

# Agriculture, Food and Natural Resources (AFNR) Skill Standards Checklist

Student Name		YA Student ID Number		
YA Coordinator		YA Consortium		
School District		High School Gradu	ation Date	
Certification Areas Completed:         Required Skills - For EACH Pathway         Check ✓ completed areas (p. 4)         □       Core Skills         □       Core Skills         □       Safety         Animals Pathway (p. 5-7)         □       General Animal Unit – REQUIRED FIRST         □       Large Animal/Herd Unit         □       Small Animal/Vet Assistant Unit         Plants Pathway (p. 8-11)         □       General Plant Unit – REQUIRED FIRST         □       Crops Unit         □       Greenhouse/Floral Unit		Level One Requirements:         Students must complete ALL listed below         Check ✓ completed areas         □       Required Skills         □       Minimum of ONE Pathway Unit         □       Minimum of 2 semesters related instruction         □       Minimum of 450 work hours         Level Two Requirements:         Students must complete all listed below         Check ✓ completed areas         □       Required Skills         □       Minimum of TWO Pathway Units         □       Minimum of 900 work hours         *Unit can be completed two times for a Level Two		
Environme	ental Systems Pathway (p. 12-13)	as indicated on Unit page.		
Water Resources Unit - REQUIRED FIRST Advanced Water Resources Unit Power, Structural and Technical Systems Pathway (p.14-15)				
	culture Mechanic Technician L1 Unit culture Mechanic Technician L2 Unit*	-		
Total Hours Employed	Company Name	1	Telephone Number	
			( )	

## Instructions for the Worksite Mentor(s) and Instructor(s)

The Skill Standards Checklist is a list of the competencies (tasks) to be achieved through mentoring and training at the worksite.

- The worksite mentor should rate each competency as the student acquires and demonstrates the skill *according to the performance standard criteria.*
- A competency may be revisited and the score raised as the student becomes more proficient at the worksite.
- The mentor and student should go over this checklist together on a regular basis to record progress and plan future steps to complete the required competencies.

**I certify** that this student has successfully completed the competencies required in my department. Circle your YA role, sign and print your name, and complete with the date and the department name.

Mentor/Trainer/Instructor Signature	Mentor/Trainer/Instructor Signature
Printed Name	Printed Name
Department	Department
Date Signed	Date Signed

SIGN this page IF you have been a mentor, trainer, or instructor of this student

Mentor/Trainer/Instructor Signature	Mentor/Trainer/Instructor Signature
Printed Name	Printed Name
Department	Department
Date Signed	Date Signed

Mentor/Trainer/Instructor Signature	Mentor/Trainer/Instructor Signature
Printed Name	Printed Name
Department	Department
Date Signed	Date Signed

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Department	Department
Date Signed	Date Signed

## **Operational Program Notes for Skill Standards Checklist**

### 1. Agriculture, Food and Natural Resources Youth Apprenticeship Curriculum

- Definitions:
  - Competency- The worksite skill to be performed.
  - Performance Standards- HOW to assess skill performance as applicable to worksite.
  - Learning Objectives- Content knowledge recommended to learn these skills; may be taught by the employer, school district and/or technical college.
  - Skill Standards Checklist- The documented list of competencies completed by the YA student.
  - W/S- Listed after a skill indicates that skill performance may be learned and assessed at the worksite OR in the classroom in a simulated setting. However, a simulated setting should ONLY be used IF there is no possibility of skill performance at the worksite.
- Performance Standards & Learning Objectives are located in the applicable Appendices of the **Program Guide for this Youth Apprenticeship**
- 2. ALL Youth Apprentices MUST complete the Required Skills (Core Skills and Safety) competencies for EACH Pathway they are enrolled in
  - The Required Skills competencies may be completed concurrently with the Technical Skills competencies.
  - The Required Skills are common skills specific to all Agriculture, Food and Natural Resources industry subsectors. These skills are *aligned with* the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) standards for Agriculture, Food and Natural Resources (AFNR).

