

## LESSON PLAN

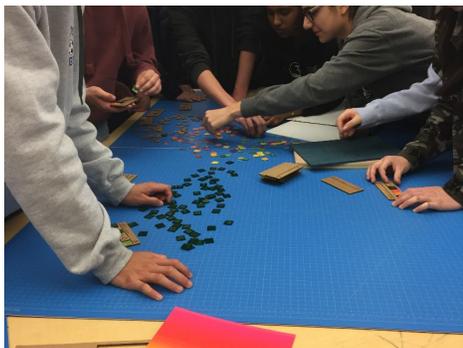
**CLASS:** 8th Grade CTE Course - 1st Week

**TEACHER:** Danielle Martin **TITLE OF LESSON:** Superpower Name Tags

**Topic:** Getting to Know You activity (start of the school year)

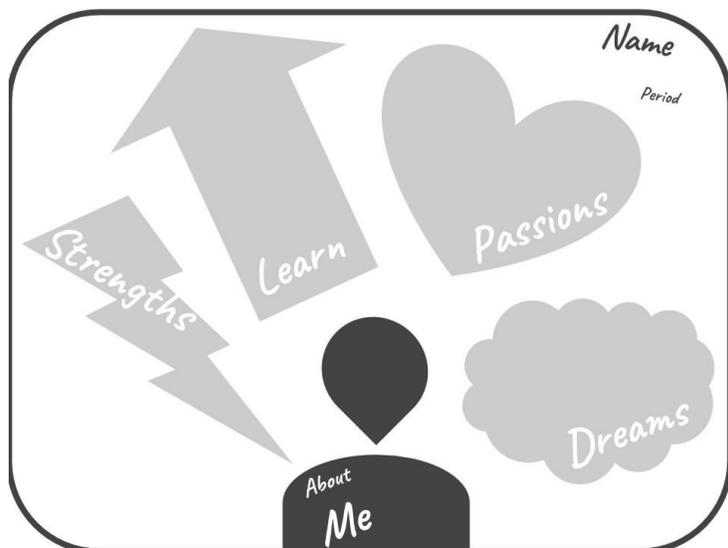
### LESSON SUMMARY:

Learners will further develop their self portrait by identifying skills they have or want to gain, especially those that will make them leaders or useful to their teammates on group projects, by creating a name tag. Learners will also further explore the tools and materials created using Makerspace tools, and start safely using basic arts and crafts hand tools for measuring and glueing.



### 1st Day - "DO NOW" Assignment:

Revisit your About Me profile. Is there anything you would add or revise since last session? Then find a partner, and swap sheets. On your own, quietly review your partner's sheet, then use the post-it notes to identify at least 5 total similarities, differences, or things to ask the person more about. Use the notes but be clear, short and positive.



[If have access to iPad/Chromebooks, just have students swap tech, not print and share/swap. If using technology, have students add sticky note shapes as notes, or even just put in-life notes on screens. It's important to encourage respect of original work but also model constructive feedback and finding possible collaboration points].

See [About Me \(Do it Now\).gdraw](#)

## Week's OBJECTIVES:

Learners will know:

- General uses for tools in the basic inventory of equipment and materials in the Makerspace
- Major safety rules and considerations for major tools, including laser cutter, vinyl cutter, hand tools including cardboard snippers, Exacto knives, and hot glue guns.
- Key leadership skills critical for completing an individual and group project in the Makerspace.

Learners will be able to . . .

1. Identify and choose appropriate materials for fabrication of a first project from a template, a nametag.
2. Solve a real-world design problem, given materials and size restraints, by practicing mathematical thinking and using measurement tools
3. Identify key skills for leadership and productive participation in balanced and cooperative teams
4. Construct and communicate a representation of identity, including literal and metaphors & symbols

**STANDARDS ADDRESSED:** The following California Career Technical Education (CTE) Model Curriculum Standards are covered:

### *CTE Career Ready Practice*

**4. Apply technology** (*including digital fabrication tools*) **to enhance productivity.** Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks (*including safety*)—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

### *CTE Anchor Standards*

#### 5.0 Problem Solving and Critical Thinking

5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.

