Backyard Biologist – Student Response Sheet

School: _____ V JV1 JV2 JV3 JV4

Student Names: _____

For each answer, fill in the blank or circle the correct response.

Station 1

1. A _____
   B _____
   C _____
   D _____
2. A B C D

Station 2

3. A B C D
4. _____
5. _____

Station 3

6. _____
7. A B C D
8. A B C D
9. A B C D

Station 4

10. A B
11. A B
12. _____

Station 5

13. _____
14. _____
15. A B
16. _____
17. A B

Station 6

18. A B C
19. A B C
20. A B C
21. A B C

Station 7

22. _____
23. A B C D
24. NATIVE or INVASIVE
25. _____

Station 8

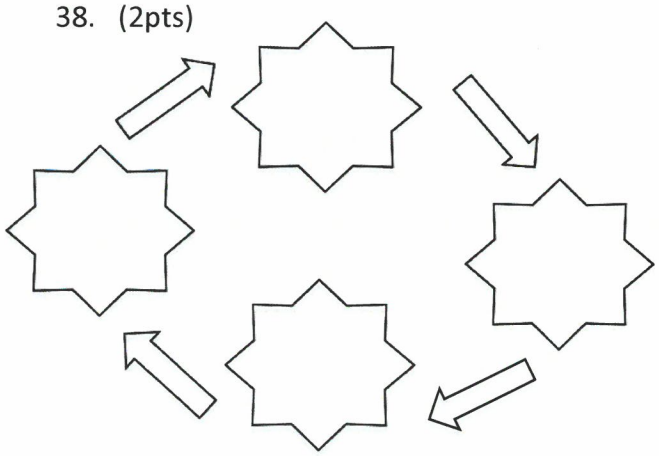
26. _____
27. _____
28. A B C D
29. A B C D
30. A B C D
31. A B C D

Station 9

32. _____
33. _____
34. _____
35. _____
36. _____
37. A B C D

Station 10

38. (2pts)



39. A B C D

Station 11

40. A B C
41. _____
42. _____
43. _____
44. A B C

Station 12

45. _____
_____
46. A B C D
47. _____
48. _____

Station 13

49. A B C
50. A B C
51. A B C
52. A B C
53. A B C
54. _____

Station 14

55. (5 pts)

56. _____
57. _____
58. _____

Station 15

59. _____
60. _____
61. A B C D
62. A B
63. A B C D

Station 16

64. _____
65. _____
66. _____
67. (2 PTS) _____
_____

Station 17

68. A B C D
69. A B C D
70. (3 PTS) _____
_____

Station 18

71. _____
72. _____
73. _____
74. _____

Station 19

75. A B C D
76. A B C D
77. A B C D
78. A B C D
79. _____
80. A B C D

Station 20

81. A B C D E
82. EXPERIMENT A or EXPERIMENT B
83. CONTROL or EXPERIMENTAL

Backyard Biologist – Student Response Sheet

School: ____ANSWER KEY TOTAL POINTS: 91_____ V JV1 JV2 JV3 JV4

Student Names: _____TIE BREAKER QUESTIONS: 38, 67, 55, 44, 2, 70, 78, 50, 62_____

For each answer, fill in the blank or circle the correct response.

