

Nursery/ Landscape



Handbook

NURSERY/LANDSCAPE

1. Purpose

The purpose of the Nursery/Landscape CDE is to promote career interest in all aspects of the industry including producing, marketing, and maintaining landscape plants, as well as related production and landscaping products, equipment, and services including design.

2. Objectives

- Nursery/Landscape Principles: To apply nursery and landscape principles and practices as they impact residential, commercial, public and recreational applications.
- Plant Materials: To demonstrate the ability to identify, select and utilize nursery and landscape plants (interior/exterior), landscape materials and turf grasses commonly used in the United States.
- Plant Disorders: To demonstrate the ability to identify unhealthy plant conditions due to pests, nutritional/physiological disorders and mechanical/chemical injury.
- Design and Construction: To demonstrate knowledge of the principles and techniques of landscape design, estimating and construction.
- Supplies and Equipment: To demonstrate the ability to identify, select, use and maintain appropriate supplies and equipment for nursery and landscape operations, including equipment and procedures in mechanization and automation.
- Interpersonal Relations: To demonstrate skills in oral business communications.
- Business Management: To demonstrate an understanding of marketing principles and business management as well as proper sales and service skills.
- Records and Reports: To demonstrate the ability to prepare estimates and complete financial statements.

3. Rules

- a. A team will consist of three to five members from the same chapter, with the three highest scores compiled for the team score.
- b. Under no circumstances will any participant be allowed to touch or handle plant materials. Any infraction of this rule will be sufficient cause to eliminate the individual from the event.
- c. Any communication between the participants during the event will result in zero score on that phase of the event when said infraction occurred.
- d. Any individual caught cheating or in possession of an electronic device other than a calculator, in the event area will be disqualification.
- e. Students will use Universal Form C#705C-1 for all practicums.
- f. Each participant can have the following individual tools for the competition:
 - A clean clipboard
 - At least two No. 2 pencils
 - A calculator
 - Calculators used in this event should be battery operated, nonprogrammable and silent with large keys and large displays. Calculators may have only these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators can be used during the event.
 - A standard ruler
 - An architect's scale
 - An engineer's scale

4. Format

A. IDENTIFICATION OF PLANT MATERIALS (200 POINTS PER CONTESTANT)

Participants will identify forty (40) items selected from the provided list covering the following categories:

- Plant materials will be presented as intact, live specimens, photos, plant parts or any combination.
- Each specimen will be designated by a station number. When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on a scan form at the respective station number.
- Each participant will be provided a copy of the list at the event site. No specimens or items may be touched or handled in any way.

Participants will record their answers using the scan form. Participants will be given forty-five (45) minutes to complete the practicum. Each specimen will be worth five (5) points.

B. IDENTIFICATION OF PESTS, DISORDERS AND BENEFICIAL INSECTS (50 POINTS PER CONTESTANT)

Participants will identify ten (10) items selected from the provided list covering the following categories:

- Pests and disorders will be presented as a damaged specimen, photograph or preserved specimen, herbarium sheet, insect mount, etc. A “disorder” label will be with an item to designate identification of a problem rather than the plant.
- Beneficial insects and other organisms that benefit the landscape by feeding on harmful organisms.
- Each specimen will be designated by a station number. When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on a scan form at the respective station number.
- Each participant will be provided a copy of the list at the event site. No specimens or items may be touched or handled in any way.

Participants will record their answers using the scan form. Participants will be given 10 minutes to complete the practicum. Each specimen will be worth 5 points.

C. IDENTIFICATION OF EQUIPMENT AND SUPPLIES (50 POINTS PER CONTESTANT)

Participants will identify ten (10) items selected from the provided list covering the following categories:

- Equipment and supplies will be either an intact item or photograph.
- Each specimen will be designated by a station number. When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on a scan form at the respective station number.
- Each participant will be provided a copy of the list at the event site. No specimens or items may be touched or handled in any way.

Participants will record their answers using a scan form. Participants will be given ten (10) minutes to complete the practicum. Each item will be worth five (5) points.

D. VERBAL CUSTOMER ASSISTANCE (50 POINTS PER CONTESTANT)

This interpersonal relations practicum is designed to evaluate participant knowledge of and ability in:

- Verbal communication.
- Sales and customer assistance skills.
- Plant materials, plant culture and problems.
- Nursery and landscape supplies and equipment.

The participant will assume the role of a business customer service representative (garden center or other related business or an educational agency) responding to an assistance need of the customer or client (the judge). General themes will be on a rotation:

Rotation	Year	Selling
1	2021	Landscape Equipment – (chainsaw, lawnmower, string trimmer, etc.)
2	2022	Plant material – (Selection from Plant ID List)
3	2023	Treatments – (herbicide, pesticide, fertilizer, etc.,)

Basic product information will be provided to the chapters competing in the Nursery/Landscape Contest on May 1st. During the CDE, each participant will be located at a separate station with two minutes allotted to review the materials and information provided prior to arrival of the judge. There will be three (3) specific products to choose from that the participant will have to sell to the customer. These materials may be handled and referred to as appropriate for the conversation with the judge. Scoring criteria are listed on the respective scorecard. There will be no order form that needs to be completed with the sale. Participants will have a total of ten (10) minutes to complete the sale.

**An example is located on the [ND FFA Website](#) under the Nursery/Landscape CDE . **

E. GENERAL KNOWLEDGE EXAMINATION (150 POINTS PER CONTESTANT)

Fifty (50) objective questions will be prepared to evaluate the participant's knowledge and understanding of basic horticultural principles in producing, marketing, using and maintaining landscape plants and turf. Participants will record their answers on the scan form. Participants will be given forty-five (45) minutes to complete the practicum. Each question will be worth three (3) points.

