

a. a lawn or street tree, in humid temperateregions.
b. moist alluvial soils of lowlands, chiefly flood plains or bottomlands of streams.
c. Moist soils in understory of upland hardwood forests.
d. Moist soils of river flood plains in mixed forests; sometimes on dry upland limestone hills; also in waste places.
e. Sandy soils including coastal dune and ridges near marshes.

STATION # 14

66. Identify this tree specimen by genus and species.

67. In what specific region of the United States is this specimen found?

68. How is this tree self protected from fires?

69. What mammal eats the scales of the young cones?

STATION #15

70. Identify this tree specimen by genus and species.

71. How is the wood of this tree used?

72. What is the name of the feature shown here?

image from http://www.woodcarvingstore.com

73. What birds nest in the top of these trees?

STATION # 16

74. Identify this tree by genus and species.



75. How did the Indians use this plant?

76. Identify this tree below by genus and species.

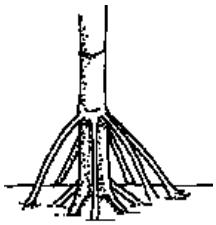

77. How did the pioneers use this wood?

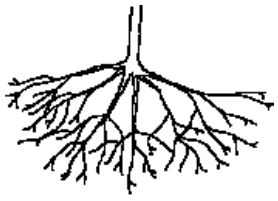
STATION # 17

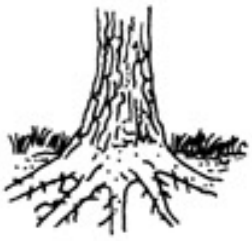
78. What is the primary reason the angiosperms have harder and heavier wood than gymnosperms?

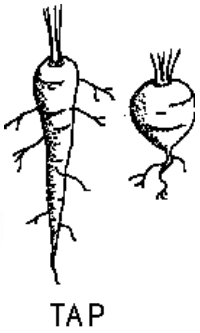
79. Which wood is dense enough to sink in water?

80-83. Identify the root type image with its corresponding name.









Root #80 Root #81 Root #82 Root #83

ANSWER CHOICES FOR ROOT NAMES

A. Buttress B. fibrous C. prop D. tap

84. Monocots have which type of roots?

STATION # 18

85. Identify the tree by genus and species.

86. Name the beetle that is likely to cause much concern to local businesses if it is found in Ohio as it has been found in some nearby states.

87. What is the venation of the leaf of this tree?

88. Which of the seeds below belongs to this species?

Seed A

Seed B

Seed C

Seed D

STATION # 19

89. Identify the tree by genus and species.

90. What type of fruit does this tree have?
    a. catkins b. nuts c. cones d. drupe

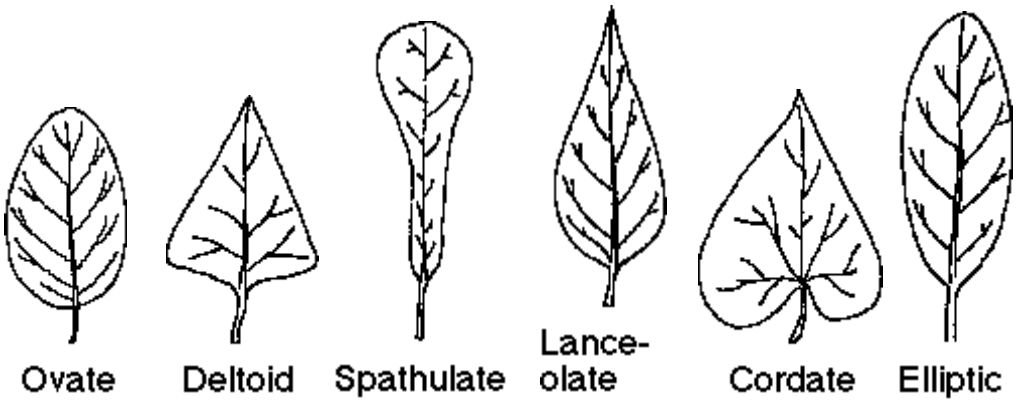
91. The seeds of this tree are eaten by what species?

92. What species feed on the foliage?

93. What species gnaw the bark?

STATION # 20

94-99 Match the leaf shape to its appropriate name.



Leaf 94 Leaf 95 Leaf 96 Leaf 97 Leaf 98 Leaf 99

ANSWER CHOICES FOR LEAF NAMES

A. Cordate
B. Deltoid
C. Elliptic
D. Lanceolate
E. Ovate
F. Spathulate

100. This leaf below shows what leaf type?

FORESTRY- ANSWER SHEET KEY

NOTE: AT THE ACTUAL EVENT SPECIMENS WERE USED –the photos attached in this test are for use in practicing from the NATIONAL TREE LIST.