Station 1

1. A ____ANTHER_____
   B ____FILAMENT_____
   C ____PETAL_____
   D ___SEPAL_____
2. A **B** C D

Station 2

3. A B **C** D
4. __ACCEPT 25 – 35 years_____
5. PINE

Station 3

6. _AMERICAN COCKROACH__
7. **A** B C D
8. A B **C** D
9. A B **C** D

Station 4

10. A **B** C
11. **A** B C
12. __FIRE_____

Station 5

13. __GREEN JUNE BEETLE_
14. __JAPENESE BEETLE__
15. A **B**
16. __SUMMER_____
17. **A** B

Station 6

18. A B **C**
19. **A** B C
20. A **B** C
21. **A** B C

Station 7

22. __BROWN MARMORATED STINK BUG_
23. **A** B C D
24. NATIVE or INVASIVE
25. _____NO_____

Station 8

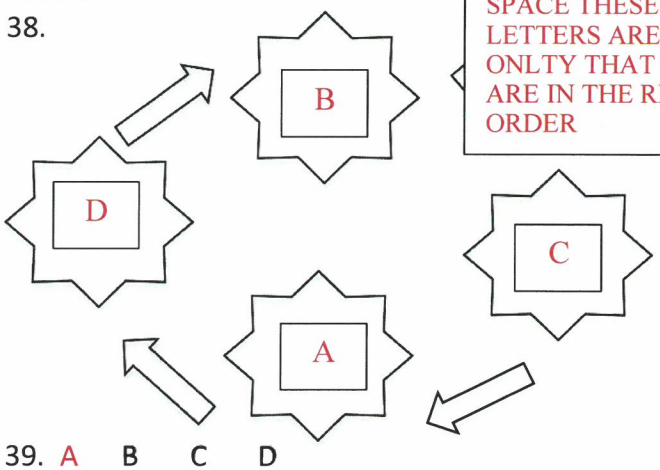
26. ___VENUS FLYTRAP_____
27. Scuppernong grape
28. A B C **D**
29. A B **C** D
30. A B **C** D
31. A B C **D**

Station 9

32. REPRODUCTION/SEEDS/ATTRACT POLLINATORS
33. LEAF
34. ENERGY/PHOTOSYNTHESIS
35. STEM
36. WATER ABSORPTION/STABILITY
37. A **B** C D

Station 10

38.



NOTE – IT DOESN'T MATTER WHICH SPACE THESE LETTERS ARE IN, ONLTY THAT THEY ARE IN THE RIGHT ORDER

39. **A** B C D

Station 11

40. A B C
41. _MAY HAVE AN ALLERGIC REACTION_
42. __ENGLISH IVY___
43. KUDZU
44. A B C

Station 12

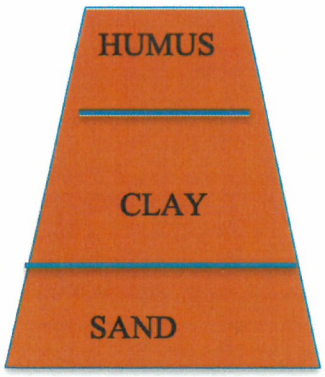
45. __BEES POLLINATE THE CROPS___
*ANYTHING ABOUT POLLINATION IS FINE_
46. A B C D
47. __QUEEN_____
48. ___HONEY_____

Station 13

49. A B C *NEED BOTH FOR CREDIT
50. A B C
51. A B C
52. A B C
53. A B C
54. __PRAYING MANTIS__

Station 14

55. 5 PTS TOTAL



+1: SHOWS 3 LAYERS
+1: SHOWS 3 COLORS,DARKEST AT THE BOTTOM
+1 FOR EACH LAYER LABELED CORRECTLY

56. __HUMUS___
57. __SAND_____
58. __CLAY_____

Station 15

59. _COMMON PILLBUG__
60. _BIG DIPPER FIREFLY__
61. A B C D
62. A B
63. A B C D

Station 16

64. _EASTERN WHITE PINE__
65. _LONGLEAF PINE_____
66. __EVERGREEN____
67. ANY 2- ___PINE STRAW, FURNITURE, ___LUMBER, ANYTHING ELSE THAT MAKES SENSE _