F. LANDSCAPE ESTIMATING (100 POINTS PER CONTESTANT)

This practicum is designed to evaluate participant knowledge of and ability in:

- Evaluating a landscape design.
- Reading a landscape drawing.
- Determining materials needed to execute a landscape plan.
- Maintenance estimating and bidding.
- Evaluating factors that affect profitability of a landscape business.

A landscape drawing and scratch paper will be provided to the participants. There will be twenty (20) objective questions about the landscape plan. Participants will record their answers using a scan form. Participants will be given forty-five (45) minutes to complete the practicum. Participants can bring and use standard rulers, engineer and architect scales, and a non-programmable calculator to complete the practicum. Each question will be worth five (5) points.

5. Resources

The following is a list of possible resources that will assist you in finding information that pertains to the Nursery Landscape Career Development Event:

1. The National FFA Nursery Landscape CDE guide/scorecards.
2. Introduction to Horticulture. Current edition. Charles B. Schroeder, Eddie Dean Seagle, Lorrie M. Felton, John M. Ruter, William Terry Kell, and Gerard Krewer. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130364134
3. Ornamental Horticulture. Current edition. Jack Ingels. Delmar Publishers Inc., Albany, NY. ISBN-13: 9781435498167
4. Landscaping Principles and Practices. Current edition. Jack Ingels. Delmar Publishers Inc., Albany, NY. ISBN 13: 9781428376410
5. Landscape Training Manuals for Installation, Irrigation, and Maintenance Technicians. Current edition. National Association of Landscape Professionals, 950 Herndon Pkwy, Suite 450, Herndon, VA 20170 <http://www.landscapetechnician.net>

6. Scoring

Activity	Individual Points	Team Points
ID of Plant Materials	200	600
ID of Pests, Disorders, and Beneficial Insects	50	150
ID of Equipment & Supplies	50	150
Verbal Customer Assistance	50	150
General Knowledge Exam	150	450
Landscape Estimating	100	300
Total	600	1800

7. Awards

a. Individual

1. Individual scores will be tabulated and broken into gold, silver, and bronze award areas.
2. Individual ties will not be broken
3. The high individual receives the “baby bison” trophy and a \$100 stipend.

b. Team

1. Team scores will be the sums of the scores of the top three- (3) team members. They will be broken into gold, silver, and bronze.
2. The high team will receive the traveling trophy, travel stipends from the ND FFA Foundation and be eligible to represent North Dakota in the National Career Development Event.
3. Team Tie Breakers: 1) Team Plant ID Score; 2) Team Written Exam Score; 3) Landscape Practicum Team Score.



NORTH DAKOTA NURSERY PLANT IDENTIFICATION

	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
1.	Abies (species)	Fir
2.	Acer ginnala	Amur Maple
3.	Acer saccharinum	Silver Maple
4.	Acer saccharum	Sugar Maple
5.	Aesculus glabra	Ohio Buckeye
6.	Amelanchier alnifolia	Juneberry
7.	Aquilegia x hybrida cv.	Columbine
8.	Araucaria heterophylla	Norfolk Island Pine
9.	Artemisia schmidtiana 'Nana'	Silvermound Artemisia
10.	Astilbe hybrid cv.	Astilbe
11.	Begonia semperflorens-cultorum	Wax Begonia
12.	Berberis thunbergii	Japanese Barberry
13.	Betula papyrifera	Paper Birch
14.	Betula pendula 'Dalecarlica'	Cutleaf Weeping Birch
15.	Brassaia actinophylla	Octopus Tree Schefflera
16.	Caragana arborescens	Siberian Peashrub
17.	Caragana frutex 'Globosa'	Globe Caragana
18.	Caragana pygmaea	Pygmy Peashrub
19.	Celtis occidentalis	Common Hackberry
20.	Clematis x jackmanii	Jackman Clematis
21.	Cornus alba 'Argenteo-marginata'	Variegated Dogwood
22.	Cornus sericea	Redosier Dogwood
23.	Cotoneaster lucidus	Hedge Cotoneaster
24.	Crataegus (species)	Hawthorn
25.	Dieffenbachia maculata	Spotted Dumb Cane
26.	Dracaena fragrans	Corn Plant
27.	Echinaceae purpurea	Purple Coneflower
28.	Elaeagnus augustifolia	Russian-olive
29.	Euonymus alatus	Winged Euonymus
30.	Fraxinus pennsylvanica	Green Ash
31.	Ginkgo Biloba	Ginkgo, Maidenhair Tree
32.	Gleditsia triacanthos inermis cv.	Thornless Honeylocust
33.	Hedera helix	English Ivy
34.	Hemerocallis spp./cvs.	Daylily
35.	Hosta x hybrida cv.	Plantain Lily
36.	Impatiens hybrid cv.	Impatiens
37.	Iris x germanica florentina cv.	Bearded Iris
38.	Juglans nigra	Black Walnut
39.	Juniperus chinensis cv.	Chinese Juniper
40.	Juniperus horizontalis/cv.	Creeping Juniper
41.	Juniperus sabina/cvs.	Savin Juniper
42.	Juniperus scopulorum/cvs.	Rocky Mountain Juniper
43.	Larix spp.	Larch
44.	Leucanthemum superbum	Shasta Daisy
45.	Malus spp.	Flowering Crabapple
46.	Narcissus pseudonarcissus cv.	Daffodil
47.	Paeonia hybrid/cvs.	Peony

