

Virginia 4 - H Forestry



General Rules and Official Policies

Violations of any of the following rules may be grounds for the event superintendent to disqualify the participants.

State 4-H Staff and CDE Superintendents will use the published rules and procedures to organize and implement the State 4-H Events. Event activities may not be conducted due to lack of necessary materials, expertise or extreme impact to event budgets.

ELIGIBILITY OFPARTICIPANTS

- 1) Each participant must be a current Virginia 4-H member at the time of the State 4-H event.
- 2) CDE participants who start an event and do not complete the event without notifying event officials at the time of departure will be disqualified. This can affect the overall team rank and position. In some events this will also disqualify the entire team
- 3) Individuals who have been state winners or have represented the Virginia in at the national level are not eligible to enter the same contest/event again.
- 4) Event committees will strive to divide teams into groups so that no two participants from a team will be in the same group. In any case, no two members will be placed side-by-side.

CHECK-IN

Participants will check-in at the state 4-H contest as indicated in the State Rules/Guidelines. Dates, hours and place of check-in will be sent annually to the adult leaders. All participants will be given an identification number by which they will be designated throughout the event.

Disqualification:

- a. Any communication, verbal or non-verbal between participants during an event will be sufficient cause to eliminate the team member involved from the event. The only exception to this would be communication between team members during the team activity portion of a given career development event.
- b. Teams arriving after the career development event has begun may be disqualified or penalized. No member substitutions may be made after the career development event begins.
- c. Any assistance given to a team member from any source other than the event officials or assistants will be sufficient cause to eliminate the team from the event.
- d. Event superintendents may stop any participant if they deem their manner to be hazardous either to themselves or others. Such stoppage shall deem the individuals disqualified for that event.
- e. Participants will not be allowed to utilize personal electronic communication devices, other than those approved by the event officials, during the entire course of the event. Participants who access personal electronic communication devices without prior approval of the event officials will be disqualified.
- f. No participant shall gain access to real materials that will be utilized by the event committee during the competition. Any team, participant, advisor or coach reported and proven to do so will be disqualified from the national event.

Adult leaders

- a. Adult leaders are not allowed to be in contact with their students at any point or time during the competition.
- b. Adult leaders may only be allowed at the contest site if they are assigned to a supervise a group or part of the contest

Accessibility for all members—all special needs requests should be submitted two weeks prior to the event for scheduling of assistance during event.

Official judges' decisions are final. The announced results are the official results.

State 4-H Senior Forestry

I. PURPOSE

To stimulate student interest and to promote forestry instruction and to provide recognition for those who have demonstrated skills and competencies as a result of forestry instruction.

II. OBJECTIVES

- Ability to understand and use forestry terms.
- Ability to promote an understanding of the economic impact of the forest environment and the forest industry to the American economy.
- Ability to recognize sustainability (multiple use) opportunities in the forests.
- Ability to recognize environmental and social factors affecting the management of forests.
- Ability to identify major species of trees of economic importance to the United States and internationally.
- Ability to identify hand tools, equipment, and their uses in forestry management.
- Ability to recognize and understand approved silviculture practices in the United States.
- Ability to identify forest disorders
- Ability to take a forest inventory.
- Ability to utilize marketing management strategies.
- Ability to recognize safety practices in forest management.

III. EVENT RULES

- The team will consist of four individuals and three scores will count toward the team score. The team score is comprised of the combined scores of each individual and the team activity in which all team members will participate.
- Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of weather. Participants should have rain gear, warm clothes and proper footwear. Each participant must provide the following safety equipment, and it must be worn while in the woods or the participant will be disqualified:
 - Long Pants
 - Closed-Toe Shoes
- Students will need to provide their own clipboard, two number two pencils, Biltmore stick, and four-function calculator.
- Participants must follow instructions from event staff for handling materials during the event. Any infraction of this rule will be sufficient to eliminate the team from the event.
- Observers will not be permitted in the event area while the event is in progress.
- Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his/her assigned group leader throughout the event or until told to change leaders by the event superintendent.
- All participants will be given an identification number by which they will be designated throughout the event.
- Written Materials: All written materials will be furnished for the event, including log charts, scorecards, et cetera. No written materials such as tests, problems and worksheets shall be removed from the event site.
- Any participant in possession of an electronic device such as a cell phone in the event area is subject to disqualification.

