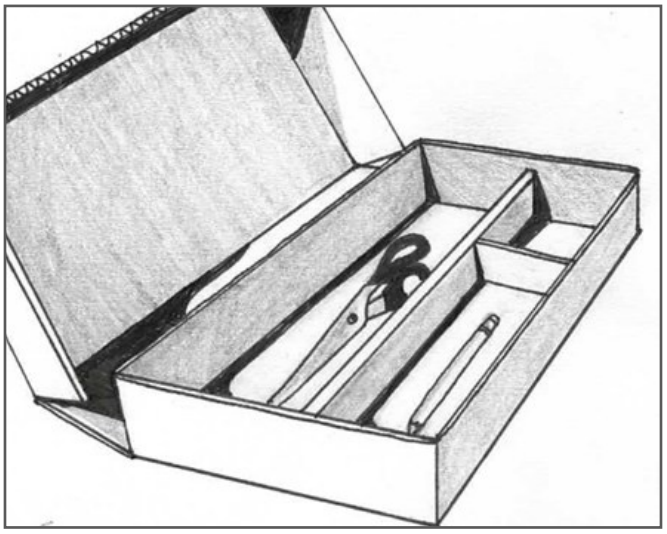
INTRODUCTION

This toolbox is an introduction to several box-making techniques that are used to create custom housings for cultural heritage materials. It's also a great place to store your box-making tools!



MATERIALS

- Acid-free corrugated board 14" x 11" (two sheets)
- Exacto knife and two sharp blades
- Ruler
- Bone folder
- Cutting mat
- Hot melt glue gun and glue sticks
- Pencil

INSTRUCTIONS

This toolbox is made in several pieces: the bottom, the lid, and the partitions.

Partition: Cutting

1. Measure **1 1/2 inches** from one of the long edges and draw a line all the way across.

TIP: Always measure and mark three points before connecting a line.

2. Using the exacto knife, cut this **1 1/2 inch** strip and set it aside to be used for the partitions.

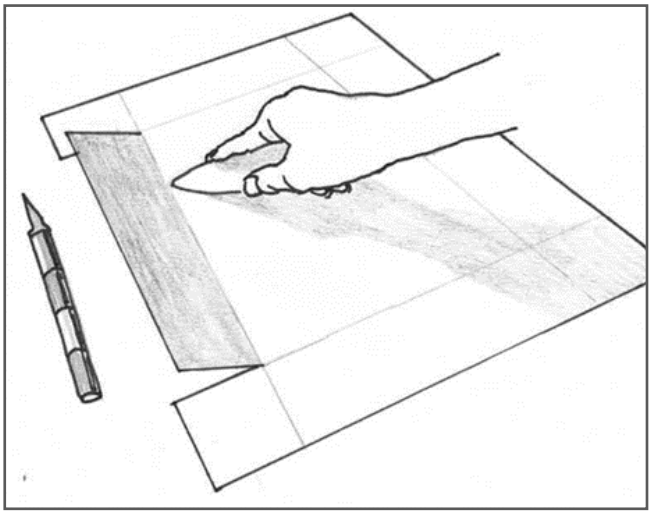
TIP: When making a cut into corrugated board, cut once to penetrate the top layer, twice to go through the center layer, and a third time to go through the bottom layer. Don't try to go through all layers in a single cut.

TIP: Sharp blades make cleaner cuts, but nothing dulls a blade like cutting through paper! Change to a fresh blade when your cuts become ragged or require a lot of pressure.

Box Bottom: Scoring and Gluing

3. Continuing with the board that you removed a strip from, measure a **2 inch** border around all four edges and draw the lines with your pencil.

4. Following the lines you have drawn, make two cuts perpendicular to the long edge of the board. Do not cut beyond 2 inches. (See image below.)