Station 17

68. A B C D
69. A B C D
70. ANY 3- ___sunlight, water, soil, nutrients, carbon dioxide (not air), warm temperatures _

Station 18

71. _SOUTHERN MAGNOLIA___
72. __SPOTTED CAMEL CRICKET___
73. ___TICK____
74. LYME DISEASE OR ROCKY MTN SPOTTED FEVER

Station 19

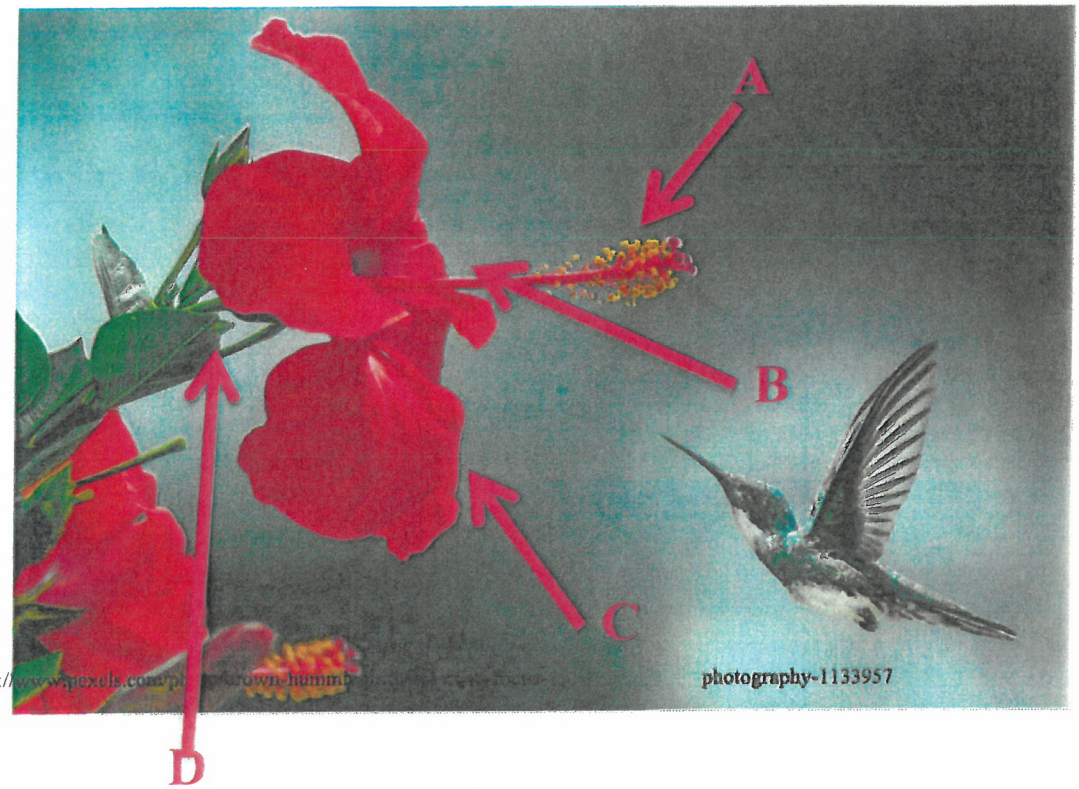
75. A B C D
76. A B C D
77. A B C D
78. A B C D
79. ACORN
80. A B C D

Station 20

81. A B C D E
82. EXPERIMENT A or EXPERIMENT B
83. CONTROL or EXPERIMENTAL

Station 1

1. Label the marked parts of this flower.



Source: https://www.pexels.com/p[illegible]rown-humm[illegible]

WORD BANK For PICTURE ONLY		
Anther	Filament	Petal
Pistil	Sepal	Stamen
Stigma	Style	

2. What is the function of the flower?
   a. To gather nutrients
   b. Seed production
   c. Water absorption
   d. Support

