

Dream Garden: Instructor Guide

Day/ Night Before

- 1) **Volunteers:** Contact your teacher and get a final headcount, time and location of your workshop as well as any last minute information they may have for you.
- 2) If the classroom set is on a checkout system or a classroom cart be sure to get this into your possession.
- 3) Check each kit to be sure all components, Galileos and Power supplies are accounted for. Here is a wish list of what each kit should include: <http://sfe.io/w91575>
- 4) If a kit is missing parts, take note of which parts are missing for reorder and resupply.
- 5) Double check the MicroSD card in each Galileo.
 - a) Power each Galileo and make sure it broadcasts a wifi network. (This is roughly 2 minutes per Galileo.)
- 6) Collect a placemat and reference card set for each kit.
 - a) These may need to be printed!
- 7) Double check presentation materials for the workshop and print out Expansion Handouts for the total number of students you will work with.
- 8) Collect all required extension cords, power strips and extra parts. (LEDs, standoffs, screws, extra antennas and jumper wires are recommended to have on hand at all times.)
- 9) Collect any collateral you want to give out to participants.

1 Hour Before

1. Arrive at workshop location. If at a school be sure to check-in with the front desk and get a name tag.
2. Find location you will be teaching
3. Setup
 - a. Each station will be occupied by 2 students. Make sure that each station has 2 chairs.
 - b. Run required power to all stations. Each station will require at least one outlet, more if you plan on using laptops.
 - i. Be sure to tape down any wires that pose a tripping hazard
 - c. Setup your instructor station with projector, laptop and instructor Galileo
 - i. Double check that all participants can view the projector clearly
 - ii. Open presentation slide deck and have it on the cover slide before students arrive.
4. Hit the restroom before students arrive!
5. Have collateral ready to give out, have a plan for rewarding students ahead of time.
6. Have the instructor Galileo powered up and make sure it is functional.

Lesson Timing Guide

Arrange with the hosting teacher to have them take roll “on the fly” as the workshop will take all of the time allotted.

Introductions (5 Minutes)

- Warm-Up
 - Knowing what you know now, what would you make with the kit and CAT?
 - Design a quick napkin sketch project and share it with your partner
 - Share out 2-3 ideas

Defining the capstone (5 Minutes)

- We will be building a final project using CAT and the CAT Kit to demonstrate
 - prototyping skills in terms of
 - construction
 - systems thought
 - mechanics
 - circuit building (inputs and outputs)
- Project prompt:
 - Disney Land is installing a new ride themed around Alice in Wonderland. You and your partner have been contracted to prototype a model of an automated “dream garden”. You are to use CAT and the CAT kit and any materials that you have available to you to develop your concept, prototype it and then demonstrate it to your class.
- Show video clip of Alice in the garden for inspiration.

Digital Dream Garden Design (20 Minutes)

- Design Process
 - using scrap paper document the following for your idea
 - sketch of a possible project
 - diagram of CAT program
 - List of components used in terms of inputs and outputs
 - Once documentation is approved by you they move on...

Prototyping and design through tinkering (40 Minutes)

- collect possible materials and start to iterate your design
 - develop part templates and mock up your project
 - play with the different cardboard Automata in your packet
 - which ones achieve what you are trying to do?
 - Document your process through updating your initial drawings or creating new ones.

Project work Time (55 Minutes)

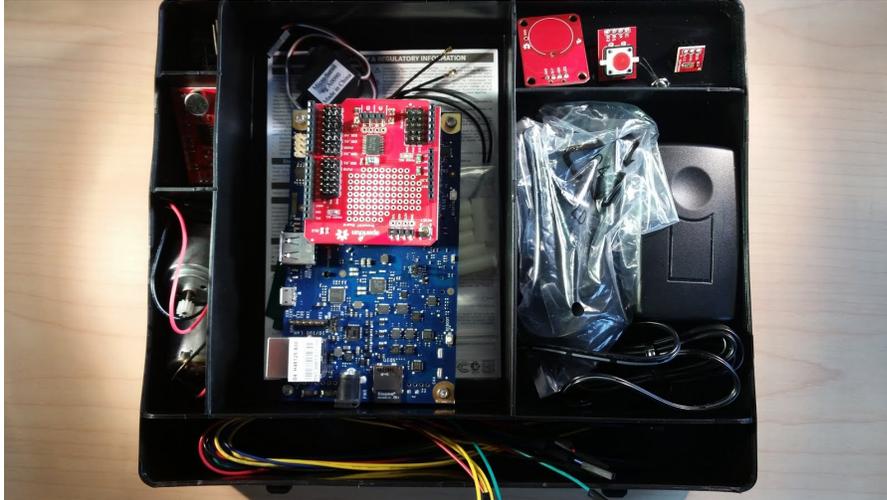
- Finalize your design
 - Final drawings to be presented to the class
 - Final version of your working prototype
 - Paragraph description of your prototype and its components.

Cleanup and debrief(10 Minutes)

- When it is time to clean up
 - Students return all tools to specified area
 - Have host teacher walk around with recycling bin while you lead debrief
- Debrief
 - Have the entire class stand up and have a gallery walk around the room
 - You should take photos of outstanding projects
 - Once the class has viewed the projects have them return to their seats
 - What did you like about what you saw?
 - What would you have changed now that you saw others work?
 - What other project could you apply this circuit to?
 - Look at the other sensor reference cards, which one would you try next?
 - Have class vote through secret ballot
 - Give a 1st, 2nd and 3rd awards.
- The hardware stays with the kits!!!
 - Ask students to put the wires, LEDs and sensors away in the kit
 - They can take the night light if they want, otherwise recycle it
- Thank you for having me!
- If they want to explore more, you can come back and they can build project 2: Setting The Stage

Follow-up and Post Workshop

- Unplug all of the Galileos
 - pull up and dispose of tape.
- repack kits, take note that all sensors and actuators are in tact
 - If something is missing, take note of it for restocking
 - Replace all parts in the kit so it reflects this image...



- Thank the teacher for hosting and for any feedback on your instruction
 - They are experts at what you just did, take their feedback to heart!
- Leave the follow-up packet and going further packets for the students
 - The host teacher should go over it with the students the next day.
 - Let the teacher know you can return for a 2nd Intel lead workshop
- Make sure you can everything the way you found it
 - take all hardware you brought!
 - offer to put up the chairs in the room for the teacher

Clean Up and Repacking

- Upon return put the set of kits back and inform the person in charge of them of any malfunctions, missing parts, etc.
- Send a thank you email to host teacher!