Planter/ Pollinator Box

ADST Project

Planter/Pollinator Boxes are a great ADST project for students in grades 4.

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 or Steve.Claassen@sd71.bc.ca

Jr. ADST (Applied Design Skills and Technology)

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 compete 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.

For this project you will need the following items:

1. Hammer
2. F Clamp
3. Measuring Tape
4. Safety Glasses for each student
   wood 17.5 inches long
5. Ear Plugs (if wanted)
   36" long
6. Hand Saw
7. 1 & 1½ Inch
   Nails
8. Sandpaper
9. 1, 1" x 4"
10. Cedar
    Lathe

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

STEP 1:

- Each student will need a 1 x 4 piece of cedar.
- They will use their measuring tape to measure out 3, 4 ½" pieces.
- They will then use their hand saw and cut the three pieces. Use your bench hook to cut.

STEP 2:

- Students will now get one piece of cedar lathe
- They will need to measure out 6 pieces that are 6 1/8" long.
- Students will need their safety glasses.
- They will now use the handsaw and bench hook to cut these.

Step 3:

- Everyone will now nail their walls to the base of their box. For this, students will need to have all materials shown in the picture to the left and will use 1 1/2" nails. To note, I did not have a partner, so I used clamps to hold my wood together. Students may choose to work in partners as an alternative.
- They will first need a nail and hammer and their three pieces of wood. Students will measure in 1 ½" in from each end and locate the middle of each piece of wood. These will be where your nails go in. Please note that the side pieces sit on the outside of the base, **not on top**.
- Next, they will create appropriate nail holes so that they can nail the nails in easily. I suggest three nails on each end and make your pre-holes deep enough that the nail slides into both pieces of wood, so they are lightly held together.
- They will then take their second piece of 1 x 4 and place it on the outside of the clamped piece of wood, see picture or ask their partner to hold it. Please note, the walls and the base should be at 90 degree.
- Reminders make sure to place your nail 1 ½" in from the edge. The nail must be straight, or it will drive through and out of your box.

Step 4:

- Students will now connect their second side wall of 1 x 4 as it will be nail on to the other side of the base, see picture.
- Please repeat steps above.
- Students working alone will need to keep the base clamped down and, again, using 3 nails, nail the second end on to the base.
- Reminder make sure to place the piece of wood on the outside of the base. Nails should be 1 ½" in from the edge and straight.

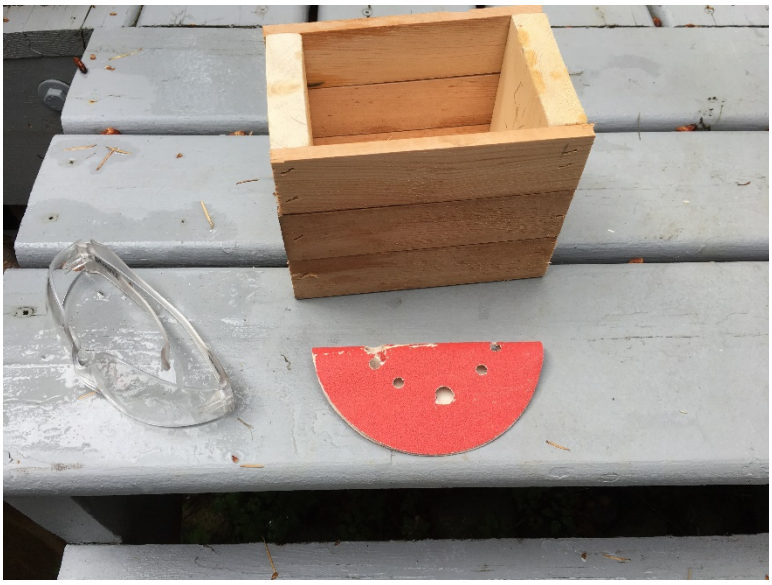
Step 5:

- Students will now nail on the side pieces to their box.
- They can lay their box on its side with the base facing towards them.
- They will take one piece of their 6 1/8” long strapping and place it level with the base of the box.
- They will use 3, 1" nails on this piece, one on each end and one in the middle, connecting the bottom lathe piece to the base of the box.
- They will then nail the next 2 pieces on with no space in between. Nails should go on the ends. You will only need 2 nails each for the second and third pieces.
- The last piece should be level with the top of the box.
- The box should now look like the one in the picture.

Step 6:

- The second side of the box will need to be nailed on using the same steps as above. Start with the base piece and then move up with pieces 2 and 3.
- Your box should now look like the one in the picture.

Step 7:



- Once the box structure is complete there may be some edges that are rough. Each student can use their sandpaper to sand the edges and make the box smooth and clean looking.
- Students will need their safety glasses on for this step too.

The box should now be complete. If you have some stain or if students want to use a wood burner and write a message in their box that is always a fun addition.

When putting dirt in the box, make sure to put a few small rocks and pebbles down first so there is room for water to run out of the box.

One last idea, it would be great if a grade 1 or 2 class received some pollinator seeds and grew the seeds into plant starters for the boxes. The completed boxes could them be placed around the school as food for bees or used a gift for parents or sold as a fundraiser.

Planter Pollinator Box Resources

Curriculum

Subject	Big Idea
Science	All Living things sense and respond to their environment.
English Language Art	Using language in creative and playful ways helps us understand how language works.
Mathematics	Polygons are closed shapes with similar attributes that can be described, measured, and compared.

Bella and Jack Bring Back the Bees by Paulette Bourgeouis and Josee Bisaillon takes you on an adventure with two young school children. Jack and Bella adventure out to find where the bees have all gone after they have left their hive. There are some fun facts about bees and the book provides ideas for students on how to support bees in their own community.

David Suzuki

Connecting with Nature: An Educational Guide for Grades Four to Six

Go to the following link, ¾'s of the way down you will find the title above. There are many resources within this PDF book. "Powerful Pollinators" is the lesson to note.
https://www.gufsee.org/grades-3-5

*Many other great lessons inside.

Videos:

1. BC Farms and Food, Victoria BC (4:35min) **https://youtu.be/aXuoORXjKTs**
2. Pollination: Trading Food for Fertilization (12min) **https://youtu.be/LiczM-w3V-U**
3. The Delicate Balance- some of BC's beautiful native plants and trees (5 min) **https://youtu.be/JSwyYthWcPY**

Websites:

1. This website lets you know the plants to plant that attract birds, not just bees. The grade 6 teacher at your school may be building bird houses so you might be able to connect with each other.
   https://www.westcoastseeds.com/blogs/garden-wisdom/gardening-for-birds