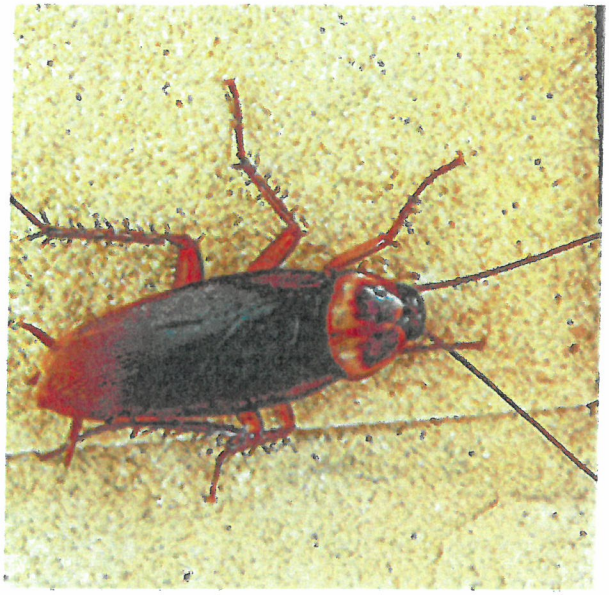
Station 2

3. How can you tell the age of most trees?
    a. Measuring the tree's height
    b. Counting the number of leaves a tree has
    c. Counting the rings on the trunk
    d. By measuring the tree's width

4. This tree was 45 feet high, had 765 leaves, and was 47cm wide. How old was the tree?

5. Did this tree ring come from a pine tree or an oak tree?

Station 3



6. What is the name of this insect?

7. Where are you likely to find these insects outside?
   a. In a mulch pile
   b. In the water
   c. In trees
   d. On top of a pile of rocks in the sun

8. How long does this insect typically live?
   a. 10 – 15 days
   b. 10 – 15 weeks
   c. 10 – 15 months
   d. 10 – 15 years

9. These insects are considered a pest species. Why?
   a. They eat valuable crops
   b. They bore through trees and kill them
   c. They spread disease
   d. They eat helpful insects

Station 4

A

B

The pictures of the ants above appear to be about the same size, but they are actually fairly different when you find them around your house.

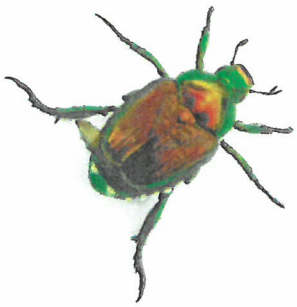
10. Which of these ants inflict a painful sting on people? (Interesting fact: as much as 2% of the US population could go in to anaphylactic shock from their bites.)

11. Which of these ants tunnel through wood?

12. During large storms, you can sometimes see these "ant rafts "– they join together and float to new areas. Which type of ant does this – Carpenter ants or fire ants?

Station 5

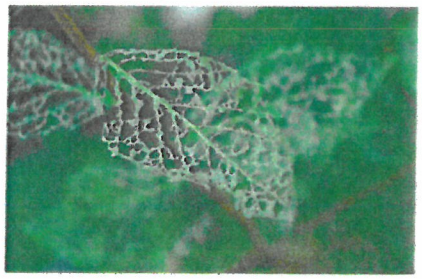
A



B

13. What is the name of Insect A?

14. What is the name of Insect B?



15. This leaf was likely eaten by which insect?

16. In what season do you see both of these insects?

17. Which insect causes more damage as a grub than a full grown adult?

Station 6

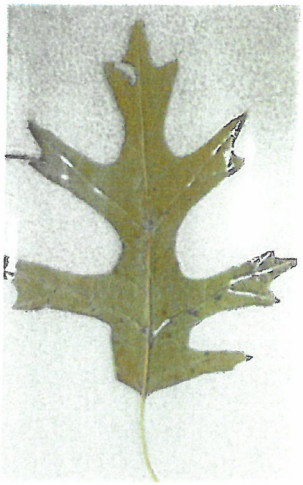
Match the leaves at this station with their trees.

