**ADST Woodwork makerspace**

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Following are some ideas on how to proceed with a makerspace in your elementary classroom.

**Safety:**

Many school districts use the “Elementary Heads Up for Safety” as a guide for elementary teachers, and use “Heads Up for Safety”, full size manual, for their Technology Education shops.

Take a copy of Elementary Heads Up for Safety to your administrator and discuss what protocols they would like to see you use.

Many school districts use Technology Education (shop) teachers to help instruct elementary teachers in safe tool use. If your district does not, then approach an administrator or Career teacher in your district to set up.

Have the students go through the student pages of the Elementary Heads Up for Safety prior to starting a project. Test for comprehension and allow the students to practice using the tools before starting a project. For example I have heard of teachers setting up stations such as screw drivers, hammers, saws, drills, etc. and have small groups circulate around.

**Tools:**

The Industry Training Authority (ITA) fund many initiatives in school districts and they work through a school districts career coordinator. Connect with this coordinator to find out how you can get the tools and materials you need to get started.

**Processes:**

Start simple! Build your skills and your student’s skills through the choice of simple projects everyone can be successful with. Here are the possible steps to follow:

* Watch the YouTube video on how to make the project you are interested in (if there is a video).
* Make the project yourself well in advance to improve your skills and comfort in using tools and materials. This helps you anticipate what the students will go through.
* Use the PPT slide show, if there is one for this project, as a way to show the students through pictures just what they are going to build and how.
* You will demonstrate how to use the tools and combine with safety tests.
* Some students are going to excel at using their hands and will want to move faster than others, so playing the PPT slide show on a loop allows students to look at the slides for help rather than requiring the teacher to help for each step.
* Encourage mistakes and trial and error, as this is a great way to learn. Wood is relatively cheap.

**Design Thinking**

* This is the hard part and is at the heart of the new ADST curriculum. As teachers we spend most of our time teaching skills and knowledge. Design requires solving problems based on a “tool box” of knowledge, skills and materials. The world of work now requires more creativity, which is really the crux of design. Our education system created this new curriculum to help prepare youth for this new expectation. It is very hard to implement.
* Use the Design Placemat as a template for challenges you come up with. It will help students learn a process, and give some structure to your projects.
* Check out this video from Stanford Design Thinking.

<https://youtu.be/a7sEoEvT8l8>

* Use the Makerspace book for challenges to practice with.
* Allow/Challenge students to modify the project that you are doing, for example with the iPhone holder see if someone can come up with some modifications to the project such as a way to hold ear buds, or access the start button on the phone when in the holder.

**Build a Makerspace in your classroom**

* Once you get started making projects in your class you will quickly want to have tools and materials on hand. Below are few ways to get what you want.
* Talk with your administrator and see if there are any building projects around the school you can involve your students with.
* Connect with teachers of higher grades or lower grades and create a buddy system for making projects.
* Mix ADST design challenges with academic subjects like math, science and English.
* Create a list of tools that you need to get started and see if parents and grand parents can donate.
* Collect building materials from parents in the construction industry, they always have lots of “off cuts”.
* See if the high school wood shop class has scrap wood your students can use.
* Create outside work areas for when the weather is good.