	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
48.	Parthenocissus quinquefolia	Virginia Creeper
49.	Parthenocissus tricuspidata	Boston Ivy
50.	Pelargonium x hortorum cv.	Zonal Geranium
51.	Pennisetum ruppelia	Fountain Grass
52.	Petunia x hybrida cv.	Petunia
53.	Philadelphus spp.	Mockorange
54.	Philodendron scandens oxycardium	Heartleaf Philodendron
55.	Physocarpus opulifolius 'Nanus'	Dwarf Ninebark
56.	Picea abies	Norway Spruce
57.	Picea glauca var. densata	Black Hills Spruce
58.	Picea pungens	Cplorado Spruce
59.	Pinus mugo	Mugo Pine
60.	Pinus ponderosa	Ponderosa Pine
61.	Pinus sylvestris	Scotch Pine
62.	Poa pratensis cv.	Kentrucky Bluegrass
63.	Populus alba	White Poplar
64.	Populus deltoides	Eastern Cottonwood
65.	Populus nigra 'Italica'	Lombardy Poplar
66.	Populus tremula 'Erecta'	Columnar European Aspen
67.	Populus tremuloides	Quaking Aspen
68.	Potentilla fruticosa	Shrubby Cinquefoil
69.	Prunus x cistena	Purpleleaf Sandcherry
70.	Prunus maackii	Amur Chokecherry
71.	Prunus triloba 'Multiplex'	Double Flowering Plum
72.	Prunus virginiana	Chokecherry
73.	Prunus virginiana 'Schubert'	Schubert Chokecherry
74.	Quercus macrocarpa	Bur Oak
75.	Rhododendron spp.	Azalea
76.	Ribes alpinum	Alpine Currant
77.	Rosa spp.	Landscape/Shrub Rose cv.
78.	Salix alba 'Tristis'	Weeping Willow
79.	Salix pentandra	Laurel Willow
80.	Salvia splendens cv.	Salvia
81.	Sedum spurium cv.	Stonecrop/sedum
82.	Solenostemon scutellarioides	Coleus
83.	Sorbus aucuparia	European Mountain Ash
84.	Spiraea x bumalda	Bumalda Spirea
85.	Syringa meyeri 'Palibin'	Palibin Dwarf Lilac
86.	Syringa vulgaris cv.	Common Lilac
87.	Tagetes spp. cv.	Marigold
88.	Taxus spp. and cv.	Yew
89.	Thuja occidentalis cv.	American Arborvitae
90.	Tilia americana	American Linden
91.	Tilia cordata	Littleleaf Linden
92.	Tulipa spp. cv.	Tulip
93.	Ulmus americana	American Elm
94.	Ulmus pumila	Siberian Elm
95.	Verbena x hybrida cv.	Garden Verbena
96.	Viburnum trilobum	American Cranberrybush
97.	Vinca minor	Periwinkle
98.	Viola x wittrockiana cv.	Pansy
99.	Weiglea florida	Weiglea
100.	Yucca glauca	Yucca



North Dakota FFA Nursery Landscape CDE

Pests, Disorders and Beneficial Insects Identification

<u>ID Number</u>	<u>Pests</u>
201	Aphid
202	Bagworm
203	Borer
204	Leafhopper
205	Leaf Miner
206	Scale
207	Spider Mite
208	Snail/Slug
209	Whitefly
210	White Grub
<u>ID Number</u>	<u>Disorders</u>
	<u>Diseases</u>
211	Anthracnose
212	Apple Scab
213	Black Spot
214	Botrytis
215	Canker
216	Cedar-Apple Rust
217	Crown Gall
218	Fireblight
219	Powdery Mildew
220	Root Rot
	<u>Physiological Problems</u>
221	Frost/Freeze Injury
222	Iron Deficiency
223	Leaf Scorch (drought/winter burn)
224	Nitrogen Deficiency
225	Pot-Bound Roots
226	String Trimmer Injury
227	2,4-D Injury
<u>ID Number</u>	<u>Beneficial Insects</u>
228	Praying Mantis
229	Lady Beetle
230	Paper Wasp
231	Lacewing
232	Spider



North Dakota FFA Nursery Landscape CDE

Equipment and Supplies Identification

ID Number	Equipment	ID Number	Equipment	ID Number	Equipment
201	Anvil-and-blade pruner	229	Hoe	257	Pruning saw
202	Ball cart (B&B truck)	230	Hook-and-blade pruners	258	Reel mower
203	Bark mulch	231	Hose-end repair fitting	259	Resin-coated fertilizer
204	Bow saw	232	Hose-end sprayer	260	Rotary mower
205	Broadcast (cyclone) spreader	233	Hose-end washer	261	Rototiller
206	Bubbler head, irrigation	234	Hose repair coupling	262	Round point shovel
207	Bulb planter	235	Impact sprinkler	263	Scoop shovel
208	Bunker rake	236	Landscape fabric	264	Shade fabric
209	Burlap	237	Leaf rake	265	Sharpening stone
210	Compressed air sprayer tank pressurized	238	Loppers	266	Siphon proportioner
211	Core aerifier	239	Mattock	267	Soaker hose
212	Chain saw	240	Measuring Wheel	268	Soil sampling tube
213	Cut-off machine	241	Mist nozzle (mist bed)	269	Solenoid valve
214	Drip emitter, irrigation	242	Mower blade balancer	270	Spade
215	Dry-lock wall block	243	Nursery container	271	Sphagnum moss
216	Edger (power or hand)	244	Oscillating sprinkler	272	Square point (flat) shovel
217	Edging	245	Peat moss	273	String trimmer
218	Erosion netting	246	Pick	274	Thatch rake
219	Fertilizer injector	247	Planting/earth/soil auger	275	Tree caliper
220	Fertilizer tablet	248	Pole pruner	276	Tree wrap
221	Garden (spading) fork	249	Polyethylene pipe	277	Trowel
222	Garden (bow) rake	250	Pop-up Irrigation head	278	Vertical mower
223	Grafting band	251	Post-hole digger	279	Water breaker
224	Grafting knife	252	Power blower	280	Wire tree basket
225	Granular fertilizer	253	Power hedge trimmer		
226	Gravity (drop) spreader	254	Pot-in-pot units		
227	Ground/pelleted limestone	255	Pump sprayer		
228	Hedge shears	256	Propagation mat		