18. Red Oak
19. American Beech
20. Tulip Poplar

A

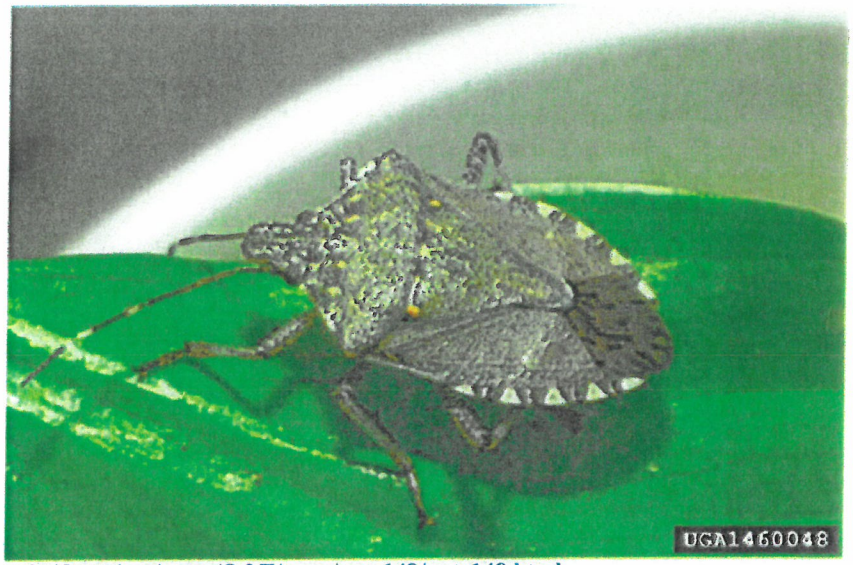
B

C



21. I took this picture of trees with yellow leaves in November. They can be classified as:
    a. Deciduous
    b. Evergreen
    c. You can not tell from the picture

Station 7



Source: http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note148/note148.html

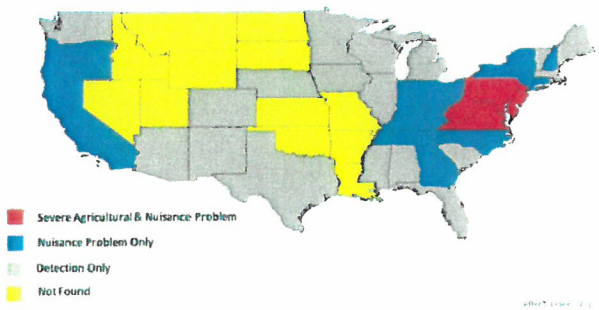
22. What is the name of this insect?

23. These insects are considered a pest species. Why?
    a. They eat valuable crops
    b. They bore through trees and kill them
    c. They spread disease
    d. They eat helpful insects

24. Is this insect a native species (always been in NC) or an invasive species (accidentally brought here)?

25. The map below shows the current distribution of this insect. Is it considered a severe threat in NC at this time?

Current US Distribution



Station 8

A

B

26. What is the common name of plant A?

27. What is the common name of plant B?

28. Where would you likely find these plant A in the wild?
    a. On the tops of mountains
    b. On sand dunes
    c. In grassland areas
    d. In swamps or bogs

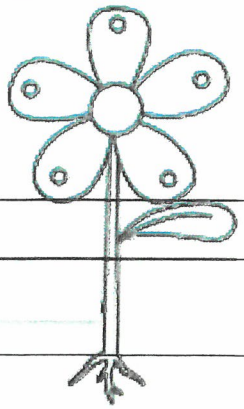
29. Where does plant A get its energy?
    a. Small insects
    b. The Sun
    c. Both A & B
    d. Neither A or B

30. Which of these is an NC State Symbol?
    a. Only A
    b. Only B
    c. Both
    d. Neither

31. Farmers grow Plant B and use it to make many things. Which of the following is NOT made from Plant B?
    a. Juice
    b. Fertilizer
    c. Jelly
    d. Food Dye