STATION #1

1. *Pinus sabiniana (digger or gray pine)*

2. ***2 of :*** *digger pine, gray pine or ghost pine, foothill pine and bull pine*

3. *Ate the large seeds and parts of its cones, bark and buds. Its resin was used for medicinal purposes.*

STATION #2

4. D ***5. C*** ***6. B*** ***7. A***

8. The black walnut (*Juglans nigra)* does not have a terminal leaflet (or a poorly formed one) whereas the butternut (*Jugulans cinerea) does have a terminal leaflet*

9. 1. *The Castanes dentate (American chestnut) is in the Fagaceae or Beech Family whereas the others are in the Juglandaceae family.*
2. *It does not have compound leaves*

STATION #3

10. *Sequoia sempervirens* Redwood

11. The tree's genus is named after a Cherokee Indian that invented the first Native American alphabet

12. A

STATION #4

13. E ***14. D*** ***15. A*** ***16. F*** ***17. B*** ***18. C***

STATION #5

19. Ailanthus altissima, Tree of heaven

20. Simaroubaceae

21. China

22. There are gland-tipped teeth near the bases of each leaflet.

23. It is immune to dust and smoke and is useful in polluted cities where other plants will not grow

24. Have a very disagreeable odor

STATION #6
25. *Gleditsia triacanthos* Honey Locust

26. E

27. Thorny spines

28. It is thornless

29. Sweet pulp of the pods (legume family)

STATION #7
30. *Carya ovata* Shagbark hickory***.***

31. Finely saw-toothed and hairy

32. Moist soils of valleys and upland slopes in mixed hardwood forests.

33. The oily food removed from pounded kernels steeped in boiling water. This sweet hickory milk was used in cooking corn cakes and hominy.

34. Rough shaggy bark

STATION #8
35. *Eucalyptus globules* Bluegum Eucalyptus

36. Australia

37. Moist soils in subtropical regions. (in this particular case, in California)

38. It is used as a street tree, for windbreaks and screens and in forest plantations for fuel, pulpwood, and construction timber.

39. A medicinal oil is distilled from the aromatic leaves and used as an expectorant and decongestant.

STATION #9
40. *Betula populifolia* Gray Birch

41. Doubly-sawtoothed

42. B

43. Warty gland dots or lenticels

44. Spools, other turned wooden articles, firewood

45. It shades and protects seedlings of the larger, long-lived forest trees

STATION #10

46 . Gingko bilboa

47. A ***48. A***

STATION #11

49. ___B___ 50. ___F___ 51. ___G___ 52. ____E___ 53 .___I___ 54.___H___

55. Palmately

56. Pinnately

STATION #12

57. Pseudotsuga menziesli Douglas fir

58. Grouse, deer, elk

59. Douglas-fir is commonly used for construction materials, window frames, doors, paneling, Christmas trees, pulp, plywood and particleboard

60. ___C____

61. Three-lobed bracts extend beyond the cone scales and resemble ***mouse posteriors***.

STATION # 13

62. *Quercus virginiana*, Live Oak

63. ____A____

64. Ship building

65. ___E_____

STATION # 14

66. *Sequoiadendron giganteum* Giant sequoia

67. Western slope of the Sierra Nevada in central California

68. The very thick bark (1to 2 feet!) offers resistance

69. The Douglas squirrel, or chickaree, eats the green scales of young cones extensively.

STATION #15

70. *Taxodium distichum* (bald cypress)

71. Heavy construction, including docks, warehouses, boats, bridges, millwork and interior trim

72. A knee

73. Bald eagle and osprey

STATION # 16

74. Quercus agrifolia (Coast live oak)

75. Ground the seeds into meal, washed and boiled into mush or baked in ashes as bread.

76. Que*rcus imbricaria* Shingle oak**.**

77. shingles

STATION #17

78. Dense masses of fiber cells

79. Ironwood or Eastern (or American) Hophornbeam or *Ostrya virginiana*

80. __C_____ 81. ___B____ 82. ___A___ 83. __D____

84. Fibrous only

STATION # 18

85. *Acer saccharum* Sugar Maple

86. Asian longhorned beetle

87. Palmately lobed

88. ___D____

STATION #19

89. *Abies concolor* (white fir)

90. ____C____

91. Songbirds, mammals, esp. squirrels and chipmunks

92. Deer and grouse

93. Porcupines

STATION #20

94. __E____ 95. __B___ 96. ___F___ 97. ___D___ 98. ___A____ 99. ___C____

100. Bipinnate or doubly (or twice) compound

Photos are from the Virginia Tech Dendrology web site:
http://www.cnr.vt.edu/dendro/dendrology/main.htm