Step	Instruction	With All / Group of 4 / Partner / Individually	Timer set at:
1.	IF there is an Ice Breaker activity, make sure everyone in your group has participated. Organize participants into their groups – 4 participants per group is perfect. IF the Participant Group Kit is on the table, no one is to look at the contents until after Step #15. This is very important. IF you show them the kit too early, it may influence and/or limit their project design ideas	All	5 mins.
2.	Tell participants this activity takes approximately 60 minutes. Each step is timed. There can be no interruptions once the process starts	All	10 mins.
3.	Design Challenge Give each group a copy of your Design Challenge (<i>Section 4.2. has Design Challenges</i> <i>we have used in other Maker Days</i>). Ask someone in each group to read it aloud to the others. Ask if there are any questions about the sketch.	All	10 mins.
4.	Design Thinking Process Hand out copies of the Design Thinking Participant Worksheet (<i>Section 3.5</i>). Make sure everyone has a pencil.	All	5 mins.
5.	 <i>Empathy</i> Ask participants to find #1 <i>Interview Notes</i> (<i>Empathy</i>) on their worksheets. Ask the members of the group to pick a partner. Within the partnership, one member will be an 'A' and the other will be a 'B'. Ask the 'A' member to interview their 'B' partner to find out what their first thoughts are about the Design Challenge. For example, suggest everyone start with W5 (who, what, where, when, why) and how. Ask lots of questions trying to gain empathy. Tell all the 'A' interviewers to record their interview notes on #1 of their worksheet. Monitor the groups to make sure one person is doing the interviewing and recording. 	Partner	4 mins.





Step	Instruction	With All / Group of 4 / Partner / Individually	Timer set at:
6.	• When the timer goes off, ask the partners to switch roles ('B' interviews 'A') and to begin the interview/note taking process again.	Partner	4 mins.
7.	• Ask 'A' to review #1 notes. Now, each 'A' will ask their partners for more details, stories, examples about how they situate the Design Challenge.	Partner	3 mins.
	• Start the interview process again, tell them to record their notes on #2 <i>Detailed Interview (Empathy)</i> .		
8.	• When the timer goes off, ask the partners to switch roles ('B' interviews 'A') and begin the interview / note taking process again.	Partner	3 mins.
9.	Define	Individually	3 mins.
	• Ask participants to locate <i>#3 Defining the</i>		
	 Issue on their worksheets. Working individually, everyone needs to determine what their partner's Goal and Wishes are. GOAL = what is their partner trying to solve? 		
	 Also, record any Insight they have gained. INSIGHTS = did they learn something new about the Design Challenge through the interviews with their partner? 		
10.	Ideate	Individually	10 mins.
	 Ask participants to sketch 5 ideas to help their partner with their challenge. Use #4 to sketch 5 Ideas on their worksheets. Encourage participants to sketch rather than use words to illustrate the ideas. 		
11.	 Ask participants to share their 5 sketches with their partners. 	Partner	5 mins.
	• Tell them to record their partner's feedback and suggestions on #5 <i>Gain Feedback From Your Partner</i> .		
12.	• When the timer goes off, ask the partners to switch roles and do the process again.	Partner	5 mins.





Step	Instruction	With All / Group of 4 / Partner / Individually	Timer set at:
13.	 Based on the feedback from their partners, ask the participants to use #6 Redesign Your Idea Based on Feedback to redesign their ideas. It can be combination of all the ideas, a new idea, or a modified idea based on their partner's feedback. Again, stress the need to sketch their ideas. 	Partner	5 mins.
14.	 Ask partners to share their #6 Sketches within their small groups. Remind the group to review the Design Challenge parameters. Ask each group to select one sketch to prototype. 	Group of 4	15 mins.
15.	 Collaborative Prototyping Once each group has selected the design will prototype, ask them to design it on #7 <i>Sketch Your Group's Idea</i>. Once this is sketch is completed, the group can open their Participant Group Kit, explore the Tool Station, Pantry (and Tool Crib, IF fabrication is involved). Use the tools and materials that are available to make their prototypes. 	Group of 4	Time will vary by group
16.	 <i>Test</i> Help groups to use the Makerspace tools and materials. Encourage them to push for details and to test out their prototypes. 	Group of 4	2 hours or time available
17.	 Once groups have begun to finish their prototypes, encourage them to begin to clean up their areas and return the tools to the Tool Station, Pantry or Tool Crib. Encourage recycling and reuse of the materials. Make sure you count all the tools and make sure everything has been returned. 	Group of 4	
18.	• Clear off the tables and prepare prototypes and one 'Sketch #7' on the Design Activity Sheet for the Design Charrette.	Individually & Group of 4	15 mins.





Step	Instruction	With All / Group of 4 / Partner / Individually	Timer set at:
19.	 Design Charrette Ask 1 member of each group to stay at their table and explain their work to the other groups. Other group members can wander the room talking with the representative from each group. Remind groups to trade turns of staying at the table. Remind participants to ask good and respectful questions of each group's representatives. This is an opportunity for idea sharing, iteration, and professional learning. 	All	30 mins. Time depends on degree of interest
20.	 Reflection Ask participants to return to their groups and share what they have learned with their group. Ask them to complete #8 Reflection on their worksheets. 	Group of 4 & Individually	10 mins.