5.6 Know the available resources for identifying and resolving problems.

#### 7.0 Responsibility and Flexibility

7.3 Understand the need to adapt to changing and varied roles and responsibilities.

9.0 Leadership and Teamwork - Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution such as those practiced in the Future Business Leaders of America and Skills USA career technical student organization. (Direct alignment with SLS 11-12.1b)

9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.

## 10.0 Technical Knowledge and Skills

10.9 Use common industry-standard software and their applications including word processing, spreadsheets, databases, and multimedia software.

### *CTE Pathway*

General, Engineering & Design employability skills, including planning and preparing for work — to include selection of correct tools and equipment.

### Specifically, B. Engineering Technology Pathway

B7.0 Understand industrial engineering processes, including the use of tools and equipment, methods of measurement, and quality assurance.

B7.4 Estimate and measure the size of objects in both Standard International and United States units.

### *Common Core Math - Expressions & Equations*

[CCSS.MATH.CONTENT.7.EE.B.4](#) - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

### **MATERIALS:**

- About Me profile drawing / worksheet
- Maker Journal

#### Technology:

- iPads/Chromebooks (or just worksheets on paper)

#### Fabrication Tools:

- Arts & Crafts: Scissors, Sharpee markers, regular glue sticks / white glue, hot glue gun & sticks
- Laser cutter
- Vinyl Cutter
- (optional) CNC cutter/milling, 3D printer

#### Name tag ingredients:

- pre-cut Scrabble tiles on acrylic, cardboard, cardstock, vinyl sticker (if time, felt, CNC milled wood, 3D printed)
- pre-cut name tag baseplates in various widths
- pre-cut symbols or shapes or icons for key leadership skills, cut in vinyl stickers or laser cut cardboard badges
- adhesive pin backs or safety pins
- (optional) more uncut materials appropriate for cutting more Scrabble tiles

#### Extension - Paper circuit

- LEDs
- Copper taper
- 3V watch batteries
- Clear adhesive (Scotch Magic) tape
- Small metal binder clips

See documentation of this makerspace project on MakerShare.com:  
<https://makershare.com/projects/scrabble-tile-nametags>

### **ANTICIPATORY SET (Motivation):**

In our first class meetings, you started to meet your fellow classmates and got a quick tour of all the tools and materials in the Makerspace. Today, we'll dive deeper into who you are, what you want to learn, and how the skills you already have or want to learn can be valuable in your teams this term. By the end of this lesson, you'll explore different materials cut on the major tools of the space, use basic arts & crafts tools such as the hot glue gun, and create your own name tag that expresses one of your "superpower" Maker skills.

(optional) Show video from Children's Museum of Pittsburgh Makeshop "I Am a Maker" <https://vimeo.com/82394806>

### **FACILITATION (FORMERLY KNOWN AS TEACHING/PRESENTATION):** o

#### *Input or Content:*

1. How to find and manipulate basic materials and arts & craft tools of the Makerspace, especially rulers and hot glue guns
2. Measuring and calculating appropriate base tag width, based on number of letter in name
3. Key leadership skills of a maker in a team
4. Ways to communicate an abstract idea, such as a leadership skill, through symbols

#### *Modeling:*

Instructor will have working examples (or at least photos in a slideshow) of finished superpower name tags, give the challenge, then prompt and encourage learners to persist and finish "just in time" during project building. Instructor will also encourage learners who finish early to turn and support their peers in completing projects.

*Instructional Strategies:* Think, Pair, Build, Pair (again), Share

Step 1: Present the challenge = (show slide)

Today you will create a name tag that:

- ✓ represents the version of your given name your teammates should call you
- ✓ represents one maker superpower - one you have already or want to gain this term
- ✓ has a base that evenly fits name based on # of letters OR creatively fits name and power
- ✓ utilizes tiles created with 3 different tools

Step 2: Review 3 types of tools/materials used to create tiles and available hand tools for today's project:

- (optional) Demo how Scrabble letter tiles were cut on each machine
- Demo how to setup and use cutting and gluing tools safely

Step 3: THINK ALOUD: Suggest an planning and creation approach, such as:

- Pick the name you want your makerspace teammates to call you, and one skill you see on your own About Me profile.
- Measure and calculate tag size based on your name length
- Know your materials, and make creative decision to use tiles cut from different tools
- (optional) if there's time, we can try cutting more Scrabble tiles on different materials

= Prompt learner to document their planning in the Maker journals.