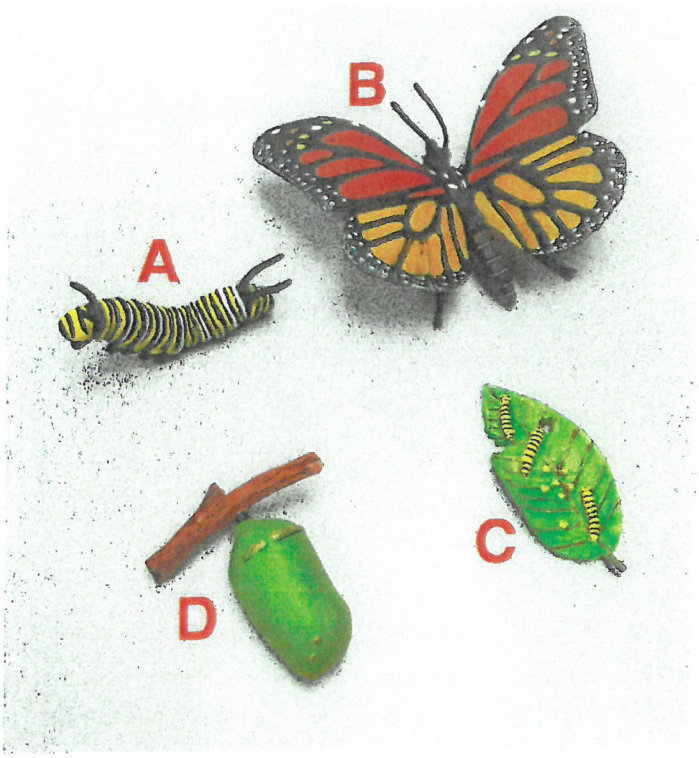
Station 9

The chart below shows a diagram of a plant divided into four parts. Each part is a different plant structure that serves a different function. Some structures and functions are shown. Complete the numbered space on your answer sheet.

	Plant Structure	Function of Plant Structure
	Flower	32.
	33.	34.
	35.	Provides Support
	Roots	36.

37. What process do leaves use to make energy for the plant?
    a. Solarsynthesis
    b. Photosynthesis
    c. Photo Exchange
    d. Energy Exchange

Station 10



38. The life stages of a monarch butterfly are at this station. Write their letters in the order they occur on the circle on your answer sheet.

39. Which of the following plants should you plant if you want to see more Monarch butterflies in your backyard?


A.


B.

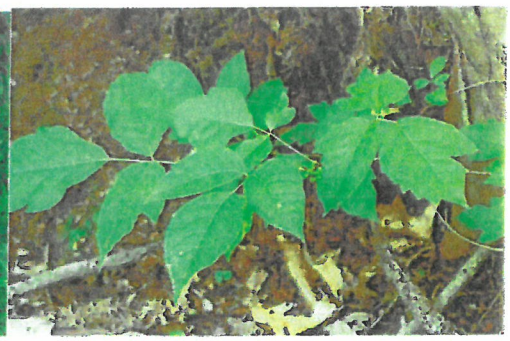

C.


D.

Station 11

A

B



C

40. You are hiking in the woods and see all three of the vines above. Which one is NOT safe to touch?

41. Why is it not safe to touch?

42. What is the name of plant B?

43. What is the name of plant A?

44. Which of these plants can be good to plant around your house for decoration?

Station 12

45. This insect is very important to all of us that like to eat food. Why?

46. These insects can communicate with each other. How do they do that?

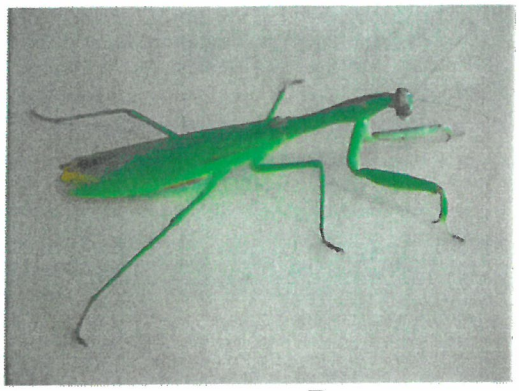
    a. Buzzing
    b. Dancing
    c. Smells
    d. Light flashes

