

## C. V. TART AGRICULTURAL TOOLS AND MATERIALS CAREER DEVELOPMENT EVENT Rules for the State FFA Event

### **Sponsor**

This event is sponsored by C.V. Tart Endowment.

### **State Event Superintendent**

The superintendent for this event is Mr. Jason Davis, State FFA Coordinator, Campus Box 7654  
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### **Eligibility and General Guidelines**

Participation is open only to first year agricultural education students in middle school and to a first year agricultural education student in high school and no older than the Sophomore level during the school year immediately prior to the State FFA Convention in which the event is held. Members winning a previous state FFA event in this area are ineligible.

Teams may consist of three or four individuals. The fourth lowest team member score is not considered except in the case of a tie. No alternates are allowed in state events. Any alternate found participating in a state event would result in team disqualification. FFA members and advisors may not visit the site of a state career development event within seven days of the start of the event. Teams that violate this rule will be disqualified.

FFA members in good standing may also participate as individuals in this event. A chapter may have up to two members participate as individuals as long as the chapter does not have a team participating in the event. Their scores will only count toward individual recognition, and will not be tallied as a team score. Three members participating in this event from the same chapter constitute a team.

The top three individuals in the federation event are eligible to participate in the state event as individuals regardless of their team placing. The top three teams in the federation are eligible to participate in the state event

The use of cellular phones, Personal Digital Assistants (PDA's) or any other mobile electronic communication device is prohibited during any state-level career development event. Any violation of this rule by any team member will result in total team disqualification.

Any member found cheating in any state-level career development event will result in total team disqualification for that event.

At the North Carolina FFA State Convention, participation in more than one FFA CDE event is permitted as long as events are not being held concurrently and no special provisions are required to facilitate participation with the exception that parliamentary procedure and public speaking and parliamentary procedure and Creed speaking which are held concurrently will allow dual participation and special provisions for flighting.

### **Procedures for Administering the Event**

Last revised September 2015

- A. The event coordinator shall be responsible for setting up the event, choosing event officials, and developing materials according to the criteria listed below.
  
- B. The Tool Identification Phase (80 points total and 40 minutes to complete)
  - 1. Forty (40) tools will be selected from the attached official list.
  - 2. Each tool used in the event shall have a number attached to it by a string; thus, participants can pick up the tool to examine it.
  - 3. Participants will place the number of the tool in the space to the left of that tool name on the official list.
  - 4. When two sets of tools are used, they shall include the same tools.
  - 5. No tool will be used more than once in the identification portion of the event.
  - 6. Each participant will be assigned a tool to begin identification.
  - 7. Each participant will remain at each tool for one minute and then progress to the next tool.
  - 8. No participant will be permitted to go to a tool for a second time.
  - 9. Grading will be done by giving two (2) points for each tool correctly identified.
  - 10. If it is observed that a participant uses the same number on his or her paper for more than identification, neither number will be counted as correct thus resulting in a penalty for using the same number twice.
  - 11. When teachers are involved in the grading of papers, they shall not grade any papers of their own team members.
  
- C. The Knowledge Test Phase (20 points total and 40 minutes to complete)
  - 1. A written (matching) test designed to test the knowledge of the participants regarding the proper use(s) of 20 randomly selected tools will be developed by the coordinator selecting 20 tools and 25 uses from the attached tool identification listing.
  - 2. Participants will place the letter of the correct use in the space to the left of each tool.
  - 3. Each participant will be given 40 minutes to complete the test. One (1) point will be given for each tool with the correct use.
  - 4. When teachers are involved in the grading of papers, they shall not grade papers of their own team members.
  
- D. Scoring
  - 1. The top three scores of participants from a team will be counted to determine team rankings.
  - 2. Papers of the top three teams shall be rechecked for accuracy.

### **Procedure for Determining the State Event Winner when Scores are Tied**

In the event a tie score exists, apply the following methods in sequential order until the tie is broken:

- 1. Compare the alternate scores. The lowest team member score is the alternate score.

Special Note: In the event a tie exists between first, second or third place teams on the regional level, the tied teams will be allowed to participate in the state event. In the event a tie exists in a federation event that sends teams directly to state competition, the tied teams will be allowed to participate in the state event.

### **Dress Code**

Participants are required to follow the North Carolina FFA Career Development Event Dress Code. A ten percent reduction in the total team score will be taken if a participant violates the dress code. Participants should wear long pants, an appropriate shirt with a collar or an appropriate high school or FFA t-shirt. Clothing should be appropriate for work in a shop or laboratory setting.