North Dakota FFA
Nursery/Landscape CDE
IN-STORE ADVICE AND PRODUCT SALE PRACTICUM
Judges Information Guide
Outdoor Power Equipment Dealership

The purpose of this practicum is to evaluate primarily the contestants' communication skills. Part of the conversation (and scoring) will include the contestant's knowledge of equipment characteristics and uses, but the main emphasis remains on communication in a sales environment.

The contestant is a sales representative at an independent outdoor power equipment dealership. Your judging role-play is as a customer with little knowledge of power equipment (specifically blowers). You have a specific need but do not know what information the sales clerk must learn to help you. It is the contestant's task to determine and meet your need, providing additional supporting information as appropriate. Therefore, you should answer all questions in a normal manner while not volunteering details directly, but you may guide the conversation as needed to finish in the 6-minute limit

Judging Uniformity

The selling room is located in one room, and there will be a separate table area with chairs provided for judges to complete their scoring before the next group arrives. All judges will meet with the advisor in charge to review procedures while the contestants are being organized. This review will include discussions of possible conversation flow and a consensus on the scoring guide. Please think through your own conversation approach and study the scoring guide beforehand. In addition, between each contestant group the judges should confer on any unique situations or scoring problems that arise.

Each judge will have a folder for holding the scoring guide (attached) on one side and the contestant's score sheet on the other. Some parts may be scored during the conversation (contestants know they are being scored but cannot see what is marked), while the folder may be closed for handling any items offered. Scoring is then completed for the major areas from a recall over the whole conversation.

NOTE 1: For fairness (perceived and real), please avoid judging contestants from your home chapter. Keep a record on the attached scoring guide.

Conversation Aid

On the following page are questions and information to help the conversation. It is on a single page so you may place it with the scoring guide on one side of the folder for quick reference until you are familiar with all the parts. Please allow for a variety of responses that may be "correct."

Background Information - You recently purchased a home with a small sized lot with several small trees, a driveway and a walkway. It is fall and leaves are starting to fall. You have a backyard party coming up and you want to give your property a polished look for your guests. Your old blower died and you are looking for a replacement. You live in a suburban area with neighbors on either side. The neighborhood is a quiet one and you want to be sure to get a blower that gets the job done but is also quiet and less impactful on the environment. You recently read an ad from one of the large home stores advertising a special deal on blowers but had heard from a neighbor that you would be smart to go to a local dealership because they offer expert advice and service. You are looking for the best blower to purchase for the job.

The test display includes one sheet description of three different blowers. The STIHL BG 56, a gas powered occasional-use blower, a BGE 61 corded electric blower for homeowner use, and BGA 85 battery powered blower. The goal is for the student to recommend the BGA 85 as it is the right sized blower for the job at hand, and provides low noise and zero emissions. Second choice would be the BGE 61 and the BG 56 last.

An important element of this sale is the inclusion of protective equipment (eye, ear), also on display in the test area, and a battery and charger. The student should also be making the point that as a servicing dealer, the blower will be assembled for the customer and training provided before the customer leaves the store, an important sales differentiation from the mass merchant home store.

Conversation Guide - All components below to be included. Comments in parentheses and in bold are the main points the student should cover in responding to the question.

Opening Line: "I saw an ad from Mega Market for a gas powered blower. I need a blower but I don't know what I should buy. What is the right blower for me?"

- "How do you differentiate between blowers?" (**power, weight, noise, emissions, cutting head**)
- "Is there a difference in use?" (**blowers are designated for occasional/homeowner, and professional use**)
- "Is there a difference in features?" (**Features are designated on product descriptions**)
- "What about price?" (**Prices are designated on product descriptions**)
- "I am not real confident that I know how to use this blower?" (**Dealer representative will set up and demonstrate blower before customer leaves**)
- "Which do you recommend as best for the job at hand?" (**BGA 85. Right power, low noise, no gas, no cord, easy to use, cheap to operate**)
- "Is there anything else I need?" (**Protective equipment, battery and charger**)
- Closing: "What do I do now?" (**We will take you to our service area where they will set up your blower and demonstrate its use. You will have a chance to operate it until you feel comfortable with it.**)

Judges' Scoring Guide**IN-STORE ADVICE AND PRODUCT****SALE PRACTICUM**

North Dakota FFA Nursery/Landscape CDE

Record of contestants judged (Chapter)

1. _____	6. _____	11. _____
2. _____	7. _____	12. _____
3. _____	8. _____	13. _____
4. _____	9. _____	14. _____
5. _____	10. _____	15. _____

Note: Points for suggested criteria or responses are given as specific values or with '+' as additive values up to the total points for that section. Judges have discretion in awarding lower values than shown, if done consistently by all, when response quality deserves less and to allow full value to outstanding contestants.

