

Bird Feeder



ADST Project

Bird Feeders are a great ADST project for students in grades 5.

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 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.

For this project you will need the following items:



1. Hammer
2. F Clamp
3. Measuring Tape
4. Safety Glasses
5. Ear Plugs
6. Hand Drill
7. Lath wood
7. Handsaw
8. 1 ½ and 1" Nails
9. Speed Square
10. Spruce wood board
11. Bench hook
12. Twine
13. Spade Bit

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

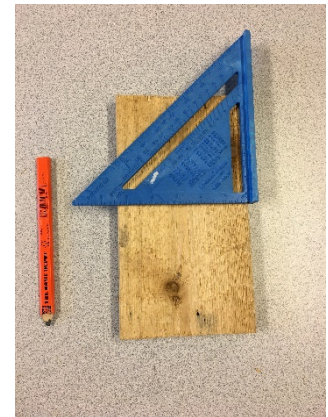
STEP 1:

- Each student will need a Spruce wood board. 5 ½" wide x 55" long and 2" wide lath x 17" long.
- They will use their measuring tapes to measure out all their cuts:
 - Spruce- 2 x 7 ¾" long- end walls (will cut gable end point at 45-degree angles for roof after).
 - Spruce- 1 x 7" long - floor
 - Spruce- 2 x 10" long – roof (will cut 1/2" off one side edge after).
 - Lath- 2x 8 ½" long- side entrance walls, make sure to add a tiny bit as wood is lost during cuts.



STEP 2:

- Students will now get their 2 x 7 ¾" pieces. They are going to cut the tops of these to be gable walls at 40-degree angles.
- They will take one end of the piece of wood and measure to the middle, mark this spot, it will be the peak of the side wall. We will use this mark to measure off 40 degrees
- They will then need to get their speed square and place the speed square to the outside edge of the wood; they will then slide the square up the edge until the square hits the mark. Please see picture to the right.
- Repeat this on both sides and on both pieces of wood.
- Once measured out, cut the wood so that you have two 40-degree walls.



Step 3:

- Students will now nail the side walls to the bottom of the feeder, the 7" long piece.
- Students will work in partners to complete this. One student will hold the base piece of wood on its edge, the other student will create starter nail holes on the end of the base piece of wood and holes on the outside wall approx 1 1/2" inches in from the outside edge. Consider making the top piece of woods holes go the whole way through so that you can slide the nail through and into the partner hole. Depending on how to choose to make nail holes you may need to place a scrap piece of wood under the piece you are drilling into so that you don't drill into the desk.
- They should now have their holes created and lined up. Using your partner align them and slide in the three 1 1/2" nails and hammer them together. Consider hammering in the middle hole first. See picture for example of how to hold.
- This is a great opportunity to allow your class to come up with other creative ways to support each other in connecting the two pieces- IDEATE.
- Once completed, do the other side.
- Students will want to use a speed square to check that the wall is square.



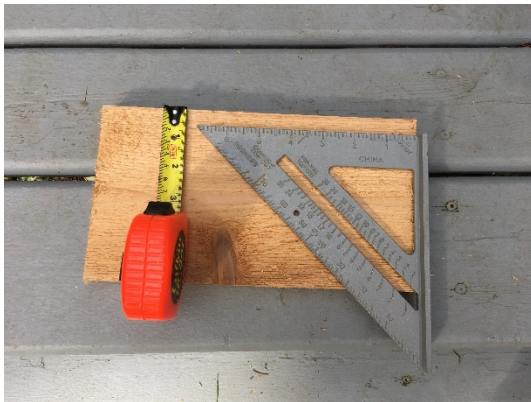
Step 4:

- We are now going to take our 2, 8 1/2" pieces of lath and will connect them to the outside edge of the bird feeder.
- Place your feeder on its side. Take one piece of lath and place it on the edge of the feeder. Line the bottom edges together and then, using 1" nails, hammer in one nail on each side. One on each end, making sure to place the nail in the middle, not cracking the lath. Do the same at the other end and then place one nail in the middle, connecting the base and the side entrance wall. Please see pictures below. You may not need to drill nail holes for these pieces.



Step 5:

- Students will now prepare the roof. Again, they will need to have a partner.
- They will take their 2 x 10" pieces of wood and with one piece they will cut a 1/2" strip off the side edge so that when they connect the two pieces as a roof the hangover is even.



- Make sure the students know how the roof will go together. Have them place the narrower piece of wood on the ground. Next, place the wider piece on the outside so they are at 90 degrees so that they know how to line it up, this will be their roof.



- Students will now take their measuring tape, nails and hammer and hammer in some pre-holes. Measure in at least 1 ½" from each end and then add one more nail holes, 3 nails in total. They will use the same process as when they connected the end walls to the base. Make sure to make the holes go all the way through on the outside piece of wood so the nails slide in to the second piece of wood.

- Have your partner hold your wood so that you can nail them together. Again, there may be more creative ways to do this- ideate.



Step 6:

- Students will now nail the roof onto the body of the bird house. I would continue to be with a partner for this for accuracy and support. Use 4 nails per end, 2 on each side of the peak, 8 nails total. Prep nail holes before hammering them together. You should be getting good at this now 😊



Step 7:

- Students will now need to drill two holes in each side wall of their feeder so that they can wrap bailing twine through the feeder and hang it.
- The students will measure down 1" and 1 ½" from the peak of the side wall.
- They will then drill a hole on each one of these marks using a 3/8 spade bit. They should have 4 holes in total.



- They can then take their twine feed it through the bottom hole and then up through the top hole. They will then tie it off and do the same on the other side.

Congratulations, you should now have a class full of bird feeders! If you desire, you can get students to sand and stain their houses.

Well done 😊



Bird Feeder Resources

Curriculum

Subject	Big Idea
English Language Art	Exploring stories and other texts helps us understand ourselves and make connections to others and to the world.
Mathematics	Closed shapes have area and perimeter that can be described, measured, and compared.
ADST	Skills are developed through practice, effort, and action.

Websites:

- WhatBird.Com is a great site that shows the shadow image of topes of birds as well as pictures of birds with their name and descriptions.
<https://www.whatbird.com/birdexpert/statecolorsize/2/270/birdexpert.aspx>
- Types of bird feeders
<https://www.yardenvy.com/diy/attractbirdfeeders.htm#:~:text=Bird%20feeders%20are%20best%20hung,are%20within%20a%20cat's%20reach.>

Videos:

- Creating a Backyard Habitat: Wildlife Matters (27min) <https://youtu.be/Uv-RZalF8pQ>
- Vancouver Island Birds (4min) <https://youtu.be/DaClSPGTG1w>
- Birds of Vancouver Island- Swan Lake Victoria BC (33min)
<https://youtu.be/CtgNfkCGzb0>
- Identifying Backyard Birds- Common Canadian Birds- Quick Guide With Names- Bird Calls and Sounds (14min) <https://youtu.be/z-ZmieT6YQg>