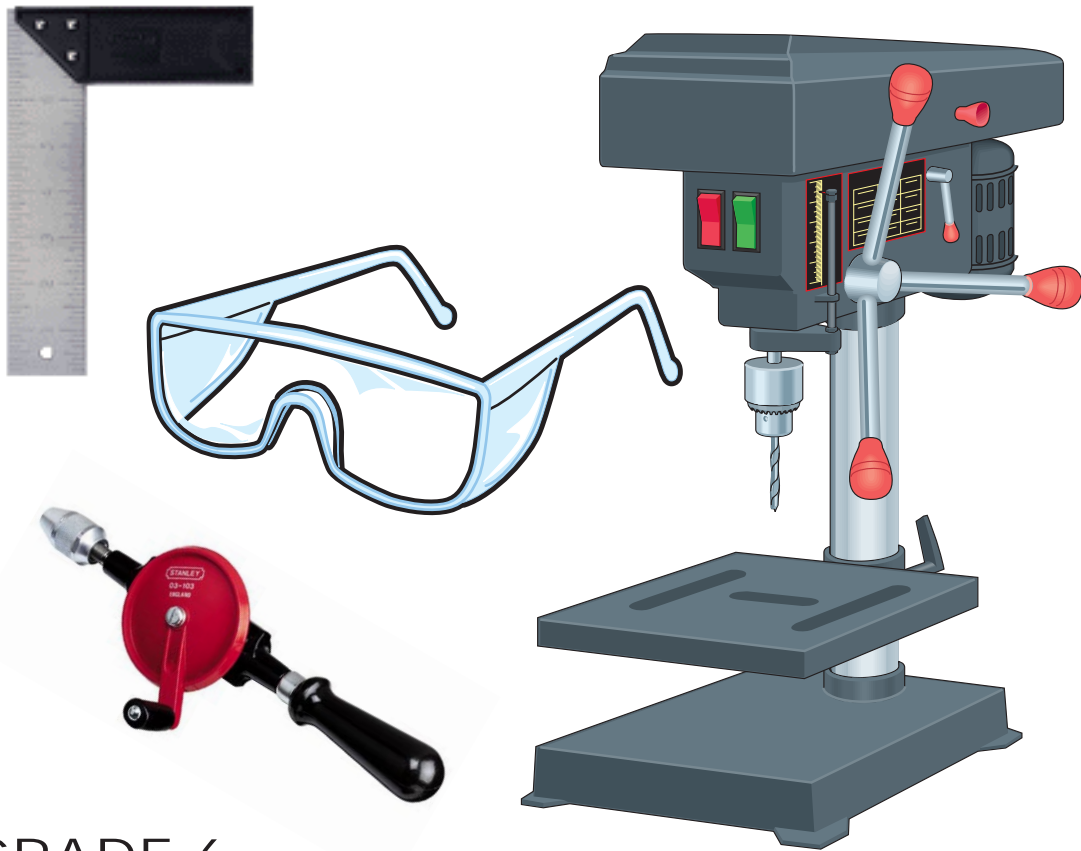


Introduction to Technology

TOOLS IN TECHNOLOGY



GRADE 6

BIGELOW

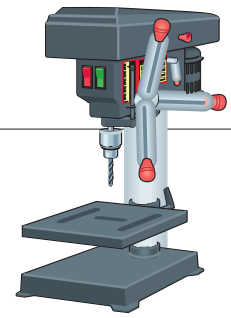


TECHNOLOGY

MIDDLE SCHOOL
Newton, MA

EDUCATION

INTRODUCTION



This Technology Learning Activity (TLA) is designed with two major goals in mind. The first goal is to expose you to the many different tools, materials and processes used in Engineering Technology. The second goal is to place a major emphasis on safety and to practice working in a cooperative learning environment.

In this TLA you will be fabricating a “Shaker Style” fruit basket. Remember, the goal is NOT to teach you how to become a “professional Basket Maker”, it is designed for you to learn Laboratory Safety and to expose you to various tools, materials and processes of Engineering Technology.

The procedure for completing this Technology Learning Activity is as follows:

1. Get a packet from the instructor and insert it in your Technology Binder in the “Hand-outs” section
2. Cut your wood pieces to length using the **Cut-Off Jig**. (No more than 8 pieces)
3. Put your initials on each piece you make after you cut them. (figure 1)
4. Sand the ends of each piece flat and then put a slight bevel on them. (figure 2)
5. Drill a hole on each end of each piece using the **Drilling Fixture**. (figure 3)
6. Store the finished pieces in your locker for later use.