IV. EVENT FORMAT

A. Equipment

Each participant must provide the following

- a. Biltmore Stick,
- b. 4-Function calculator,
- c. Clipboard without writing
- d. Pencils

B. Procedure

Procedures for the events are as follows: Not all events will be used each year but only those sections listed below can be on the contest. Each event area will carry an equal point value.

Individual Activities

Event I: Forest General Knowledge Exam (100 points)

1. Fifty (50) multiple-choice questions will be selected from areas of the forestry industry reflected in the event objectives. This phase of the event will test the participant's knowledge and understanding of basic principles of forestry. The test will be a True/False, multiple-choice exam based on the Forestry Guide for Agricultural Education in Virginia produced by Commonwealth of Virginia Department of Education Richmond, Virginia Catalog #0.02.10
2. **Time:** Each participant will be allowed 30 minutes to complete this phase of the event.
3. **Scoring:** Each answer has a value of 2 points for a total maximum score of 100 points.

Event II: Tree Identification (100 points)

1. Twenty-five (25) live specimens, pressed samples, fresh leaf samples and/or standing trees, from the list below will be displayed for participants to identify by common names. A number will designate each specimen.
2. **Time:** Each participant will be allowed 20 minutes to complete this phase.
3. **Scoring:** Five points will be given for each specimen that is correctly identified for a maximum of 100 points. **Highlighted trees will not be used on the state contest.**

Specimen		
Alder, Red	Hemlock, Western	Pine, Lodgepole
Ash, White	Hickory	Pine, Longleaf
Aspen, Bigtooth	Holly	Pine, Pitch
Aspen, Quaking	Hornbeam, American	Pine, Ponderosa
Baldcypress	Larch*	Pine, Red
Basswood	Locust, Black (Yellow Locust)	Pine, Shortleaf
Beech, American	Locust, Honey	Pine, Virginia
Birch, Black	Maple, Red	Poplar, Yellow (Tulip Tree)
Birch, White	Maple, Sugar	Redbud
Birch, Yellow*	Mulberry, Red	Red Cedar, Eastern
Cherry, Black (Wild Cherry)	Oak, Black	Red Cedar, Western*
Cottonwood, Eastern	Oak, Chestnut	Spruce, Red
Dogwood	Oak, Northern Red	Spruce, Sitka
Elm	Oak, Post	Spruce, White*
Fir, Balsam	Oak, Scarlet	Sassafras
Fir, Douglas	Oak, Southern Red	Sweetgum
Hackberry	Oak, White	Sycamore
Hemlock, Eastern	Persimmon	Walnut, Black
	Pecan*	Willow, Black
	Pine, Eastern White	
	Pine, Loblolly	

Event III: Estimation of Board-Foot Volume of Standing Timber (100 points)

1. Using the provided tree measurement tools, each participant will measure ten pre-numbered trees on a plot for board foot volume. The participant must record the DBH (Diameter Breast Height) to the nearest two-inch (even-inch) class and the merchantable height of each tree height rounded down to the nearest $\frac{1}{2}$ log. Volume tables will be provided at the event.
2. The following minimum diameters and log length will be:

Minimum Saw Timber

DBH	10 inches
Top Diameter	8 inches DIB
Height	16 feet

3. Merchantable height stops are estimated to the upper point on a tree where it becomes 8 inches in diameter or where a major fork in a tree stem occurs or where a limb has a diameter equal to $\frac{1}{2}$ of the diameter of the tree at that point.
4. Time: Each participant will be allowed 20 minutes to complete this phase.
5. Scoring:
 - 25 points (five points per DBH) will be given for the correct DBH
 - 25 points for the correct height (within a half log of the official)
 - 50 points will be given for the correct volume per acre
 - 50 points for difference in value if estimate is within 5% of the official estimate; 40 points if within 10%; 30 points if within 15%, 20 points if within 20%, and 10 points if within 15%.