CONVERSATION**EXPECTATION**

Approach	(4)	Greeting made (+1) Offer to help made (+1) Positive, enthusiastic; not hesitant (+2)
Personality	(7)	Pleasant, friendly manner (+4) Not pushy in selling (+3)
Voice	(7)	Easy to hear and understand (+3) Proper grammar used (+2) Good speaking form (+2)
Information Requested	(7)	What does customer need (+3) Assesses customer knowledge level (+2) Assesses all customer questions (+2)
Salesmanship	(7)	Very effective in selling product/information (+3) Makes you confident in product/information (+2) Tries to expand sale (+1 or 2 for related items)
Closing	(3)	Verifies instructions are understood (+1) Directs to product(s) (+1) Thank you, come again (+1)

PRODUCT/PROCEDURE

Selection	(6)	Advises BGA 85 (+3), others (+1) Good argument for model advised (+3)
Information Provided	(6)	Product/procedure information accuracy (0-6)
Clarity of Information	(3)	Degree of information clarity (0-3)

JUDGING QUESTION GUIDE

- "I saw an ad from Mega Market for a gas powered blower. I need a blower but I don't know what I should buy. What is the right blower for me?"
- "How do you differentiate between blowers?"
- "Is there a difference in use?"
- "Is there a difference in features?"
- "What about price?"
- "I am not real confident that I know how to use this blower."
- "Which do you recommend as best for the job at hand?"
- "Is there anything else I need?"
- Closing: "What do I do now?"



STIHL BGA 85

No gas. No cord. No emissions and almost no weight. The STIHL BGA 85 handheld blower features a powerful 36-volt, lithium-ion battery for excellent blowing power that is quiet, clean, and best of all, cordless..



BGA 85 Specifications - Mid-Range Use

WEIGHT	w/o Battery: 3.2 kg (7.0 lbs.) w/ AP 180: 4.9 kg (10.8 lbs.)
BLOWING FORCE*	10 Newtons
AVG. AIR VELOCITY*	47 m/sec. (104 mph)
MAX. AIR VELOCITY*	56 m/sec. (125 mph)
AIR VOLUME AT NOZZLE*	650 m ³ /h (385 cfm)
SOUND PRESSURE RATING*	65 dB(A)
RUN TIME (w/ AP 180)	Up to 17 minutes
POWER SOURCE	Battery
RUN TIME (w/ AR 900)	Up to 90 minutes

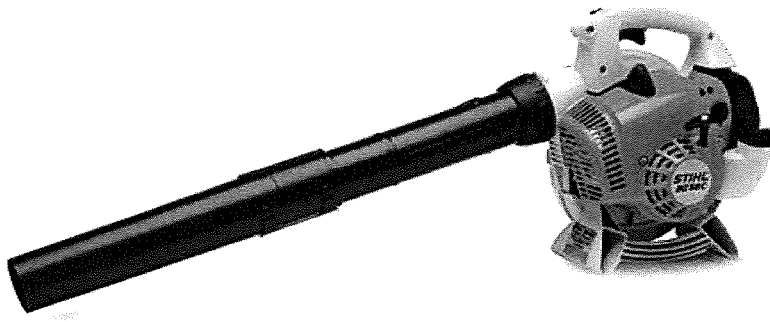
Battery and charger must be purchased separately. *Tested in accordance with ANSI 175.2 standard. Newton is the force needed to accelerate 1 kg of mass at the rate of 1 m/sec².

MSRP \$229.95



STIHL BG 56 C-E

Ideal for cleaning up leaves and debris on walkways or driveways around the home, the new powerful, low emissions BG 56 C-E handheld gas leaf blower features the STIHL Easy2Start™ system, making starting virtually effortless.



BG 56 C-E Specifications - Occasional Use

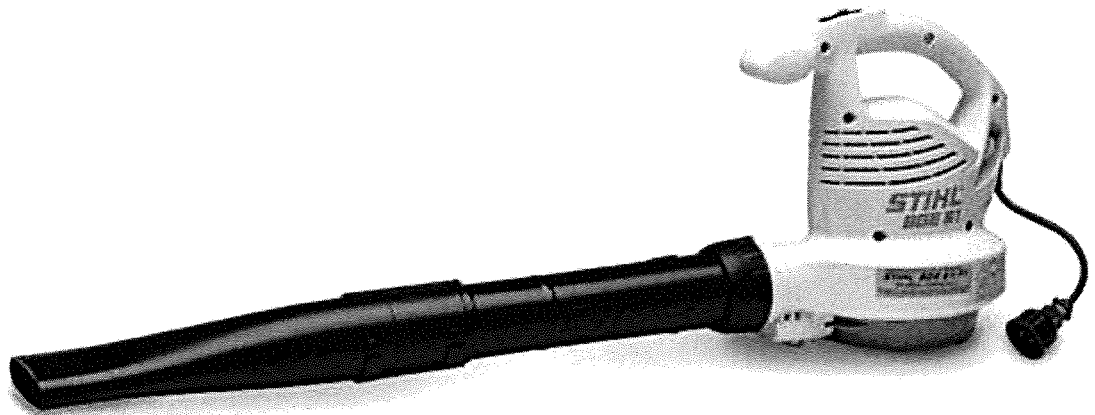
DISPLACEMENT	27.2 cc (1.66 cu. in.)
ENGINE POWER	0.7 kW (0.9 bhp)
WEIGHT	4.2 kg (9.3 lbs.)
FUEL CAPACITY	540 cc (18.3 oz.)
BLOWING FORCE*	13 Newtons
AVG. AIR VELOCITY*	60 m/sec (134 mph)
MAX. AIR VELOCITY*	71 m/sec (159 mph)
AIR VOLUME AT NOZZLE*	710 m ³ /h (418 cfm)
SOUND PRESSURE RATING*	70 dB(A)
POWER SOURCE	Gas

MSRP \$160.95



STIHL BGE 61

Easy. Quiet. Done. The STIHL BGE 61 handheld blower is part of a generation of lightweight, powerful electric leaf blowers. Its compact design produces low noise and zero emissions, making it ideal for use around the house without disturbing the neighbors. And there's a built-in cord retainer to help keep you connected.



