



**Comox Valley Schools**

A Community of Learners

INNOVATIVE • INQUISITIVE • INCLUSIVE

# Tool Box



## ADST Project

The Toolbox is a great ADST project for students in grades 7.

The first thing that you will need to do as a teacher, is get trained in using your school Maker Cart. Once you are Safe and Certified you will need to do an inventory on your ADST Toolbox kits (there are 12 for your school) and your Maker Cart. Each cart and your 12 kits have master lists of what should be in them. If you are not sure or if you will need additional resources, please contact your District Careers Coordinator and they will be able to help you, [Dawn.Anderson@sd71.bc.ca](mailto:Dawn.Anderson@sd71.bc.ca) or [Steve.Claassen@sd71.bc.ca](mailto:Steve.Claassen@sd71.bc.ca)

### **Jr. ADST (Applied Design Skills and Technology)**

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*ADST courses have been designed so that students can gain hands-on learning experiences and skills through design and creation. The Curricular Competencies within these courses ask students to understand context, define what they need to do, ideate with others and evaluate, prototype, test their ideas, make and share.*

*With this, these booklets have been designed to support new to experienced users and there are many ways to approach each step.*

*Feel free to challenge your students to come up with new ways to complete a step in the booklet. Some of the steps are challenging and should be completed with a partner.*

*Please share if you have a good approach to a step and we can tweak the booklet for all.*

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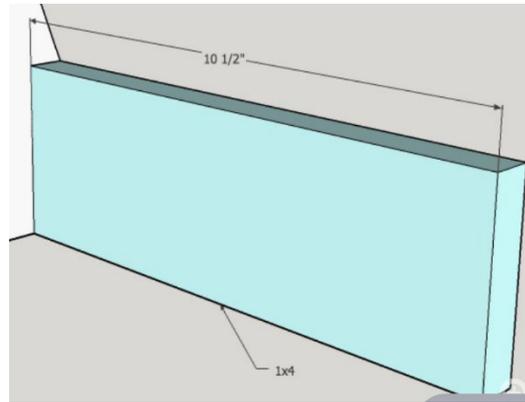
For this project you will need the following items:

1. 1 x 6 board- 24"
2. 1 x 4 board- 24"
3. ½- ¾ " Thick plywood, 12" x 5 ½ "
4. ½ " Dowel, 12" long
5. Wood Glue
6. Sand paper
7. 1 ½ " Nails
8. Drill
9. 5/52 drill bit (pre-drilling holes)
10. Measuring Tape
11. Speed Square
12. Hammer
13. Hand saw

Once you have everything you are ready to start your project. Don't forget to put on your safety glasses.

### **Step 1: Cutting Pieces**

Let's get your pieces cut. Let's start by cutting your long side walls. You will need your 1 x 4 board and you will cut 2, 10 1/2 " long pieces. Take your measuring tape, measure down and mark. Then, using your hand saw and bench hook, cut your two pieces.



### **Step 2: Cutting Pieces**

Next you will need to cut a piece of doweling. This piece will need to be 12" long. You will only need one, this will be your handle. To do this you will need your measuring tape, a pencil, hand saw and bench hook. Measure down, mark the spot. Then use your hand saw and bench hook to cut your piece.

### **Step 3: Cutting Pieces**

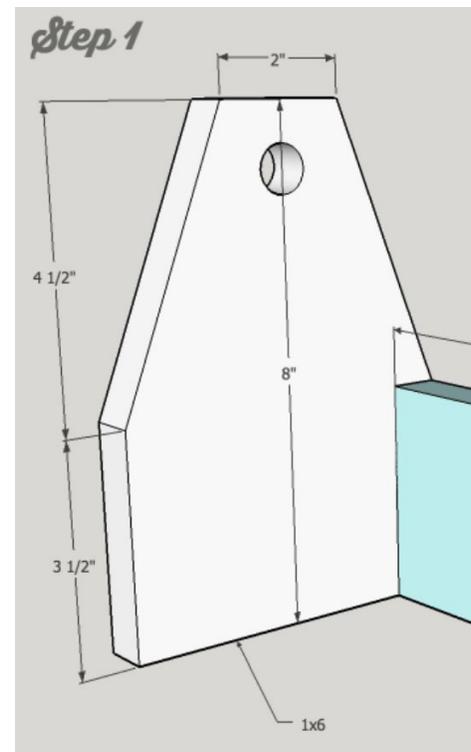
Next, you will cut your end walls that will hold the doweling. Get your 1 x 6 board and cut 2, 8" long pieces. To do this you will need your measuring tape, a pencil, hand saw and bench hook. Measure down, mark the spot. Then use your hand saw and bench hook to cut your piece.

You will notice that once you cut the 2 pieces you will need to do two more alterations to these pieces of wood (picture on the right).

### **Step 4: Cutting Pieces**

You will now need to drill your two doweling holes. To do this you will need a drill and a 1/2" spade bit.

I would recommend measuring down 3/4" - 1" and then drilling your hole there. Make sure to measure across and down so that it is in the middle. Once the spot is marked drill the hole. Make sure to have a scrap piece of wood underneath while drilling.