Event IV: Map Interpretation (100 points)

1. Participants will be furnished a United States geological survey topographic map with specific points marked for the participant to identify. The participant shall know legal description, recognize topographic map symbols, and understand the meaning of map symbols and size and location of 40 acres or more in a section.
2. Ten points on the map will be clearly marked with a number or arrow pointing to the section, symbol, or area on the map to be identified.
3. Examples:
 - (a) What is the legal description of the area boxed?
 - (b) What is the item located at this point?
 - (c) What is the acreage of the area enclosed?
 - (d) In what section is the city of Marshall located?
4. Legal descriptions will be written or described according to the following:

NW Northwest
T Township
SE Southeast
R Range
S Section (640 acres)
1/4 Quarter of a section (160 acres)
5. **Scoring:** Ten questions or problems will be completed. Ten points will be awarded for each correct answer. No partial credit will be given.

Event V: Compass

1. The participant will use a hand compass and pacing to the nearest full foot to simulate the determination of the property lines on a tract of timber. The compass course will have ten marked points. The student will start at any point and record the compass reading and distance to the next point. Azimuth readings shall be recorded.

Scoring: A total of 100 points are possible: Ten points for each correct numbered site, five points for correct azimuth and five points for correct distance. Partial credit will be given with a deduction of one point for each two degrees or two feet the participant is off the correct answer.

Event VI: Tree/Forest Disorders (100 points)

1. Symptoms of at least 10 and not more than 25 disorders from the following list will be displayed for participants to identify by common names. The symptoms will be presented in one or more of the following forms:
 - a. Actual Sample
 - b. Picture(s)/Slides
 - c. Written description
 - d. Written case history
2. **Scoring:** Five points will be given for each disorder that is correctly identified for a total up to 100 points. No partial credit will be given.

Tree Disorders

Aphid	Lightning damage
Asian longhorn beetle	Mechanical damage
Black knot*	Mistletoe
Butt or heart rot	Mountain pine beetle
Canker	Needle cast
Chemical damage	Nematode
Cicada	Rust
Climatic injury: snow, wind, frost, drought, hail	Sawfly
Damping off	Scale
Douglas-fir tussock moth	Spongy moth* (Gypsy moth)
Douglas-fir beetle*	Spruce beetle*
Dutch-elm disease*	Spruce budworm
Eastern larch beetle*	Sudden oak death
Emerald ash borer	Sunscald
Fir engraver beetle	Tent caterpillar
Fire damage	Wetwood or slime flux
Hemlock wooly adelgid	Wildlife/livestock damage
Ipps engraver beetle	
Landscape equipment damage	

*New to the 2025 list.

SCORING

Each individual can earn up to 100 points per event with a maximum of six events per year. The team total will be a combination of all four individual scores with a total of 300 points per event with a maximum of six events per year.

	Individual	Team
General Knowledge Exam	100	300
Tree Identification	100	300
Board-Foot Volume	100	300
Map Interpretation	100	300
Compass	100	300
Tree/Forest Disorders	100	300
Total	600	1800

TIEBREAKS

- Tiebreakers for teams will be the first, second, and third high individuals.
- Tiebreakers for individual scores will be:
 - Knowledge Exam
 - Tree Identification

AWARDS

Awards will be presented at the contest at the same time results are presented. Awards are presented to teams as well as individuals based upon their rankings.