Step 4: Open Build time - learners build their own name tag projects.

Step 5: (optional) Show your measurement calculation as an equation.

*Use whiteboard to walk learners struggling with measurement and calculation through the process by constructing an equation together:*

My name has \_\_\_ letters (a).

Each Scrabble tile is \_\_\_ inches wide (b).

Options for base tag width are \_\_\_, \_\_\_, \_\_\_ (d)

The room for border I want to leave is \_\_\_ on each side (c).

If my name has \_\_\_ letters (a), which base (d) should I choose? Write and solve this equation!

$$ab + 2c = d$$

Step 6: Find your partner from the earlier Do It Now activity and now swap nametags. Discuss in your pairs what worked and didn't work while building your project and what you'd do differently the next time.

Step 7: Share! Each learner introduces his/her partner to the whole group, highlighting their superpower!

**EXTENSION:** Introduce basic electronics through paper circuits, adding LED lights with simple switches using copper tape and watch batteries.

**GUIDED PRACTICE:**

After an initial phase of independent building, instructor will circulate or ask learners for updates on their progress, then prompt to take it further or try a new technique or help through an initial failure to find other solution. Make sure to point out when one learner figures out an effective technique, and suggest they show peers what they figured out.

**INDEPENDENT PRACTICE:**

The project challenge description, complete with restraints and summary of Rubric as "Scoring Guide", will be projected on the screen, as well as saved as a project prompt in the Google Classroom site for the course. During Step 4 Open Build Time, instructor will prompt learners to "Ask Three Before Me" and not answer questions for first phase of project building, and only step in if there is a safety concern.

**ASSESSMENT:**

*Formative Assessment:* Check sketches and/or notes in Maker Journal during planning and building

*Summative Assessments:*

- End of class group discussion or later personal reflection/description in final term portfolio responses
- Super Power Name tag Project Rubric score, as part of end of term portfolio project review.

**MODIFICATIONS/ACCOMMODATIONS FOR SPECIAL NEEDS STUDENTS:**

|                               | <i>Student 1 (IEP)</i>   | <i>Student 2 (IEP)</i>   | <i>Student 3 (504)</i>  |
|-------------------------------|--|--|---|
| <i>General considerations</i> | Avoid text heavy as only communication of concepts   | Optimize long term memory<br><br>Sequence key events<br><br>Provide all text in digital format, especially pre-teaching vocabulary   | Allow student to excuse him/herself to use restroom or visit nurse, using unobtrusive hand signal   |
| <i>Setting/ Seating</i>       | Make sure this learner doesn't get in back corner of back group table; rotate often if working on laptops to ensure student doesn't turn laptop screen and work on side projects   | Pair up with this student as part of demo to build upon her confidence for working in 1on1 with peers  | Preferential seating<br><br>Keep space and common tools clean and regularly disinfected, especially during cold season                    |
| <i>Scheduling</i>             | Place learner in first maker elective rotation of the morning, to help motivate learner to arrive on time in mornings to participate fully   | Explicitly articulate agenda and timing of lesson flow, establishing routine even during open making time  | Avoid running laser cutter and clean CNC milling machine before or during class session (avoid possible smoke or dust inhalation)         |
| <i>Time</i>                   | <ul style="list-style-type: none"> <li>● Start learning on time, but give frequent timechecks during open making, with hints on how far along a learner should be at certain intervals</li> <li>● If learner finishes too early, encourage to peer mentor with extra time</li> </ul>   | Encourage report out to whole group but coach or prep individually and informally during open make time  | Allow extra time to finish build project if needs to leave during class time or allow to bring project pieces home for construction later |
| <i>Presentation</i>           | If present instructions in words on screen, mirror with aural and/or kinesthetic reinforcement, especially using icons or symbols typical in ICT environment<br>When activities are very tactile, make sure to prompt learner to pause and document understanding in at least 2 other forms<br>When activities are very tactile, make sure to prompt learner to pause and document understanding in at least | Provide task or prompt cards for specific steps in the project build process, or to reinforce concepts or skills introduced aurally<br>Offer project roadmap, with steps as markers of progression<br>Offer self-paced video tutorials for software aspects<br>Present finished demo project if expresses confusion about final project build completion | Allow option to submit partner report out on paper  |