WEIGHT	3.1 kg (6.8 lbs.)
BLOWING FORCE*	9 Newtons
AVG. AIR VELOCITY*	66 m/sec. (148 mph)
MAX. AIR VELOCITY*	66 m/sec. (148 mph)
AIR VOLUME AT NOZZLE*	510 m ³ /h (300 cfm)
SOUND PRESSURE RATING*	64 dB(A)
VOLTAGE	120 V (60 hz)
MOTOR OUTPUT	1.1 kW (9.2 amps)
POWER SOURCE	Electric

MSRP \$109.95



STIHL AP 300 Lithium-Ion Battery



This 36-volt, 4.5-amp hour battery keeps your equipment running at full speed until it's depleted. No gradual drops in power. And thanks to its LED charge display, you know just how much juice you have to work with.

MSRP \$159.95



STIHL AL 300 Rapid Battery Charger



Your advanced STIHL battery powered tool deserves an equally advanced charger. The STIHL AL 300 rapid battery charger fits that bill perfectly. Designed to charge your STIHL Lithium-Ion batteries in approximately 25 minutes

MSRP \$79.95



North Dakota FFA Nursery Landscape CDE

Verbal Customer Assistance Rubric

Name: _____

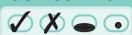
Chapter _____ Chapter # _____

Indicator	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 2-3 points	Weak evidence of skill is present 0-1 points	Points Possible	Points Earned
First Impression	Individual identifies themselves with a good first impression.	Individual mostly identifies themselves with a good first impression.	Individual poorly identifies themselves with a good first impression.	5	
Personal rapport	Individual asks questions and utilizes information from answers in an attempt to build personal rapport.	Individual mostly asks questions and utilizes information from answers in an attempt to build personal rapport.	Individual poorly asks questions and utilizes information from answers in an attempt to build personal rapport.	5	
Clarifying questions	Individual asks questions to learn about the customer's situation and to confirm preliminary customer information.	Individual mostly asks questions to learn about the customer's situation and to confirm preliminary customer information.	Individual poorly asks questions to learn about the customer's situation and to confirm preliminary customer information.	5	
Needs and wants	Individual confirmed and discovered customer needs and wants.	Individual mostly confirmed and discovered customer needs and wants.	Individual poorly confirmed and discovered customer needs and wants.	5	
Features and benefits	Individual applied features and benefits of their product to the customer's needs/wants to their product feature.	Individual mostly applied features and benefits of their product to the customer's needs/wants to their product feature.	Individual poorly applied features and benefits of their product to the customer's needs/wants to their product feature.	5	

Indicator	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 2-3 points	Weak evidence of skill is present 0-1 points	Points Possible	Points Earned
Matching needs and wants	Individual allows customer to participate in matching their needs/wants to the product features.	Individual mostly allows customer to participate in matching their needs/wants to the product features.	Individual poorly allows customer to participate in matching their needs/wants to the product features.	5	
Trial close	Individual uses appropriate technique to confirm customer understanding.	Individual mostly uses appropriate technique to confirm customer understanding.	Individual poorly uses appropriate technique to confirm customer understanding.	5	
Objections	Student listens and clarifies customer objections and discusses the features/benefits of the product information to address the customer's objections.	Student mostly listens and clarifies customer objections and discusses the features/benefits of the product information to address the customer's objections.	Student poorly listens and clarifies customer objections and discusses the features/benefits of the product information to address the customer's objections.	5	
Close transaction	Student closes or attempts to close the transaction.	Student mostly closes or attempts to close the transaction.	Student poorly closes or attempts to close the transaction.	5	
Active listening	Individual actively listens to comments and answers from the customer.	Individual mostly listens to comments and answers from the customer.	Individual poorly listens to comments and answers from the customer.	5	
Total Score				50	

Universal Form C #705C-1

Incorrect Marks Correct Mark



Team Name / Additional Info

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #	State	Last Name	First Name
0	0	0	0
1	A	A	A
2	B	B	B
3	C	C	C
4	D	D	D
5	E	E	E
6	F	F	F
7	G	G	G
8	H	H	H
9	I	I	I
0	J	J	J
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2	L	L	L
3	M	M	M
4	N	N	N
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1	U	U	U
2	V	V	V
3	W	W	W
4	X	X	X
5	Y	Y	Y
6	Z	Z	Z

Placing Classes							
Mark one answer in each column!							
	1	2	3	4	5	6	
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3	1324						1324
4	1342						1342
5	1423						1423
6	1432						1432
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8	2143						2143
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21	4213						4213
22	4231						4231
23	4312						4312
24	4321						4321
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Keep/Cull 1	Keep/Cull 2	Keep/Cull 3	Keep/Cull 4
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8	8	8	8

Judge 1	Judge 2	Judge 3	Judge 4
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7	7	7	7
8	8	8	8
9	9	9	9

Exam 1		Exam 2		Exam 3	
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4	A B C D E	4	A B C D E	4	A B C D E
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6	A B C D E	6	A B C D E	6	A B C D E
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25	A B C D E	25	A B C D E	25	A B C D E

Identification

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Appendix A: AFNR Career Content Cluster Standards-Nursery

