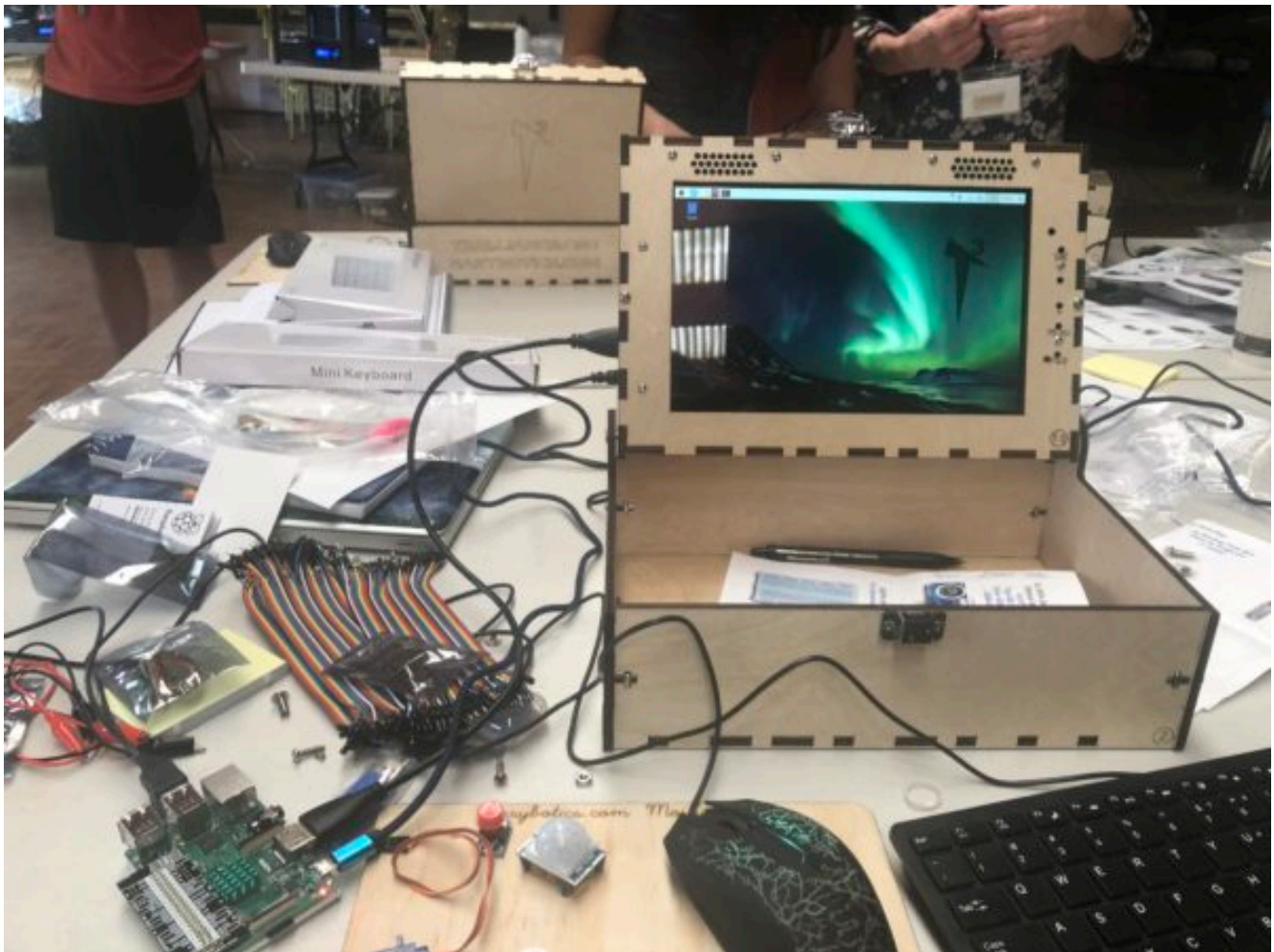


T3 Lesson 3: Building the Box & Raspberry Pi Kits



INTRODUCTION

Now that students are pumped up with the sense of efficacy that comes from building a brushbot, its time to switch to building a computer in components. This is an example of an opportunity to hold space for the students to “figure it out” and continue on their growth mindset pathway. Building the boxes can be done without much instruction given that the culture of growth mindset has been set. Students figure out how to assemble the boxes in about 40 minutes. If you have an hour, expect that students will spend the final part of class exploring the Pi and getting to know its features.

APPLICATION

Preparing the space – Make sure that each student has sufficient space to assemble their kit. If you have students that are working together, make sure they have sufficient space to spread out and that they have access to power nearby. You can share the slideshow showing a guide and a quick video of the assembly process but try to refrain from giving too much directive. It's a puzzle and the pieces only fit one way.

[Slides](#)

It helps to have at least two people doing it at the same time, so they can compare and help each other with the process. We purposely did not give step-by-step instructions because the challenge is figuring it out, using your growth mindset to not give up or get too frustrated.

Here's a [video](#) of the process.

Once the box is together, the next step is to plug in the power, monitor and raspberry pi. This will create a functioning computer loaded with the basics of a web browser and a few games.

I recommend checking that the box is assembled and that the screws are tight before handing the students the bag of electronic equipment.

Once the bag of equipment is handed out introduce the idea of physical inputs and outputs.

Share the short video about the anatomy of a Raspberry Pi.

REVIEW

Allow students to explore around on the pi and recognize that

this is a fully functioning computer. Students often become interested in Minecraft. If there is a student that you identify as “minecrafter” you can ask them to take a moment to share their skills.

Celebrate the success that just occurred! You’ve just assembled a working computer!! Reflect on what you did well, and what things you could improve on for your next challenge(s).

Post your reflection in the [forum](#), if you are comfortable sharing. We’d like to hear how it went and what we can do to improve this process.