|                        |  |   |  |
|------------------------|--|---|--|
| <p><i>Response</i></p> | <p>Give option for photo or video documentation of project (not just text in maker journal)<br/>Offer extra credit activities around experimenting with own inquiries around which materials are best to cut Scrabble tiles and allow learner to test theories</p> | <p>Offer option of multimedia (photo or audio recorded) reflections on iPad, instead of written maker journal entry<br/>Document pairing for Expressive Communication short term objective (p7)<br/>Document progress in developing good time management work habits (p9)</p> | <p>Give student detailed version of syllabus for term with dates of open build days highlighted, in order to plan for individual portfolio completion asynchronously</p> |
|------------------------|--|---|--|

## ENGLISH LANGUAGE LEARNER STRATEGIES:

| 1. Planning   |  |  |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
|---|--|--|------------|----------------------|--------------|--------------------------------------|--|------------------|---------------------------------------|------------------------------------|--------------------|--|--|--------------|------------------|---|--------------|---------------------|--|
| a. Identify both content and language objectives.                   | <p>See content objectives above - <i>Additional Language Learning Objectives</i>:</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>Names in both English and their native language of major tools in space</li> </ul> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>Demonstrate through safe behavior and articulate major safety rules and considerations for major tools</li> </ul>   |  |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| b. Identify the learning strategies and study skills to be used.    | <ul style="list-style-type: none"> <li>Give option for photo or video documentation of project (not just text in maker journal)</li> <li>Offer option of multimedia (photo or audio recorded) reflections on iPad, instead of written maker journal entry</li> </ul>   |  |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| c. Emphasize and develop key vocabulary (Metacognitive Development) | <p>At beginning of class, handout out end of class reflection journal or group discussion questions, with key new concepts bolded but not defined (yet). For instance, for safety concept review, offer a checklist/table and then show example of possible entry:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Tool</i></th> <th style="text-align: center;"><i>Use</i></th> <th style="text-align: center;"><i>Watch Out For</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Laser cutter</td> <td style="text-align: center;"><i>Quick cut of large 2D designs</i></td> <td style="text-align: center;"><i>Stay close with spray bottle handy, and focused during cuts of wood and light cardboard</i></td> </tr> <tr> <td style="text-align: center;">vinyl/die cutter</td> <td style="text-align: center;"><i>cut stencils or tshirt designs</i></td> <td style="text-align: center;"><i>Don't touch blade; use mats</i></td> </tr> <tr> <td style="text-align: center;">cardboard snippers</td> <td style="text-align: center;"><i>cut cardboard and thin wood quickly and clean</i></td> <td style="text-align: center;"><i>Only good for straight cuts; use clamps or keep second hand out of path</i></td> </tr> <tr> <td style="text-align: center;">Exacto knife</td> <td style="text-align: center;"><i>Hand cuts</i></td> <td style="text-align: center;"><i>Use metal rule to guide cuts; Cut on matt and stop at table edge</i></td> </tr> <tr> <td style="text-align: center;">hot glue gun</td> <td style="text-align: center;"><i>Quick builds</i></td> <td style="text-align: center;"><i>Use secondary tool (popsicle stick) to press down</i></td> </tr> </tbody> </table> <p>Have a slide or poster of a <b>Word Wall</b> with common makerspace terms/concepts</p> | <i>Tool</i>  | <i>Use</i> | <i>Watch Out For</i> | Laser cutter | <i>Quick cut of large 2D designs</i> | <i>Stay close with spray bottle handy, and focused during cuts of wood and light cardboard</i> | vinyl/die cutter | <i>cut stencils or tshirt designs</i> | <i>Don't touch blade; use mats</i> | cardboard snippers | <i>cut cardboard and thin wood quickly and clean</i> | <i>Only good for straight cuts; use clamps or keep second hand out of path</i> | Exacto knife | <i>Hand cuts</i> | <i>Use metal rule to guide cuts; Cut on matt and stop at table edge</i> | hot glue gun | <i>Quick builds</i> | <i>Use secondary tool (popsicle stick) to press down</i> |
| <i>Tool</i>   | <i>Use</i>   | <i>Watch Out For</i>   |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| Laser cutter  | <i>Quick cut of large 2D designs</i>   | <i>Stay close with spray bottle handy, and focused during cuts of wood and light cardboard</i> |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| vinyl/die cutter  | <i>cut stencils or tshirt designs</i>  | <i>Don't touch blade; use mats</i>   |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| cardboard snippers  | <i>cut cardboard and thin wood quickly and clean</i>   | <i>Only good for straight cuts; use clamps or keep second hand out of path</i>                 |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| Exacto knife  | <i>Hand cuts</i>   | <i>Use metal rule to guide cuts; Cut on matt and stop at table edge</i>                        |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| hot glue gun  | <i>Quick builds</i>  | <i>Use secondary tool (popsicle stick) to press down</i>                                       |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |
| d. Develop strategies that encourage interaction.                   | <p>During the paired up interview activity, coach the students on best practices for clearly speaking and listening to their partner. Depending on the comfort level of the students, adopt the active listening protocol where when one person is speaking, the listener cannot speak.</p>  |  |            |                      |              |                                      |  |                  |                                       |                                    |                    |  |  |              |                  |   |              |                     |  |