#### 3. Youth Apprenticeship choices (depending on job placement)

- Worksites can be chosen from any number of related settings, such as farms, landscapers, florists, greenhouses, veterinarian clinics, industry, and water treatment or wastewater management facilities, which can train the required skills.
- Competencies have been reviewed by the Department of Workforce Development for Child Labor Laws. Contact the Department of Workforce Development's Equal Rights Division/Labor Standards Bureau at 608-266-6860 for questions regarding child labor laws. SEE Appendix A for special Child Labor Law considerations in this YA Program.
- Students will complete a **Minimum Rating** in the Required Skills and one Basics pathway unit for a Level ONE Agriculture, Food and Natural Resources (AFNR) YA and a **Minimum Rating** in the Required Skills and two pathway units for a Level TWO AFNR YA.
- NOTE: Units within each Pathway build upon each other. Therefore, switching between pathways, after the successful completion of the first year, is allowable provided that the student begins the second year in the REQUIRED Basics unit listed under the NEW pathway choice.
- A tractor safety course is *highly recommended* if students will be using tractors during the course of their worksite placement.
- The Department of Workforce Development Occupational Certificate will indicate "Agriculture, Food and Natural Resources" attained when the program is completed.

#### 4. Competency Ratings

- Rate the student on the competencies regularly and revisit the competencies with the student periodically to offer the opportunity for an improved rating.
- Arrangements must be made to ensure that the student learns, practices, AND performs each competency even if that competency is not part of their regular job function.
- "Entry Level" criteria should be interpreted to mean "able to do the task satisfactorily."
- "Assist" in front of a skill indicates that the student should perform the skill as indicated in the curriculum "while assisting a worksite professional." Training should go beyond "observation only" for these skills. It will be up to the employer to determine the criticality of each specific task, training completed, and the actual level of supervision required. See curriculum details for requirements.

### **Required Skills**

**Required** of **ALL** Agriculture, Food and Natural Resources YA Students *Copy this page* **FOR EACH** pathway to be completed

CORE SKILLS		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Apply academic knowledge				
2. Apply career knowledge				
<ol> <li>Apply Agriculture, Food, and Natural Resources industry knowledge</li> </ol>				
4. Communicate effectively				
5. Act professionally				
6. Demonstrate customer service skills				
7. Cooperate with others in a team setting				
8. Think critically				
9. Exhibit regulatory and ethical responsibilities				
10. Use resources wisely				
11. Use basic technology				

SAFETY		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Follow personal safety requirements				
2. Maintain a safe work environment				
3. Demonstrate professional role to be used in an emergency				

#### Rating Scale:

- 3 = Exceeds entry level criteria | Requires minimal supervision | Consistently displays this behavior
- 2 = Meets entry level criteria | Requires some supervision | Often displays this behavior
- 1 = Needs improvement | Requires much assistance & supervision | Rarely displays behavior

## **Animals Pathway**

General Animal Unit		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Clean and maintain animal quarters				
2. Safely handle animals				
3. Mix feed, additives and/or medicines				
4. Manage animal waste				
5. Observe and measure animal physical characteristics				
6. Assist to examine animals				
7. Collect samples for testing and/or food production				
8. Maintain animal care and business records				
9. Manage inventory				
10. Evaluate the facility business and marketing plan (W/S)				

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### **Animals Pathway**

Large Animal/Herd Unit			n rating of 2 fc Check Rating	
		1	2	3
1.	Clean and groom animals			
2.	Feed and water animals			
3.	Mark or tag animals			
4.	Herd and/or patrol/monitor animals			
5.	Monitor animal food and water supplies			
6.	Assist to optimize animal performance and production			
7.	Collect and process animal products and by-products			
8.	Assist with reproductive selection (W/S)			
9.	Assist with reproductive breeding and/or birthing (W/S)			
10.	Assist to prevent the spread of animal diseases			
11.	Operate equipment & machinery safely			
12.	Clean and service equipment & machinery			
13.	Maintain facilities			