### **State Awards**

The following awards will be presented annually at the state FFA convention provided sponsorship is available:

State Winning Team	First place team plaque, pins and toolboxes with a starter set of tools for team members
Second Place Team	Second place team plaque, pins for team members
Third Place Team	Third place team plaque, pins for team members
High Scoring Individual	Medallion

### **Supplemental Information**

Please review the following pages for supplemental information regarding the agricultural tools and materials career development event.

**Official Tools and Materials Identification List**

**Revised 2001**

**Instructions:** Tools/Materials will be numbered 1-40. The contestant is to write the appropriate number in the space to the left of the tool.

**SCORE \_\_\_\_\_ (No. correct multiplied by 2)**

Contestant Number \_\_\_\_\_ Contestant Name \_\_\_\_\_

**List of Tools**

- |                                  |                             |
|----------------------------------|-----------------------------|
| _____ 45° pipe elbow             | _____ Drift punch           |
| _____ 90° pipe elbow             | _____ Drill press vise      |
| _____ 90° street elbow           | _____ Duplex receptacle     |
| _____ Adjustable wrench          | _____ Dust mask             |
| _____ Allen wrench               | _____ Ear tagger            |
| _____ Aviation snips             | _____ Electrical multimeter |
| _____ Ball pein hammer           | _____ Emery dresser         |
| _____ Bar clamp                  | _____ End cutting nippers   |
| _____ Bent nose pliers           | _____ Expansion shield      |
| _____ Bolt cutters               | _____ Extension             |
| _____ Bolt die                   | _____ Eye bolt              |
| _____ Bolt die stock             | _____ Fence pliers          |
| _____ Bolt tap                   | _____ Fence staple          |
| _____ Box end wrench             | _____ File card             |
| _____ Brick jointer              | _____ Finishing nail        |
| _____ Brick trowel               | _____ Flaring tool          |
| _____ Bulb planter               | _____ Flathead stove bolt   |
| _____ Bush axe                   | _____ Flathead wood screw   |
| _____ Butt hinge                 | _____ Framing square        |
| _____ C clamp                    | _____ Fuse puller           |
| _____ Carriage bolt              | _____ Gate valve            |
| _____ Castrator                  | _____ Glass cutter          |
| _____ Center punch               | _____ Grafting tool         |
| _____ Chain saw file             | _____ Grease gun            |
| _____ Chalk line reel            | _____ Groove joint pliers   |
| _____ Chipping hammer            | _____ Hacksaw               |
| _____ Circuit breaker            | _____ Half hatchet          |
| _____ Circular carbide saw blade | _____ Half round file       |
| _____ Cold chisel                | _____ Hammer drill          |
| _____ Combination oil stone      | _____ Hand screw clamp      |
| _____ Combination square         | _____ Hedge shears          |
| _____ Combination wrench         | _____ Hinge handle          |
| _____ Common nail                | _____ Hose bib              |
| _____ Compass                    | _____ Implant gun           |
| _____ Compass saw                | _____ Impulse sprinkler     |
| _____ Concrete finishing trowel  | _____ Increment borer       |
| _____ Concrete float             | _____ Junction box          |
| _____ Coping saw                 | _____ Lag screw             |
| _____ Cordless drill             | _____ Level                 |
| _____ Countersink                | _____ Line level            |
| _____ Cutting torch              | _____ Long nose pliers      |
| _____ Deep socket                | _____ Lopping shears        |
| _____ Dehorner                   | _____ Machine bolt          |
| _____ Diagonal cutting pliers    | _____ Machinist's vise      |