|   |  |
|---|--|
| e. Build lesson on students' background and prior knowledge (Bridging)            | Offer an online skills inventory pretest as pre-work before this lesson  |
| f. Plan delivery based on English proficiency levels of students.                 | May need to modify timing or assignment for pairing exercise, so students can be more comfortable and have more time to report out in English  |
| g. Use into / through / beyond lesson design.                                     | Offer extra credit activities around experimenting with own inquiries around creating their own Scrabble tiles character sets in their native language   |
| h. Identify scaffolding techniques to reinforce reading and writing as a process. | Encourage student to write key words ideas on scrap paper squares or post-it notes quickly, then attach to journal after<br><br>Offer journal or discussion questions as slips of paper or label stickers student can affix in notebooks   |
| i. Monitor students' progress.  | <i>Formative Assessment:</i> Check sketches and/or notes in Maker Journal during planning and building   |
| <b>2. Instruction</b>   |  |
| a. Use pronounced gestures and facial expressions.                                | Make sure when demonstrating build steps to hold up corresponding tools or materials, all of which are labeled with the English word using a permanent marker or a label.  |
| b. Enunciate clearly.   | Record video demonstrations of certain software skills, so students can watch and listen at their own speed.   |
| c. Modify use of text and speech as appropriate.                                  | Give the option, if the students have time, to design and create more Scrabble tiles letters in different language character sets - see <a href="https://en.wikipedia.org/wiki/Scrabble_letter_distributions">https://en.wikipedia.org/wiki/Scrabble_letter_distributions</a> .  |
| d. Use graphic organizers that support lesson.                                    | See <a href="#">Maker Journal entry template</a> below   |
| e. Explain idiomatic expressions as needed.                                       | Make special note to explain origins of commonly used acronyms or short hand names for common Makerspace tools and concepts, such as LED stands for Light Emitting Diode, but most electrical engineers use the shorter LED in conversation, instructions, and visualizations.<br><br>Explain origin of "super powers" from comic books and hero-based movies. |
| f. Use synonyms, paraphrasing, and examples.                                      | Tell story of doing these kind of nametags at a teachers conference in Maryland, and how an electrical engineering teacher taught me how to do a parallel circuit! Bring made example and show during the demo.  |
| g. Incorporate examples from students' own cultures and language backgrounds.     | Have or let the students make Scrabble tiles sets in their native language   |
| h. Use real-life examples, realia and props.                                      | Have finished demo projects, made by myself, other teachers, or peer leaders.<br><br>Create posters that demonstrate vector vs. raster cut, and how we use both in the already cut Scrabble tags cut on the laser cutter.  |
| i. Check frequently for understanding.  | When doing a step-by-step demo, stop and ask "Thumbs up if you understand" or "Raise your hand if you're excited to show off your prototype."  |
| j. Encourage students to request clarification and respond to them.               | Answer questions more 1on1 during open making periods of instruction   |