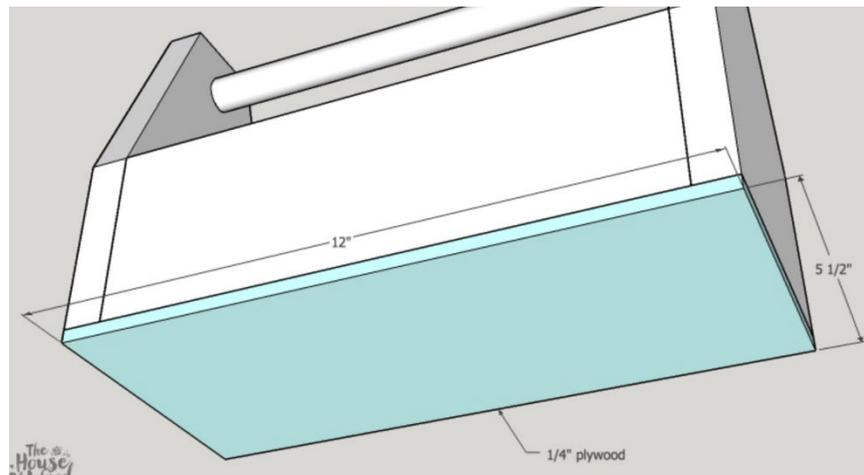


### Step 5: Measuring and Cutting

Next you will need to get the side cuts completed. This is a great thinking step for many. Ask students to measure down 4 ½ " and from there create an angle cut where there is 2" at the top, centred.

### Step 6: Cutting Pieces

We now need to cut the bottom piece of wood. For this you will need your ¼ - ½ " plywood. You only need one of these and it will need to be 12" long and 5 ½ " wide (it should come to you at the appropriate width. Students will need to use their measuring tape and measure down 12 " and then use their hand saw and bench hook to cut the piece of wood.

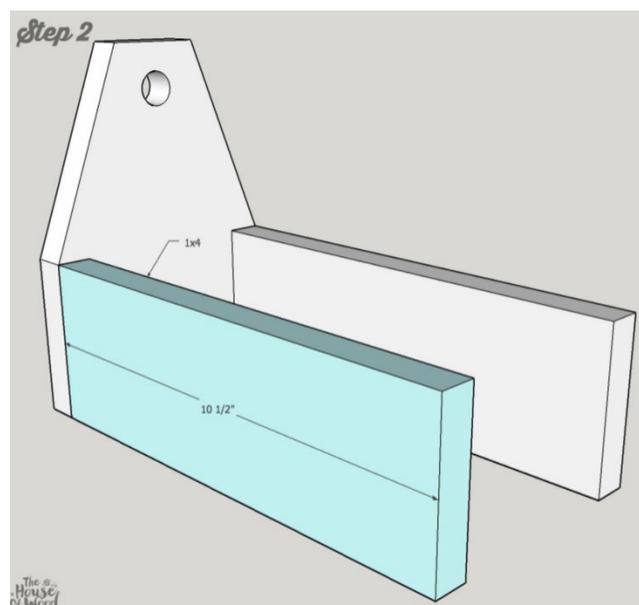


### Step 7: Construction

The first pieces that we will put together will be the side walls onto one end wall.

In partners, students will need to drill nail holes. Students will get the drill and the small drill bit for setting holes. To do this one student will hold the two side walls on end and will hold the end wall on top. While one holds the wood, the other student will drill some nail holes. Three holes for each side. Make sure to drill your first hole in at least 1" from the end. Do this on both sides. All holes evenly spread out and located in the same place on each side.

Once the holes are there slide a nail into the hole. Use the 1 ½ " nails.

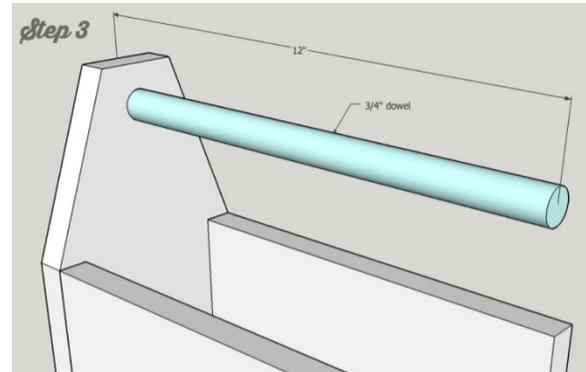


### **Step 8: Construction**

With the nails sitting in the holes, nail them in. Make sure your sides are lined up nicely.

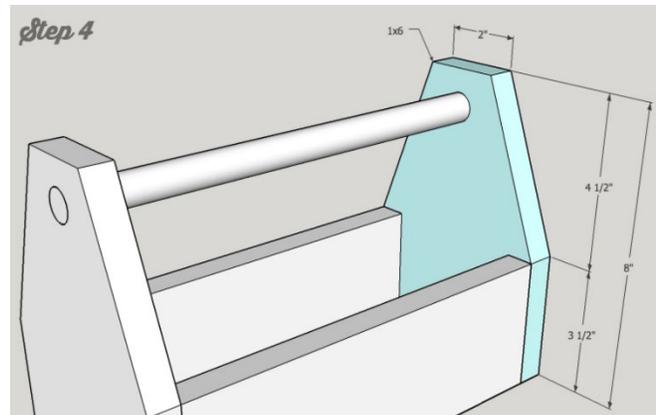
### **Step 9: Construction**

The dowel will now need to go into the first end. Place some wood glue in the hole and then slide the dowel in. Make sure to wipe off any extra glue.



### **Step 10: Construction**

Next you will repeat steps 7, 8 and 9. Slide the Dowel into the hole with some glue on it. Wipe the glue off and then drill holes and nail them in.



### **Step 11: Finishing**

The toolbox should now be complete. Students should let these set for at least 30min to let the glue dry. Once dry, students may want to sand the edges down and then when ready paint. Some may want to use a stencil and put their name on it or a parent's name or a word... Make it nice and cool looking! Some may even use these as planter boxes or spice boxes etc.