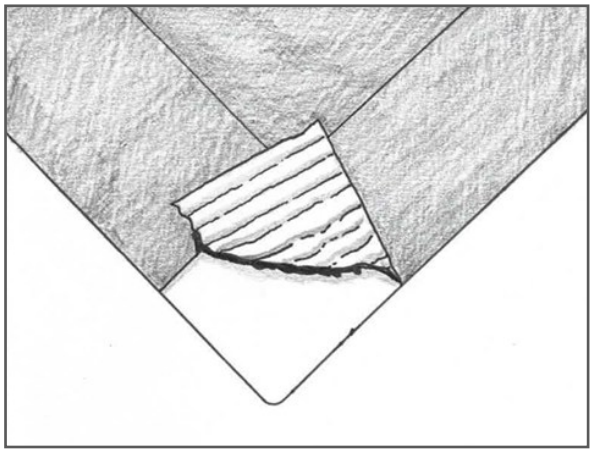
5. Then, using the bone folder, *score* the line between these cuts.

TIP: Scoring allows the board to fold along a straight line. Some methods of scoring create a light cut through the top layer of board only. Others make a line of dots or holes along which to fold. We are using the *indentation* method here, where a blunt tool is used to indent the board.

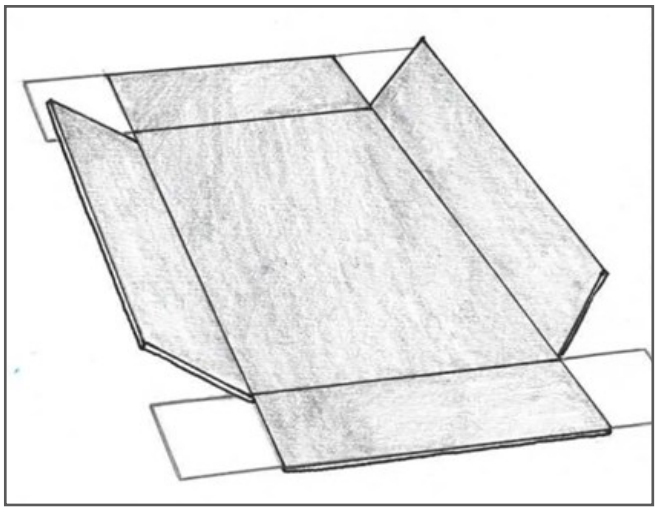
6. Next, *thin* the corner. To do this, cut lightly through the top and middle layers of the board, then peel back and discard those two layers with your fingers. You will be left with only the bottom layer, which will be used to secure the corner.

TIP: Be careful when cutting so as not to pierce the bottom layer.

7.

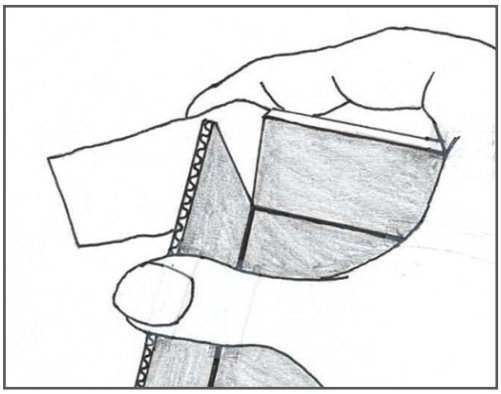


Repeat steps 4-6 on the opposite side until your box looks like the image below:

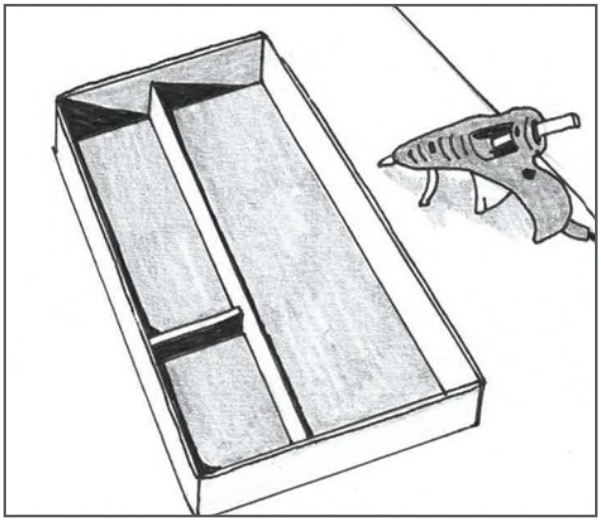


8. You are now ready to secure the sides. Using hot melt glue, place four small dots on the exposed white flaps of one corner. Fold the two sides together so that they meet tightly, and press the flap firmly onto the adjoining side. Repeat three more times until all corners are glued.