	Performance Measurement Levels	Event Activity Addressing Measurement	Related Academic Standards
NRS.01.02. Performance Indicator: Classify natural resources.			Science: F3
	NRS.01.02.01.b. Identify trees and other woody plants.	ID, general exam	
PS.01.01. Performance Indicator: Classify agricultural plants according to taxonomy systems.			Science: C3
	PS.01.01.01.c. Classify agricultural plants according to the hierarchical classification system, life cycles, plant use and as monocotyledons or cotyledons.	ID, general exam	
	PS.01.01.02.c. Identify agriculturally important plants by scientific names.	ID, general exam	
PS.01.02. Performance Indicator: Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.			Science: B6, C3 and C5
	PS.01.02.02.c. Relate the active and passive transport of minerals into and through the root system to plant nutrition.	general exam	
	PS.01.02.03.c. Apply concepts associated with translocation to the management of plants.	general exam	
	PS.01.02.04.c. Explain the relationships between leaf structure and functions and plant management practices.	general exam	
	PS.01.02.05.c. Apply the knowledge of flower structures to plant breeding, production and use.	general exam	
	PS.01.02.06.c. Apply the knowledge of seed and fruit structures to plant culture and use.	general exam	
PS.01.03. Performance Indicator: Apply knowledge of plant physiology and energy conversion to plant systems.			Science: B6 and C5
	PS.01.03.01.b. Explain requirements necessary for photosynthesis to occur and identify the products and byproducts of photosynthesis.	general exam	
	PS.01.03.02.b. Explain factors that affect cellular respiration and identify the products and byproducts of cellular respiration.	general exam	
	PS.01.03.03.c. Relate the principles of primary and secondary growth to plant systems.	pruning/ propagation, exam, assessment	
PS.02.01. Performance Indicator: Determine the influence of environmental factors on plant growth.			Science: C6
	PS.02.01.01.c. Evaluate plant responses to varied light color, intensity and duration.	assessment and solution	
	PS.02.01.02.c. Design, implement and evaluate a plan to maintain optimal conditions for plant growth.	propagation, team activity	

PS.02.02. Performance Indicator: Prepare growing media for use in plant systems.			Science: B2
	PS.02.02.01.c. Formulate and prepare growing media for specific plants or crops.	assessment and solution	
	PS.02.02.02.b. Discuss how soil drainage and water -holding capacity can be improved.	exam, assessment and solution	
PS.02.03. Performance Indicator: Develop and implement a fertilization plan for specific plants or crops.			Math: 4B Science: A2
	PS.02.03.01.b. Describe nutrient deficiency symptoms and recognize environmental causes of nutrient deficiencies.	ID, general exam, assessment and solution	
	PS.02.03.02.b. Contrast pH and cation exchange capacity between mineral soil and soilless growing media.	exam, assessment and solution	
	PS.02.03.04.b. Calculate the amount of fertilizer to be applied and calibrate equipment to apply the prescribed amount of fertilizer.	assessment and solution	
PS.03.01. Performance Indicator: Demonstrate plant propagation techniques.			Science: C2
	PS.03.01.01.b. Diagram the process of plant fertilization.	general exam	
	PS.03.01.03.a. Describe optimal conditions for asexual propagation and demonstrate techniques used to propagate plants by cuttings, division, separation and layering.	propagation, production practices	
	PS.03.01.04.a. Define micropropagation, discuss advantages associated with the practice and outline the four main stages of the process.	general exam	
PS.03.02. Performance Indicator: Develop and implement a plant management plan for crop production.			Science: C5 and C6 Language Arts: 7
	PS.03.02.01.b. Inspect propagation material for evidence of pests or disease.	propagation	
	PS.03.02.02.a. Explain the reasons for preparing growing media before planting.	general exam, potting	
	PS.03.02.03.b. Apply pre-plant treatments required of seeds and plants and evaluate the results.	general exam, production practices	
PS.03.03. Performance Indicator: Develop and implement a plan for integrated pest management.			Science: C4 and C6 Language Arts: 7
	PS.03.03.01.b. Identify major local weeds, insect pests and infectious and noninfectious plant diseases.	ID, general exam, assessment and solution	
	PS.03.03.02.a. Describe damage caused by plant pests and diseases.	general exam	
	PS.03.03.03.b. Describe types of pesticide controls and formulations.	general exam, assessment and solution	
	PS.03.03.04.b. Explain procedures for the safe handling, use and storage of pesticides.	general exam, assessment and solution	

PS.03.05. Performance Indicator: Harvest, handle and store crops.			Science: F5
	PS.03.05.01.a. Identify harvesting methods and harvesting equipment.	general exam	
	PS.03.05.03.a. Identify storage methods for plants and plant products.	general exam	
	PS.03.05.04.a. Explain the reasons for preparing plants and plant products for distribution.	general exam	
PST.01.03. Performance Indicator: Identify and use hand and power tools and equipment for service, construction and fabrication.			Science: E2
	PST.01.03.01.b. Select, maintain and use hand and power tools in service, construction and fabrication.	ID, general exam, assessment and solution	
PST.02.01. Performance Indicator: Perform service routines to maintain power units and equipment.			Science: E2
	PST.02.01.01.a. Identify and schedule power unit and equipment lubrication.	exam	
	PST.02.01.02.b. Adjust equipment, including belts and drives, chains and sprockets, and maintain fluid conveyance components, such as hoses, lines and nozzles.	ID, general exam, assessment and solution	
PST.04.01. Performance Indicator: Create sketches and plans of agricultural structures.			Math: 4A Science: A3 and E1
	PST.04.01.01.a. Identify symbols and drawing techniques used to develop plans and sketches.	estimating	
PST.04.04. Performance Indicator: Follow architectural and mechanical plans to construct and/or repair equipment, buildings and facilities.			Math: 1C, 4A and 4B Science: E2
	PST.04.04.05.b. Construct and/or repair with concrete, brick, stone or masonry units.	estimating, assessment and solution	
	PST.04.04.06.a. Measure and calculate fencing materials.	estimating, assessment and solution	
CS.01.01. Performance Indicator: Action: Exhibit the skills and competencies needed to achieve a desired result.			Social Studies: 4d and 4h
	CS.01.01.01.c. Work independently and in group settings to accomplish a task.	team activity, assessment and solution	
	CS.01.01.03.c. Implement an effective project plan.	team activity, assessment and solution	
	CS.01.01.04.b. Use appropriate and reliable resources to complete an action or project.	assessment and solution	
	CS.01.01.06.b. Assign project parts equitably amongst team members to achieve a given task.	team activity, assessment and solution	