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## **Animals Pathway**

Small Animal/Vet Assistant Unit		Minimum rating of 2 for EACI Check Rating		
	1	2	3	
1. Manage clinic or research appointments				
2. Set up area for animal exams & procedures				
3. Clean & sterilize equipment				
4. Maintain and Quality Control (QC) the diagnostic equipment				
5. Assist to collect diagnostic samples				
6. Run basic diagnostic tests				
<ol> <li>Assist to administer routine treatments, vaccines, and medications</li> </ol>				
8. Assist to prepare animals for surgery				
9. Monitor animal responses to non-surgical procedures				
10. Service customers and/or collect fees				
11. Assist with animal euthanasia (W/S)				

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General Plant Unit		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Prepare planting spaces				
2. Prepare soils/media				
3. Plant seeds, seedlings, or cuttings				
4. Monitor plants for light, moisture, and temperature requirements				
5. Assist to install and maintain watering and/or irrigation systems				
6. Mix fertilizers and additives				
7. Apply fertilizers				
8. Manage inventory				
9. Maintain agribusiness records				
10. Evaluate the facility business and marketing plan (W/S)				

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Crops Unit		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Assist to plan crop from rotation schedule				
2. Till and test the soil				
3. Plant crops				
4. Assist to maintain and monitor crops				
5. Assist to prevent the spread of weeds, pests, and diseases				
6. Harvest crop product				
7. Assist to transport and unload crop				
8. Inspect, sort, and store product				
9. Operate crop equipment & machinery safely				
10. Clean and service equipment & machinery				

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Greenhouse/Floral Unit		Minimum rating of 2 for EACH Check Rating		
		1	2	3
1.	Service customers			
2.	Process sales			
3.	Assist to design crop plantings, displays, and/or floral arrangements			
4.	Implement crop planting plan			
5.	Assist to maintain and monitor crop plantings			
6.	Assist to prevent the spread of weeds, pests, and diseases			
7.	Perform sanitization procedures			
8.	Prepare, sort, and store products			
9.	Fill and package orders			
10.	Load product for sale, delivery, or further distribution			
11.	Assist to maintain facility & equipment			
12.	Sharpen hand tools			

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Landscaping Unit		Minimum rating of 2 for EACH Check Rating		
		1	2	3
1.	Assist to evaluate landscaping site			
2.	Measure and prepare landscaping site			
3.	Test soil			
4.	Assist to create design			
5.	Prepare supplies and equipment			
6.	Remove waste materials and hardscaping			
7.	Install construction materials and hardscaping			
8.	Plant landscaping materials			
9.	Maintain landscaped spaces			
10.	Operate landscaping machinery safely			
11.	Assist to maintain landscaping facility & equipment			
12.	Sharpen hand tools			

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## **Environmental Systems Pathway**

Water Resources Unit – REQUIRED FIRST		Minimum rating of 2 for EACH Check Rating		
	1	2	3	
1. Apply water industry knowledge				
Treatment & Operations	1	2	3	
2. Read technical drawings & work orders				
3. Monitor operating conditions, meters, & gauges				
4. Collect operational data				
5. Use operations software (SCADA, PLC, GIS/GPS, DBs)				
6. Adjust basic operating conditions based on readings				
7. Clean & maintain facility, tanks, filter beds, etc.				
8. Treat &/or dispose of solids/sludge/scale				
Lab		2	3	
9. Clean & maintain lab equipment				
10. Collect & store samples				
11. Preserve chain of custody				
12. Weigh & measure accurately				
13. Perform calculations & conversions				
14. Conduct basic lab testing				
Equipment & Quality	1	2	3	
15. Operate tools & equipment safely				
16. Monitor pumps & equipment for correct operation				

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## **Environmental Systems Pathway**