|  |   |
|--|---|
| k. Teach learning strategies related to content.   | Remind all students about safety and common efficient work practices, and invite them informally to voice these back orally during in-progress checks.  |
| l. Allow adequate response time.   | If class too full for pairing report outs to the whole group, have pairs at least turn to the other pair at their tables and report to them.  |
| m. Support instruction with preview and/or examples in students' primary language when possible. | Have project examples with powers in multiple languages or have Scrabble tiles cut with language specific letters with accents, tildes etc.   |
| <b>3. Materials</b>  |   |
| a. Ensure access to bilingual dictionaries or glossaries that support content.                   | Make sure tool manuals on shelf or available in the Google Classroom reference section are in multiple languages.   |
| b. Use visuals to support instruction.   | See About Me.gdaw and instructional slides  |
| c. Use oral/written previews and reviews to support multimedia presentations.                    | Create additional prompt stickers for Maker Journal entries or project documentation narratives   |
| d. Incorporate multicultural literary and informational materials when available.                | Highlight Black Panther movie and other super heros' leadership traits from other cultures and legends  |
| <b>4. Assessment/ Evaluation</b>   |   |
| a. Focus assessment/evaluation on state standards and district curriculum benchmarks.            | See <b>STANDARDS ADDRESSED</b> above  |
| b. Use multiple methods for assessment.  | <p><i>Summative Assessments:</i></p> <ul style="list-style-type: none"> <li>• End of class group discussion or later personal reflection/description in final term portfolio responses</li> <li>• Super Power Name tag Project Rubric score, as part of end of term portfolio project review.</li> </ul>  |
| c. Use assessments tied to classroom work.   | <p>See <b>ASSESSMENT</b> section above</p> <p>Have a more informal white board near door, with vinyl cut stickers or CNC milled wood with chalkboard paint, where students take turns (if they finish early or during Do It Now time at beginning of class) writing reflections on:</p> <p>K: What we already knew today...<br/> W: What we want to learn more...<br/> L: What new things we learned...</p> |
| d. Accept responses in students' primary language when appropriate (i.e., beginning ELs).        | Accept projects and maker journal entries with some notes in primary language, especially during sketches of prototypes   |
| e. Provide students with frequent feedback on progress.  | <p>Roam the room during open make times, and ask for student 1on1 to stop and tell me about their project so far. If natural leaders emerge and finish early, prompt them to explain what they did to their peers then help them finish.</p> <p>Collect journals weekly and give Post-It note feedback</p>  |

## 5. Classroom Environment

a. Use bulletin boards and displays that reflect the diversity of California's students.

Have students in later weeks or during open periods contribute to building a wall with words in multiple languages to demonstrate materials, tools, or makerspace mindsets.



Also add a "muro de falla" or Failure Wall, where makers can post happy failures and sketches of ideas that didn't work out.

b. Support a comfortable atmosphere and positive learning environment.

Provide a bookshelf of manuals or how-to books on related subjects in both English and other predominant languages of the student body.

Create a shadow peg board to store handtools, but add labels in multiple languages - see <https://www.instructables.com/id/Shadow-Board/>



c. Post student work and celebrate excellence!

Have a corkboard where students pin their finished nametag projects, and maybe over time, have them lasercut or vinyl cut reflection tags with their name and a sentence about the materials used.