STOP - Do steps 2 through 5 until you have 35 finished pieces with no mistakes

7. Using a Try Square measure one foot piece at 5 - 1/2”. Use the Try Square to make a line straight across the wood at a 90 degree angle. (figure 4)
8. Put the wood in a table vise and cut the foot to length with a hand saw.
9. Sand the foot pieces the same way you did the body pieces including the bevel.

REPEAT steps 7 and 9 to cut the second foot

10. Using a finished body piece, align the piece so that it aligns to the top of the foot piece and is centered perfectly. Mark each hole by inserting a sharp pencil in the hole and twist the pencil. Finish the mark by making a light X. (figure 5)
11. Put the cut foot pieces in a table vise one at a time and use a Hand Drill to drill both holes on each piece.

INVENTORY - Count and inspect all of your pieces to make sure you have enough.

12. Arrange all of your pieces like the illustration shows. (be careful not to misplace any) (figure 6)
13. Prepare one piece of twine for stringing the basket. (knot on one end and tape on the other end)
14. Put 12 body pieces on one string and tie a loose knot to hold them on. Repeat with a second set.
15. String the rest of the basket pieces like the illustration shows. (Start stringing with a piece from the middle section not an end section.
16. Once all stringing is complete, bring your basket to Mr. Whitman and he will help you tighten all of the loose knots and mark you basket “complete” in the grade book.
17. Take your basket home and ENJOY! ☺

Tools

Hand Saw
Table Vise
Drill Press

Try Square
Scissors
Hand Drill

Cut-Off Jig
Drilling Fixture
Ruler

Materials & Processes

Wood (pine)
Tape
Twine
Sand Paper

Aligning
Sawing
Drilling
Measuring

Sanding
Inspecting
Assembling
Marking

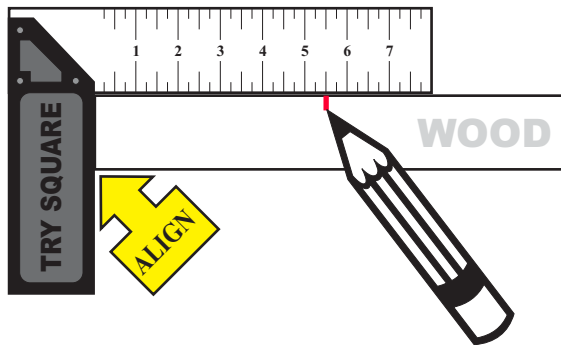
MAKING THE FEET

The feet of the basket are designed to keep it from leaning to one side. If they are not made correctly, the basket will not function properly and the fruit (or other items) will fall out. Follow the directions below to make the feet correctly.



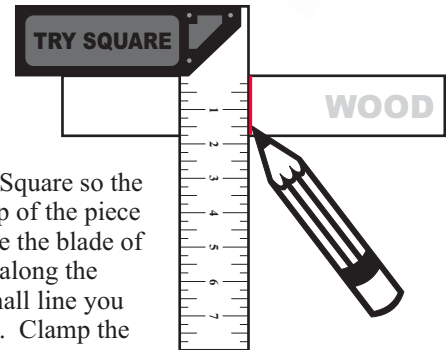
STEP 1

Use a Try Square to measure one of the feet. Align the left edge of the wood against the Try Square's handle as shown. Make a mark at 5 ½" long with a pencil.



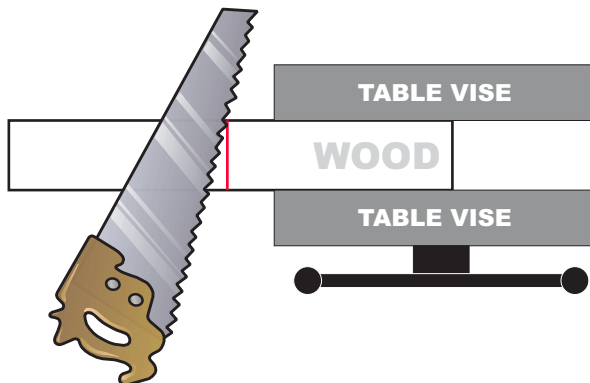
STEP 2

Rotate the Try Square so the handle is on top of the piece of wood. Move the blade of the Try square along the wood to the small line you made in Step 1. Clamp the handle of the Try Square to the wood and draw a straight line using the blade as a guide.