_____ Mason hammer	_____ Slip joint pliers
_____ Mason level	_____ Slotted screwdriver
_____ Masonry bit	_____ Solderless wire nut
_____ Masonry nail	_____ Soil auger
_____ Mill file	_____ Soil thermometer
_____ Miter box	_____ Soil tube
_____ Nail hammer	_____ Soldering gun
_____ Nail set	_____ Spark plug gauge
_____ Nailing gun	_____ Spark plug socket
_____ Nut driver	_____ Speed bore bit
_____ Obstruction wrench	_____ Speed handle
_____ Open end wrench	_____ Straight shank drill bit
_____ Phillips screwdriver	_____ Strap hinge
_____ Pin punch	_____ Switch box
_____ Pipe bushing	_____ T-hinge
_____ Pipe cap	_____ Tap wrench
_____ Pipe coupling	_____ Tape rule
_____ Pipe nipple	_____ Thickness gauge
_____ Pipe plug	_____ Timing light
_____ Pipe reducer	_____ Tip cleaners
_____ Pipe stop & waste	_____ Tire chuck
_____ Pipe tee	_____ Tire gauge
_____ Pipe union	_____ Toggle bolt
_____ Pipe wrench	_____ Toggle switch
_____ Piston ring compressor	_____ Toggle switch plate
_____ Planting bar	_____ Torch lighter
_____ Plumb bob	_____ Torque wrench
_____ Portable circular saw	_____ Torx screwdriver
_____ Portable electric drill	_____ Tree diameter tape
_____ Portable jig saw	_____ Triangular file
_____ Portable electric sander	_____ Try square
_____ Pruning saw	_____ Tube cutter
_____ Pruning shears	_____ Universal joint
_____ Putty knife	_____ Universal socket
_____ PVC cutter	_____ Valve spring compressor
_____ Regular socket	_____ Vise grip pliers
_____ Reversible ratchet	_____ Vise grip welding clamp
_____ Roofing nail	_____ Water breaker
_____ Round file	_____ Welding gloves
_____ Roundhead stove bolt	_____ Welding goggles
_____ Roundhead wood screw	_____ Welding helmet
_____ Router	_____ Welding torch
_____ Rubber mallet	_____ Wheel puller
_____ Safety glasses	_____ Wire scratch brush
_____ Safety goggles	_____ Wire strippers
_____ Screw extractor	_____ Wood chisel
_____ Screwmate	_____ Wood mallet
_____ Sheet metal screw	_____ Wood rasp
_____ Side cutting pliers	_____ Wrecking bar
_____ Sledge hammer	

## FFA AGRICULTURAL TOOLS AND MATERIALS CAREER DEVELOPMENT EVENT

<b>Name</b>	<b>Proper Use of Tools, Equipment or Materials</b>
45° pipe elbow	Making a 45 degree turn with pipe
90° pipe elbow	Making a 90 degree turn with pipe
90° street elbow	Making a 90-degree turn with galvanized pipe when threads are inside on one end and outside on the other
Adjustable wrench	Turning various size nuts and bolts
Allen wrench	Turning hex head socket screws
Aviation snips	Cutting sheet metal
Ball pain hammer	Hammering metal
Bar clamp	Clamping large sections of wood together
Bent nose pliers	Reaching obstructive or awkward places
Bolt cutters	Cutting bolts and steel rods
Bolt die	Cutting threads on bolts and rods
Bolt die stock	Holder for bolt die
Bolt tap	Cutting inside threads
Box end wrench	Turning hex head nuts and bolts
Brick jointer	Smoothing and designing masonry joints
Brick trowel	Placing and spreading mortar
Bulb planter	Planting and transplanting bulbs
Bush axe	Cutting bushes and under growth
Butt hinge	Hinge for narrow fencing
C clamp	Clamping two or more pieces of metal together
Carriage bolt	Used for bolting wood to wood or wood to metal
Castrator	Tool for sterilizing small animals
Center punch	Starting holes in metal
Chain saw file	Sharpening chain saw chain
Chalk line reel	Marking straight lines
Chipping hammer	Removing slag from welds
Circuit breaker	Protection from overload in electrical circuits
Circular carbide saw blade	Blade for use on a portable electric saw
Cold chisel	Cutting metal
Combination oil stone	For sharpening and honing cutting tools
Combination square	Determining 45° and 90° angles
Combination wrench	Turning hex and square nuts and bolts
Common nail	For nailing boards together where holding power is desired
Compass	Drawing circles
Compass saw	Cutting wood in close places
Concrete finishing trowel	Smoothing concrete
Concrete float	Leveling concrete
Coping saw	Cutting curves and irregular cuts
Cordless drill	Drilling holes with a tool that uses a battery pack
Countersink	Flaring top of hole for recessing head for flathead screw or bolt
Cutting torch	Cutting metal with heat
Deep socket	Turning nuts and bolts in depressed areas
Dehorner	Removing horns from cattle
Diagonal cutting pliers	Surface and diagonal wire cutting
Drift punch	Aligning holes
Drill press vise	Holding stock while drilling
Duplex receptacle	Used to plug in electrical units
Dust mask	Protects the respiratory system from airborne particles
Ear tagger	Labels individual animals for identification
Electrical multimeter	Performs various tests on electrical circuits