47. There is 1 insect that lays all the eggs for her group. What is that insect called?

48. Fun fact – this is the only insect that makes something humans like to eat. What is it?

Station 13

A



B

C

49. Which of these insects eat other insects? List all that apply.

50. Which of these insects live in the water?

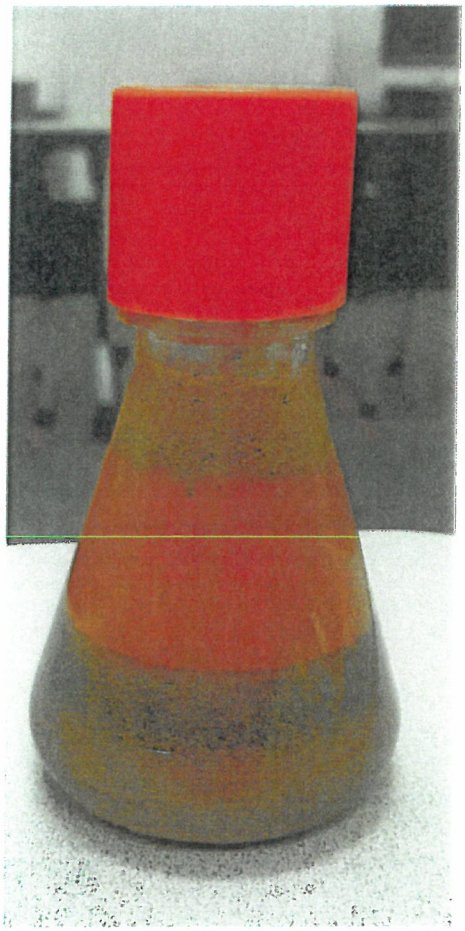
51. Which of these can be very annoying if they get trapped in your house because of the noise they make?

52. The female of which of these species eats the male after they mate?

53. Which of these likes to live among the leaves of trees?

54. What is the name of insect B?

Station 14



55. There is a jar with the 3 different components of soil in it. Gently shake the bottle and watch the layers settle out. Draw the 3 layers and label them as clay, humus, and sand.

56. Which of these layers provides most of the nutrients for plants?

57. Which of these components lets water drain easily through?

58. Which of these layers can hold on to water and nutrients?

Station 15

A

B

59. What is the name of species A?

60. What is the name of species B?

61. Where should you look for species A?
    a. on plant leaves
    b. under rocks
    c. in trees
    d. in the water

62. Only one of these is a true insect, the other is actually related to crabs! Which one is an insect?

63. Species A breaks down dead and decaying material. The name for this type of eater is:

    a. Decomposer
    b. Herbivore
    c. Carnivore
    d. Omnivore

Station 16

Tree A Tree B

64. What is name of Tree A?

65. What is the name of tree B?

66. These trees never lose their leaves, so they are called _____.

67. Both of these trees are important to the economy of NC. Name 2 products made from these trees.

Station 17

68. The way the plant at this station is growing around the trellis is an example of what growing pattern?
    a. Hydrotropism
    b. Phototropism
    c. Thigmotropism
    d. Gravitropism

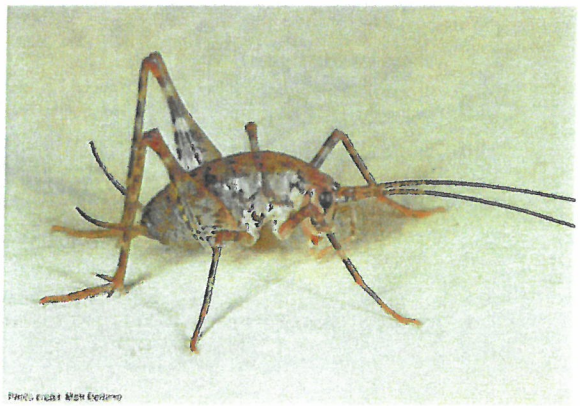
69. When I planted the seeds for this plant, the roots grew down and the leaves grew up. What causes that to happen?
    a. Hydrotropism
    b. Phototropism
    c. Thigmotropism
    d. Gravitropism