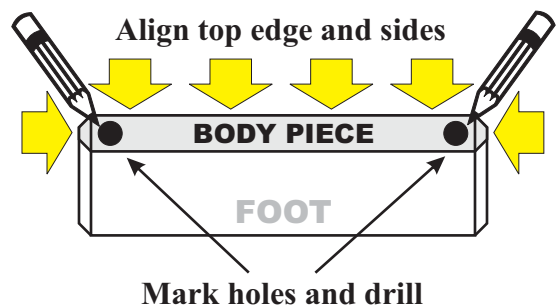
STEP 3

Put the piece of wood in any table vise and cut the wood to length using a hand saw. (Be careful not to put too much pressure on the saw or you will get a SPIKE!)



STEP 4

Use a body piece to mark where the holes go in the feet. Align one edge of the body piece to the foot and mark the hole locations with a pencil. Remove body piece and make an "X" to mark the hole location. Drill holes with a hand drill.



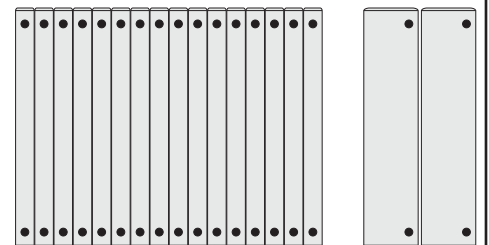
STEP 5

Sand both basket feet just like you did for all 35 body pieces, and then store them in your locker.

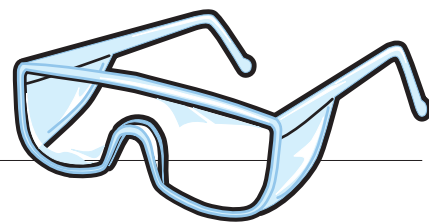
INVENTORY

Now you have to take inventory of all your pieces and make sure you have enough. Take all of your pieces and place them on the table with the holes facing up. Count the pieces, you should have 35. Check to make sure all pieces have all been sanded, are the same length, and all have 2 holes in them facing up. (one hole on each end)

**35 Body
Pieces
&
2 Feet**

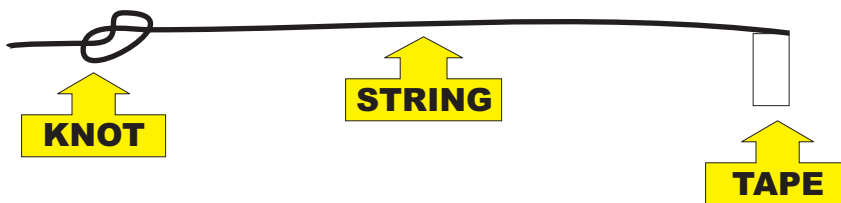


ASSEMBLY PLAN



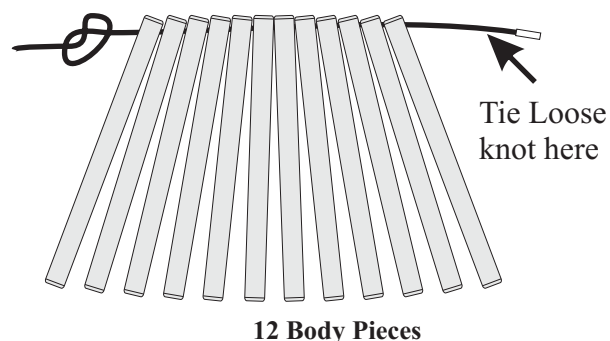
STEP 6

- Cut a piece of string to size
- Tie a knot on the thickest end of the string
- Roll a small piece of tape on the other end (form a shoe lace)



STEP 7

- String 12 body pieces on the string
- Once all 12 pieces have been strung, tie a LOOSE knot on the end with the tape to hold them in place.
- REPEAT Step 6 with 12 more body pieces to get a second end section.



Now You should have 2 end sections that have been strung and ready for final assembly.

STEP 8

- Arrange the rest of your pieces on the table as shown in the Diagram below
- Make 2 more pieces of string like you did for step 6
- Begin stringing all pieces together starting with body piece #1
- Continue with Body Piece #2, #3, and then insert FOOT A.....
- Then #4, #5, #6, #7, #8 and then FOOT B.
- Continue stringing the rest of the basket pieces #9, #10, and #11.
- Now tie a loose knot in the end of the string.
- Repeat for the other side of the basket.
- **REMEMBER:** Tie loose knots after stringing.
- When finished stringing all pieces, see Mr. Whitman for approval and tightening.