Emery dresser	Smoothing face of grinding wheel
End cutting nippers	Cutting ends of wire, nails and small bolts
Expansion shield	anchoring a lag screw into concrete, brick or block
Extension	Extends reach of socket
Eye bolt	Bolt used to attach wire onto
Fence pliers	Building and repair of wire fences
Fence staple	For nailing up fencing
File card	Cleaning cutting grooves of file
Finishing nail	Nailing boards where head will not be noticed
Flaring tool	Flaring ends of tubing
Flathead stove bolt	for fastening wood or metal to metal with a wrench and leaving a flat surface
Flathead wood screw	for fastening wood to wood where a flat surface is required
Framing square	Squaring cut corners and laying out stairs & rafters
Fuse puller	Removing cartridge fuses
Gate valve	For cutting off water supply on a main line
Glass cutter	Cutting glass
Grafting tool	Preparing woody parts for grafting
Grease gun	Lubricating through grease fitting
Groove joint pliers	Gripping when greater pressure is needed
Hack saw	Sawing metal
Half hatchet	Cutting and fitting wood
Half round file	Curve and flat filing
Hammer drill	For power drilling in concrete, brick or block
Hand screw clamp	Clamping wood together
Hedge shears	Trimming and shaping hedge
Hinge handle	Socket handle to be used when flexibility is needed
Hose bib	Valve for attaching a water hose and turning water supply on and off
Implant gun	Injects growth hormones in animals
Impulse sprinkler	For overhead irrigation of plants where rotation is water driven
Increment borer	Checking growth rate of trees
Junction box	Box used to join several electrical wires into a circuit
Lag screw	Screw used where great pressure to turn is required
Level	Leveling and plumbing
Line level	Leveling between long distance points
Long nose pliers	Reaching into recessed areas
Lopping shears	Cutting large branches when pruning shrubbery
Machine bolt	For fastening metal to metal with a wrench
Machinist's vice	Holding metal firm while working
Mason hammer	Chipping and shaping masonry material
Mason level	Leveling and plumbing masonry materials
Masonry bit	Boring a hole in concrete, brick or block
Masonry nail	Nailing in concrete, brick or block
Mill file	Filing metal
Miter box	Cutting angles
Nail hammer	Driving nails
Nail set	Countersinking nail heads
Nailing gun	Rapid nailing using air, gas or electricity
Nut driver	Socket permanently attached to a handle for turning small nuts and bolts
Obstruction wrench	Reaching nuts & bolts around obstructions
Open end wrench	Turning square head nuts & bolts
Phillips screwdriver	Turning Phillips head screws
Pin punch	Driving out metal pins

Pipe bushing	Reducing pipe size
Pipe cap	Closing the end of a pipe by going over the pipe end
Pipe coupling	Joining two pieces of pipe
Pipe nipple	Adding length to a piece of pipe
Pipe plug	Closing the end of a pipe, threads on outside
Pipe reducer	Reducing pipe size
Pipe stop & waste	For turning off water and draining the line
Pipe tee	For joining pipe at 90° angles
Pipe union	Joining two pieces of pipe where neither side can be turned
Pipe wrench	Turning and holding metal pipe
Piston ring compressor	Compressing ring for inserting into cylinder
Planting bar	Setting out tree seedlings
Plumb bob	Vertical plumbing to locate points
Portable circular saw	Sawing wood in construction projects
Portable electric drill	Drilling holes with an external source of electricity
Portable jig saw	Making irregular cuts
Portable electric sander	Smooths surface with an external source of electricity
Pruning saw	Sawing limbs from shrubbery and trees
Pruning shears	Cutting and shaping shrubbery
Putty knife	Applying and smoothing putty
PVC cutter	Cutting non-metallic pipe
Regular socket	General purpose socket for turning nuts & bolts
Reversible ratchet	Reverse rotation of socket turning
Roofing nail	For nailing tin, aluminum, fiberglass or asphalt roofing
Round file	Filing inside holes
Roundhead stove bolt	For fastening wood or metal to metal with a screwdriver and wrench
Roundhead wood screw	For fastening wood to wood
Router	Makes edges or designs in wooden surfaces
Rubber mallet	Hammering to avoid marring surface
Safety glasses	To protect eyes from the impact of foreign objects
Safety goggles	To protect eyes from liquids and vapors
Screw extractor	Removing broken bolts, studs & screws
Screwmate	Drills & countersinks flat head wood screw holes
Sheet metal screw	Joining two pieces of sheet metal
Side cutting pliers	Holding and/or cutting wire
Sledge hammer	Heavy hammering
Slip joint pliers	Adjust for holding various size materials
Slotted screwdriver	Turning slotted screws
Solderless wire nut	Joining two or more electrical wires
Soil auger	Boring into soil to get samples
Soil thermometer	Determining soil temperature
Soil tube	Obtaining soil for testing
Soldering gun	Melting solder
Spark plug gauge	Gauge and set spark plug gap
Spark plug socket	Install and remove spark plugs
Speed bore bit	Wood-boring bit for electric drill
Speed handle	Rapid turning of socket
Straight shank drill bit	Drilling metal
Strap hinge	Hinge used where major strength or support is required
Switch box	Used to install toggle switches or duplex receptacles
T-hinge	Used where strength is required but one facing is narrow
Tap wrench	Holding bolt tap
Tape rule	Straight or curved measuring