70. Your family wants to plant some vegetables outside for the summer. Name 3 things that all plants need to grow.

Station 18

71. You go for a walk and come across this beautiful tree. What is it?

72. Something hops and you find this little guy near the base of the tree. Your friend screams and thinks that it is a deadly spider, but you tell them not to worry, it is just a ____.



After a great hike, you come home and take your socks off and notice something near your ankle:

73. What is it?
74. What disease can this critter transmit?

Station 19

Match these objects with the correct tree.

75. Pecan

76. White Oak

77. Sweet Gum

78. Bitternut Hickory

A. 

B. 

C. 

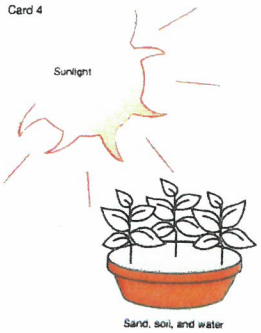
D. 

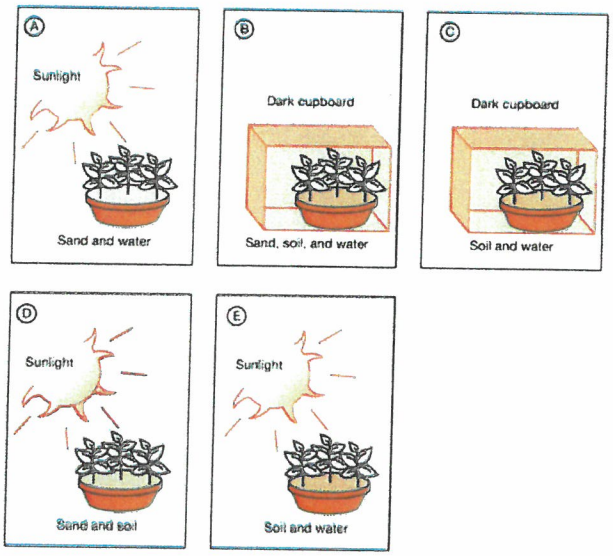
79. What is the name of object A?

80. Is it a:
    a. Fruit
    b. Stem
    c. Nut
    d. Seed

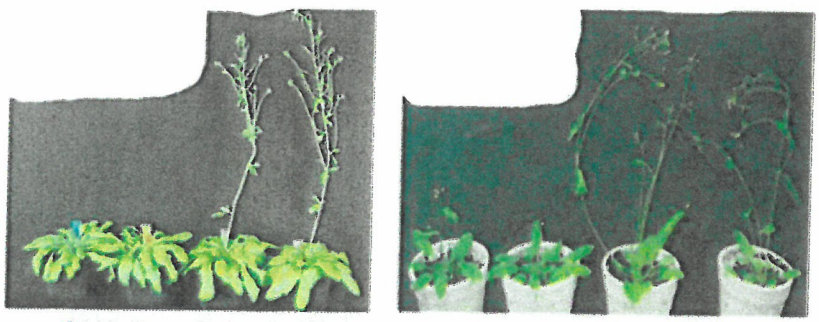
Station 20

81. Look at Picture. A gardener has an idea that a plant needs sand in the soil for healthy growth. In order to test her idea she uses two pots of plants. She sets up one pot of plants as shown on the top part of the card. Which one of the pictures on the bottom part of the card shows what she should use for the second pot?





82. Some students decided to run an experiment about plants. Which of these plants received more sunlight?



Experiment A **Experiment B**

83. Within each light group, they added fertilizer to one set of pots – was it the control pots or the experimental pots?