CS.01.02. Performance Indicator: Relationships: Build a constituency through listening, coaching, understanding and appreciating others.			Language Arts: 12 Social Studies: 4h
	CS.01.02.01.c. Demonstrate human relation skills including compassion, empathy, unselfishness, trustworthiness, reliability and being friendly to co-workers.	team activity	
	CS.01.02.02.c. Engage others in conversations to respond to an obstacle when completing a task.	team activity	
	CS.01.02.04.c. Evaluate the effectiveness of team members.	team activity	
CS.02.03. Performance Indicator: Professional Growth: Develop awareness and apply skills necessary for achieving career success.			Language Arts: 12 Social Studies: 4a
	CS.02.03.01.a. Explore various career interests/options.	general exam	
	CS.02.03.03.c. Demonstrate employability skills for a specific career.	all event activities	
CS.02.04. Performance Indicator: Mental Growth: Demonstrate the effective application of reasoning, thinking and coping skills.			Math: 6C Science: A4 Language Arts: 4 and 8
	CS.02.04.01.c. Demonstrate critical and creative thinking skills while completing a task.	team activity, assessment and solution, verbal	
	CS.02.04.02.c. Implement effective problem solving strategies.	team activity	
	CS.02.04.03.c. Demonstrate the skills needed to negotiate with others.	team activity, verbal	
CS.03.01. Performance Indicator: Communication: Demonstrate oral, written and verbal skills.			Language Arts: 4, 5 and 12
	CS.03.01.01.c. Demonstrate technical and business writing skills to communicate effectively with co-workers and supervisors.	verbal and written	
	CS.03.01.03.c. Make effective business presentations.	team activity, verbal	
CS.03.02. Performance Indicator: Decision Making –Analyze situations and execute an appropriate course of action.			Science: A1 and A5 Social Studies: 1c and 4h
	CS.03.02.02.c. Use problem-solving skills.	all event activities	
CS.06.03 Performance Indicator: Provide health, safety and environmental operating guidelines.			Science: F4 and F5 Language Arts: 4 and 5
	CS.06.03.01.a. Demonstrate the importance of safety, pro-health, and environmental practices in the work- place.	general exam, production practices	

Appendix B: Academic Standards Addressed- **Nursery**

National academic standards for mathematics, science, English language arts and social studies related to this event are reported below. The statements are based on information in reports of the respective associations/organizations in the academic areas. Some adjustment of numbering was done to facilitate the process of alignment with the standards that have been developed in the pathways of the Agriculture, Food and Natural Resources (AFNR) Career Cluster.

The approach was to determine the presence of alignment between the content standards, expectations or thematic strands of the four academic areas and the performance indicators of the AFNR Standards. Supporting statements have been included to clarify content of the respective content standards, expectations or thematic strands. The statements were initially developed independently by the respective organizations and, therefore, are not parallel in wording and presentation. Occasionally minor editing was done to adjust the background or stem of a statement but not the statement itself.

Math

1. Standard and Expectations: Number and Operations
 - 1C. Compute fluently and make reasonable estimates.
4. Standard and Expectations: Measurement
 - 4A. Understand measurable attributes of objects and the units, systems and processes of measurement.
 - 4B. Apply appropriate techniques, tools and formulas to determine measurements.
6. Standard and Expectations: Problem Solving
 - 6C. Apply and adapt a variety of appropriate strategies to solve problems.

Science

- A. Content Standard: Science as an Inquiry
 - A1. Identify questions and concepts that guide scientific investigation.
 - A2. Design and conduct scientific investigations.
 - A3. Use technology and mathematics to improve investigations and communications.
 - A5. Recognize and analyze alternative explanations and models.
- B. Content Standard: Physical Science
 - B2. Structure and properties of matter
 - B6. Interactions of energy and matter
- C. Content Standard: Life Science
 - C2. Molecular basis of heredity
 - C3. Biological evolution
 - C4. Interdependence of organisms
 - C5. Matter, energy and organization in living systems
 - C6. Behavior of organisms
- E. Content Standard: Science and Technology
 - E1. Abilities of technological design
 - E2. Understanding about science and technology

F. Content Standard: Science in Personal and Social Perspectives

F3. Natural resources

F4. Environmental quality

F5. Natural and human-induced hazards

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English Language Arts

4. Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

5. Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

12. Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Social Studies

1. Thematic Strand: Culture

1c. apply an understanding of culture and an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values and behavior patterns;

4. Thematic Strand: Individual Development and Identity

4a. articulate personal connections to time, place and social/cultural systems;

4d. apply concepts, methods and theories about the study of human growth and development, such as physical endowment, learning, motivation, behavior, perception and personality;

4h. work independently and cooperatively within groups and institutions to accomplish goals;