TIP: Do not use hot glue near artifacts.



9. Measure the interior length of your box. It should be approximately 10 inches wide. Take the strip removed in step 2 and cut it to match this measurement. Apply several drops of hot melt glue to the bottom edge of this strip and place it in the box dividing it into roughly 1/3 and 2/3 sections. Do the same to bisect the narrower of these sections. The base of your toolbox is now complete.



Lid: Hinging

10. Take the second piece of acid-free corrugated board. Measure, mark, and draw a line **3 3/8 inches** from the edge of one of the long sides. This will be the side that forms the hinge. Then, measure, mark, and draw lines **1 7/8 inches** from the edges of the remaining three sides.

11. Beginning with the long side opposite the hinge, make two perpendicular cuts as in step 4. Score the lines and thin the corners as in steps 5-6. Remove the two corner pieces next to the hinge completely.

12. Measure, mark, and draw a line **1 3/8 inches** from the hinge edge. Thin the material from this strip. Your lid should resemble the image below.

13. Glue the two corner flaps as in step 8.

14. Place the lid onto the base of the tool box. Turn both upside down so that the base is facing up, and glue the hinge flap to the bottom of the box.

Congratulations!

Your lidded toolbox is complete.

CUSTOMIZABLE OPTIONS

You can modify these instructions to make a box of any dimension. Here are some additional options for customization.

Detachable Lid

Instead of attaching the lid with a hinge, you can make a removeable lid. During step 10, measure, mark, and draw the sides of the lid **1 3/8 inch** all the way around. Then cut thin, and join all four corners as you did for the base.

A note about lids:

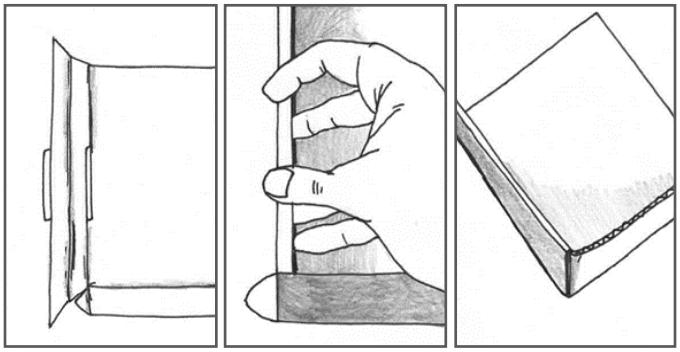
Your lid must have a slightly larger interior dimension than the base of the box in order to fit. In this example, we narrowed the sides of the lid in order to increase the overall shape enough to accommodate for the 1/8 inch thickness of the board.

Drop Side

To allow the front edge of the box to drop flat: in step 8, leave the front two corners free and cut away the bottom layer of the board that would have been used to secure them. This will result in a box that is less stable, but it is a style that can be useful for storing flat materials that are lightweight and can be accessed easily from the dropped side.

Look, Mom, No Glue

You can create a box without glue by doubling the sides, folding them in on themselves, and creating a groove with a punch tool and some fancy cutting. This method requires a larger board, and also results in sturdier sides.



HOUSINGS FOR COLLECTIONS

Storage enclosures protect collections from physical damage and reduce handling! These techniques can be employed in making boxes for small to mid-sized artwork and artifacts. Check out our technical leaflet on Creating a Custom Box.

The Midwest Art Conservation Center is a non-profit organization for the preservation and conservation of art and artifacts, providing treatment, education, and training for museums, historical societies, libraries, other cultural institutions, artists, and the public.

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