Senior4H Forestry Tree Identification

Name _____

School _____

Tree No.	Species	Correct
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
TOTAL	Points _____	$\times 4 =$

Alder, Red
 Ash, White
 Aspen, Bigtooth
 Aspen, Quaking
 Baldcypress
 Basswood
 Beech, American
 Birch, Black
 Birch, White
 Cherry, Black (Wild Cherry)
 Cottonwood, Eastern
 Dogwood
 Elm
 Fir, Balsam
 Fir, Douglas
 Hackberry
 Hemlock, Eastern
 Hemlock, Western
 Hickory
 Holly
 Hornbeam, American
 Larch
 Locust, Black (Yellow)
 Locust, Honey
 Maple, Red
 Maple, Sugar
 Mulberry, Red
 Oak, Black
 Oak, Chestnut
 Oak, Northern Red
 Oak, Post
 Oak, Scarlet
 Oak, Southern Red
 Oak, White
 Persimmon
 Pine, Eastern White
 Pine, Loblolly
 Pine, Longleaf
 Pine, Pitch
 Pine, Ponderosa
 Pine, Red
 Pine, Shortleaf
 Pine, Virginia
 Poplar, Yellow (Tulip Tree)
 Redbud
 Red Cedar, Eastern
 Red Cedar, Western
 Sassafras
 Spruce, Red
 Spruce, Sitka
 Spruce, White
 Sweetgum
 Sycamore
 Walnut, Black
 Willow, Black



Senior 4H Forestry

Estimation of Board-Foot Volume

Name _____

School _____

Tree No.	DBH	No. of 16' Logs	Volume Board Feet
1.			
2.			
3.			
4.			
5.			
TOTAL			

TREE SCALE IN BOARD FEET

DIAMETER BREAST HIGH (INCHES)	NUMBER OF 16-FOOT LOGS								
	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
8	20	27	33	38					
10	38	50	61	69	77				
12	56	77	96	110	124	132	143		
14	82	110	138	160	182	196	211		
16	108	146	183	214	246	269	292		
18	140	190	240	282	325	356	388		
20	176	240	305	360	414	455	496	528	561
22	216	297	378	446	514	568	621	666	710
24	260	359	458	543	628	690	753	814	875
26	305	422	540	641	742	820	899	972	1046
28	357	496	635	756	877	969	1061	1152	1242
30	413	575	737	878	1020	1128	1235	1346	1458
32	474	661	848	1014	1181	1310	1440	1562	1685
34	538	752	966	1158	1349	1498	1647	1790	1932
36	602	844	1087	1304	1521	1690	1860	2024	2189
38	674	947	1220	1470	1720	1910	2101	2294	2488
40	750	1058	1365	1644	1923	2142	2362	2568	2775



Senior 4H Forestry Map Interpretation

Name _____

School _____

Parcel	Description	Score
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Total Score



Senior 4H Forestry Compass Practicum

Name _____

School _____

Station	Compass Reading	Distance	Score
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Total Score

Scoring Key	
Site:	10 pts total • 5 pts – Azimuth • 5 pts – Distance
Deductions:	-1 pt for each 2 degrees or 2 feet off



Senior 4H Forestry Tree Forest Disorders

Name _____

School _____

Tree No.	Species	Correct
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
TOTAL	Points _____	$\times 4 =$

- Aphid
- Asian longhorn beetle
- Black knot
- Butt or heart rot
- Canker
- Chemical damage
- Cicada
- Climatic injury: snow, wind, frost, drought, hail
- Damping off
- Douglas-fir beetle
- Douglas-fir tussock moth
- Dutch-elm disease
- Eastern larch beetle
- Emerald ash borer
- Fir engraver beetle
- Fire damage
- Hemlock wooly adelgid
- Ipps engraver beetle
- Landscape equipment damage
- Lightning damage
- Mechanical damage
- Mistletoe
- Mountain pine beetle
- Needle cast
- Nematode
- Rust
- Sawfly
- Scale
- Spongy moth (Gypsy moth)
- Spruce beetle
- Spruce budworm
- Sudden oak death
- Sunscald
- Tent caterpillar
- Wetwood or slime flux
- Wildlife/Livestock damage



Senior 4H Forestry General Knowledge Exam

Name _____

School _____

Question #	Answer	Score
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Question #	Answer	Score
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

TOTAL Points _____ X 2 = _____

