



Science, Technology, Engineering, and Math (STEM) Skill Standards Checklist

Student Name.	School District
YA Coordinator	YA Consortium
High School Graduation Date	

Certification Areas Completed:

Required Skills - For EACH Pathway

Check completed areas

- Core Skills
- Safety

Engineering & Technology Pathway

- Engineering Drafting Unit- REQUIRED FIRST
- Mechanical/Electrical Engineering Unit
- Civil Engineering Unit

Science & Math Pathway

- Bioscience Lab Foundations Unit- REQUIRED FIRST
- Bioscience Applications 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 for EACH pathway
- Minimum of **TWO** Pathway Units
- Minimum of 4 semesters related instruction
- Minimum of 900 work hours

Total Hours Employed	Company Name	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 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 signed and the department name.

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
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Department	Department
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Operational Program Notes for Skill Standards Checklist

1. Science, Technology, Engineering, and Math 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 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 specific Pathway process technical competencies.
- The Required Skills are common skills specific to all Science, Technology, Engineering, and Math sub-sectors. These skills are *aligned with* the National States' Career Clusters standards for the Science, Technology, Engineering, and Math Career Cluster.

3. Youth Apprenticeship choices (depending on job placement)

- 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 in one pathway unit for a Level One Science, Technology, Engineering, and Math YA and a **Minimum Rating** in the Required Skills and two pathway units for a Level TWO Science, Technology, Engineering, and Math YA.
- **Units within each Pathway are unique to that Pathway.** Therefore, switching between pathways, after the successful completion of the first year, is not allowable.
- The Department of Workforce Development Occupational Certificate will indicate "Science, Technology, Engineering, and Math" 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 Science, Technology, Engineering, and Math 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Apply career knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Act professionally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Demonstrate customer service skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Cooperate with others in a team setting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Think critically	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Exhibit regulatory and ethical responsibilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Use basic technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Use resources wisely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAFETY	Minimum rating of 2 for EACH Check Rating		
	1	2	3
1. Follow personal safety requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Maintain a safe work environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Demonstrate professional role to be used in an emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Additional Comments –

Engineering and Technology Pathway

Engineering Drafting Unit – REQUIRED FIRST	Minimum rating of 2 for EACH Check Rating		
	1	2	3
1. Apply engineering principles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Interpret technical drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Use measuring devices accurately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Organize databases, files, & drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Reproduce documents & plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Use engineering drafting software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Develop one-view drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Develop 2D (orthographic) view drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Develop 3D view models	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Prepare auxiliary views	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Prepare section views	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Dimension drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Apply lettering & basic annotation to drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Check, revise, & record drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Participate on an engineering project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Additional Comments –

Engineering and Technology Pathway

Mechanical/Electrical Engineering Unit	Minimum rating of 2 for EACH Check Rating		
	1	2	3
1. Apply manufacturing & mechanical/electrical systems principles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Interpret mechanical/electrical technical drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Develop the engineering problem & plan with team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Research physical limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Research required materials properties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Research manufacturing/assembly process & limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Design prototype with team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Prepare prototype technical drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Assist to build prototype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Assist to test & revise prototype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Assist to calculate & analyze prototype test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Finalize part/process technical drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Apply quality concepts to project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Additional Comments –

Engineering and Technology Pathway

Civil Engineering Unit	Minimum rating of 2 for EACH Check Rating		
	1	2	3
1. Apply structural & building principles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Interpret civil engineering technical drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Research codes & site requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Conduct site analyses with team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Assist to compile & analyze site measurements & other data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Research structural requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Assist to create materials specifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Design site structure(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Draw a working site plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Construct a Bill of Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Assist to create a project plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Assist to coordinate project activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Apply quality concepts to project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Additional Comments –

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 Science, Technology, Engineering, and Math 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		
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Post Program Completion Survey

Student Name	Expected Date of High School Graduation
School District	GPA at End of YA Program

Instructions: Indicate if the student will continue to be employed, and then check the appropriate boxes. **Please include internships, opportunities to work during school breaks, and other similar situations as offers of continued employment, even if they do not start immediately.**

<input type="checkbox"/> This student will be employed after completing the YA program. Check <input type="checkbox"/> Full time or <input type="checkbox"/> Part time.			
Check all that apply:		Then, fill out the following information:	
<input type="checkbox"/> Employment is related to YA program training	Employment Wage:		
<input type="checkbox"/> Employment is with same YA employer*	Employment Start Date:		
<input type="checkbox"/> Employment is seasonal and/or intermittent	Position Title (optional):		
<input type="checkbox"/> Employment is an internship	Industrial Sector [†] :		
<input type="checkbox"/> Employment is military	[†] Based on employer's NAICS Code. If unknown, describe the employer's primary income-producing line of business below.		
<input type="checkbox"/> Also entering post-secondary education/other training			
<input type="checkbox"/> Also entering a Registered Apprenticeship			
<input type="checkbox"/> Health/personal issues impacted ability for full employment			
<i>*If student accepted a job at a different employer, please provide that employer's contact information:</i>			
Employer Name		Street Address	
City	County	State	Zip

<input type="checkbox"/> This student will not be employed after completing the YA program.	
Check one:	Then, check all that apply:
<input type="checkbox"/> Student did not apply for further employment	<input type="checkbox"/> Entering post-secondary education or other training program
<input type="checkbox"/> Student applied, but was not interviewed	<input type="checkbox"/> Student unable to find an entry-level position to apply for
<input type="checkbox"/> Interviewed, but not offered employment	<input type="checkbox"/> Student had change in career interest or plans
<input type="checkbox"/> Student was offered continued employment, but did not accept	<input type="checkbox"/> Health/personal issues prohibited employment
Other comments:	

Mentor Name	Company Name
Mentor Signature	Date Completed