



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
		()
		()

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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