Thickness gauge	Determining gaps
Timing light	Timing ignition
Tip cleaners	Cleaning welding and cutting tips
Tire chuck	To inflate tires
Tire gauge	Checking tire air pressure
Toggle bolt	Anchoring into a hollow space
Toggle switch	Turning current on and off
Toggle switch plate	Cover for toggle switch
Torch lighter	Light acetylene and propane
Torque wrench	Measure amount of torque
Torx screwdriver	Turning torx-head screws and bolts
Tree diameter tape	Measure circumference of trees
Triangular file	Filing saws
Try square	90° squaring
Tube cutter	Cutting soft tubing
Universal joint	Holding socket for angle turning
Universal socket	Socket of angle turning
Valve spring compressor	Compressing valve spring for removal and insertion
Vise grip pliers	For extra firm gripping
Vise grip welding clamp	For extra firm gripping of welding materials
Water breaker	Reduces the impact of water pressure on soil and plants
Welding gloves	Protects welders hands
Welding goggles	Protects welders eyes
Welding helmet	Protects face and eyes from welding flash
Welding torch	Heats and fuses metal
Wheel puller	Remove wheel from axle
Wire scratch brush	Cleaning metal
Wire strippers	Removing insulation from electric wire
Wood chisel	Dressing and shaping wood
Wood mallet	Driving non-metallic objects
Wood rasp	Coarse filing of wood
Wrecking bar	Ripping and prying

**SAMPLE FORMAT**  
**Knowledge Test – Proper Tool Uses**  
**Agricultural Tools and Materials Career Development Event**

Instructions to participants:

*You are to choose the correct use for each of the following tools. After you have chosen a use for a given tool, place the appropriate letter in the space to the left of the tool.*

Contestant name \_\_\_\_\_ Contestant number \_\_\_\_\_

- |                                  |  |
|----------------------------------|--|
| ____ 1. Bolt die                 | a. Aligning holes  |
| ____ 2. Universal joint          | b. Heats and fuses metal   |
| ____ 3. Pipe cap                 | c. Closing the end of a pipe, threads on outside                     |
| ____ 4. Gate valve               | d. Flaring top of hole for recessing head for flathead screw or bolt |
| ____ 5. Straight shank drill bit | e. Cutting and shaping shrubbery                                     |
| ____ 6. Pin punch                | f. Holding socket for angle turning                                  |
| ____ 7. Cutting torch            | g. For fastening metal to metal with a wrench                        |
| ____ 8. Screwmate                | h. Driving out metal pins  |
| ____ 9. Aviation snips           | i. Sharpening chain saw chain  |
| ____ 10. Round file              | j. Cutting metal with heat   |
| ____ 11. Side cutting pliers     | k. For cutting off water supply on a main line                       |
| ____ 12. Welding torch           | l. For fastening wood to wood  |
| ____ 13. Lopping shears          | m. Cutting ends of wire, nails and small bolts                       |
| ____ 14. Machine bolt            | n. Reduces the impact of water pressure on soil and plants           |
| ____ 15. Speed handle            | o. Cutting metal   |
| ____ 16. Drift punch             | p. Rapid turning of socket   |
| ____ 17. End cutting nippers     | q. Cutting threads on bolts and rods                                 |
| ____ 18. Pruning shears          | r. Drills & countersinks flat head wood screw holes                  |
| ____ 19. Roundhead wood screw    | s. Cutting sheet metal   |
| ____ 20. Cold chisel             | t. Drilling metal  |
|                                  | u. Cutting large branches when pruning shrubbery                     |
|                                  | v. Socket handle to be used when flexibility is needed               |
|                                  | w. Closing the end of a pipe by going over the pipe end              |
|                                  | x. Holding and/or cutting wire                                       |
|                                  | y. Filing inside holes   |