Ad	Advanced Water Resources Unit Minimum rating Check R		n rating of 2 f Check Rating		
		1	2	3	
Re	gulatory				
1.	Assist with reporting				
2.	Assist to evaluate security & public health operations				
3.	Assist with required inspections/audits				
Tr	eatment & Operations	1	2	3	
4.	Assist to prepare chemicals				
5.	Assist to add chemicals				
6.	Perform start-up & shut-down of pumps & equipment				
7.	Inspect operational equipment				
8.	Assist to troubleshoot operations				
Lat		1	2	3	
9.	Prepare microscope slides				
10.	Operate a microscope				
11.	Identify microbes				
12.	Assist to analyze lab results				
Eq	uipment & Quality	1	2	3	
13.	Maintain schedules, communication, & documentation				
14.	Perform preventive maintenance (PM)				
15.	Calibrate equipment				
16.	Assist to troubleshoot & repair equipment				
17.	Assist to analyze operational data for productivity/trends				
18.	Assist to record, summarize & evaluate budget/usage/billing information				
19.	Participate in a system project				

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## Power, Structural and Technical Systems Pathway

### Level One (one year program) = Required Technical Skills + 3 Additional Skills Level Two (two year program) = Required Technical Skills + 10 Additional Skills\*

\*To include previously completed Level One Additional Skills.

Agriculture Mechanics Unit Level One complete All	CS Unit Minimum rating of 2 for EACH Check Rating		
Level Two continue Required Technical Skills	1	2	3
REQUIRED TECHNICAL SKILLS	1	I	
<ol> <li>Select correct hand tools and light duty power tools required for job</li> </ol>			
<ol> <li>Demonstrate safe and correct operation of hand tools, light duty power tools and stationary tools</li> </ol>			
3. Clean, organize and maintain work environment			
4. Identify and demonstrate correct use of fasteners			
<ol> <li>Handle and store oils, grease, chemicals, cleaners, solvents, etc. according to the Materials Safety Data Sheet (M)SDS</li> </ol>			
6. Assist with proper engine testing and maintenance			
<ol> <li>Demonstrate safe practices and procedures in the operation, maintenance and repair of engines and equipment</li> </ol>			
8. Assist in the pre-inspection of equipment components			
9. Assist with the set up of equipment and machinery			
<ol> <li>Connect software to equipment and retrieve diagnostic trouble codes</li> </ol>			
11. Check fluid levels and lubricate machinery and equipment according to manufacturer specifications			
12. Maintain vehicle and machinery appearance and cleanliness prior to inspection and delivery			
<ol> <li>Prepare and complete written documentation of work performed and parts used</li> </ol>			
ADDITIONAL SKILLS Level One Complete any 3			
Level Two Complete an additional 7		2	3
14. Look up parts			
15. Demonstrate proper use of specific diagnostic tools			
16. Weld and cut metal using an oxyacetylene torch and plasma arc torch			
17. Read and interpret hydraulic symbols and flow on a schematic drawing			
18. Apply basic knowledge of hydraulics to service maintenance			

Agriculture, Food, and Natural Resources Youth Apprenticeship Skill Standards Checklist

19. Assist with inspection and diagnosis of hydraulic components		
20. Assist with the maintenance and repair of system components		
21. Interpret electrical symbols and wiring schematics		
22. Apply basic electrical theory		
23. Assist with repair of failed components and/or repair of wiring		
24. Assist with inspection and diagnosis of electrical/electronic components		
25. Assist with the maintenance and repair of electrical/electronic components		
<ol> <li>Assist with troubleshooting and installation of instrumentation and data acquisition system (e.g., Global Positioning System (GPS), spraying, planting, harvesting monitors, etc.)</li> </ol>		
27. Assist with dismantling defective machines and equipment		
28. Assist with reassembly of machines and equipment		
29. Assist with calibration, metering, monitoring and sensing equipment		

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## Additional Certifications, Training, Seminars and Projects

Please list in detail any additional certifications earned, any training and seminars attended, and/or any projects completed during the course of the Agriculture, Food and Natural Resources Youth Apprenticeship.

Description		
Notes/Comments		
Date Completed	Mentor/Trainer/Instructor Signature	Date Signed

Description		
Notes/Comments		
Date Completed	Mentor/Trainer/Instructor Signature	Date Signed

Description		
Notes/Comments		
Date Completed	Mentor/Trainer/Instructor Signature	Date Signed

Other Notes or Comments –					