**Graphic Organizer (aka Maker Journal entry template)**

| <b>PROJECT: Super Power Scrabble Name Tag</b> |   |                  |
|---|---|------------------|
| <b>Background</b>                             | <b>New Concept I Learned Today</b>                          |                  |
|   |   |                  |
| <b>Sketches of Ideas / Prototype Designs</b>  | <b>Tools</b>  | <b>Materials</b> |
|   |   |                  |
| <b>Techniques I Used....</b>                  | <b>Next version, I'd do this instead or differently....</b> |                  |
|   |   |                  |

**CLOSURE/REFLECTION:**

Quick full group debrief discussion on what materials worked well and which did not, or if the group sees any natural clusters of similar or different skills. Are there any materials or skills missing that you would want to use on your next project? Also leave ample time to clean-up, reminding of correct cleanup and put away procedures. Give encouragement to the learners that take initiative or model quick and safe cleanup and point out areas that are complete or not during the process.

**NARRATIVE:**

During this lesson, the instructor will adapt the Think, Pair, Share cooperative learning strategy to also incorporate independent and peer supported guided practice, in order to engage learners visually, aurally, and kinesthetically. I'll reinforce the understanding around Makerspace tools, tools, and safety (a kind of daily re-looping of previously learned material), but having learners construct their own artefact made from different materials cut on different tools. Learners will get to choose and construct a quick representation of themselves through hands-on active participation, so they'll get to physically re-communicate an aspect of their profile. They'll also have to solve, and maybe explicitly express, a real world math challenge. While building and helping learners choose, I can also informally ask questions about how they choose or prioritized one skill over others to represent on the tag, and they help them synthesize the idea that some skills are idea and encouraged in Makerspace teams to finish larger or longer group project later. Finally, this early lesson will be important to seed peer mentoring and creative confidence to try new tools, materials, and try different iterations if or when first attempts fail.

During this engagement, the instructor will have to do formative assessment in the form of informal observations then also learner partner sharing during the concluding reflecting discussion. Summative assessment will come later, when this project is scored for mastery of the key learnings as part of a larger term long portfolio.

## LESSON PLAN

**CLASS:** 8th Grade CTE Course **TEACHER:** Danielle Martin **TITLE OF LESSON:** 1st Week Introduction & Superpower Name Tags

### RUBRIC

|   | Learning Element  | Master (4)   | Apply (3)   | Know (2)   | Start (1)  | TOTAL |
|---|---|--|---|--|--|-------|
| 1 | Using basic materials and tools in safely and appropriately in the Makerspace                 | Name tag project uses materials from 3 different tools, using multiple available measuring, cutting and gluing hand tools; learner also safely uses tools and cleans up space. | Uses materials from 2 different tools, using multiple available measuring, cutting and gluing hand tools; learner also safely use only a few tools. | Uses materials from 1 or less, using multiple available measuring, cutting and gluing hand tools; learner also safely uses and cleans up space.                | Name tag project still incomplete at end of class period but appropriately stored for future completion. |       |
| 2 | Measuring and constructing evenly spaced name on tag  | Number of letters in name fit proportionally on the base nametag AND student found creative way to fit name in aesthetically pleasing and understandable way.                  | Number of letters in name fit proportionally on the base nametag.   | Number of letters in name may not fit proportionally on the base name tag, but learner expresses or shares notes on how he/she might fix in future iterations. | Name tag project still incomplete at end of class period.  |       |
| 3 | Identify or set goals for a key leadership skill for contributing to a work team              | Fully translated single or multiple aspects of About Me profile, represented it on nametag AND also identifies other important skills in other learner projects.               | Fully translated skill into his/her own words at least one skill from their About Me profile on nametag.  | Learner chooses a skill from provided list of examples.  | No leadership skill is represented.  |       |
| 4 | Represent and creatively communicate identity, through customization, symbols and/or metaphor | Creates own, new symbol or representation of superpower skill, that partner understands and share out to group.  | Add symbol or representation of superpower skill, that partner understands and share out to group.  | Symbol or representation of superpower skill, but partner doesn't understand and can't share out to group.   | No representation of skill appears on tag.   |       |

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