



Create Your Own Clock

Develop skills in the shop project area while using reclaimed materials to create your very own clock!

Grade range

This guide is designed for youth in grades 3-8. Youth who have never used a drill or hammer, find an adult to help you. Grades 3-5 may require additional adult assistance.

Why it matters

Basic shop skills such as using a hammer and drill are beneficial because there are many tasks in life that require you to know how to use these tools, from decorating your house, to simple repairs. Also, learning to use reclaimed materials helps avoid filling our landfills!



Gather materials

- Materials:
 - 4 boards cut from a pallet to 14" long (boards about 3 ½" wide)
 - 1 square board (¼ inch plywood cut to 12x12 square)
 - 1 rag
 - 4 small joiner boards (thin, 1-inch wide boards cut to about 2 to 3" long—these can be cut from lath strips or wooden stakes)
 - 1 [clock motor & parts and hands](#)
 - 2 paint brushes
 - 24 ¾" nails
 - 1 bottle of wood glue
 - paint (color of your choice)
 - stain (color of your choice)
 - [vinyl numbers](#) (you can also cut your own out of [paper](#) and glue them on, or make your own out of [adhesive vinyl sheets](#))
- Tools:
 - drill
 - ⅜" drill bit
 - table covering

- hammer
- tape measure
- pencil
- clean rag or paper towel
- safety glasses

Try it out!

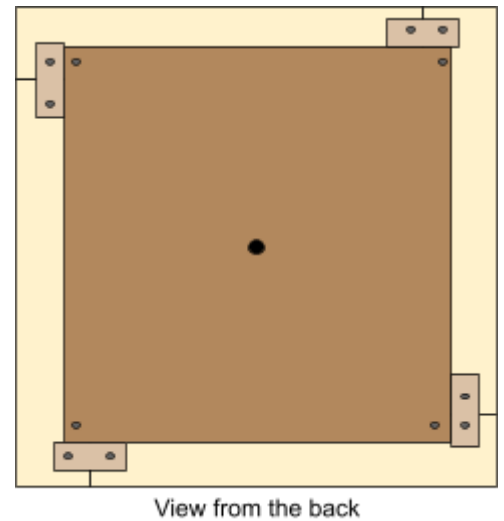
1. Cover your work area to protect the table or counter top from paint and stain.
2. Paint the smooth side of the large square board using one of your brushes. This will be the face of your clock, like the green one in the picture.
3. Look at your 4 long pallet boards and pick which side you would like to have facing up on your clock. Place them on your workspace with this side facing up.
4. Stain the top and four sides of your pallet boards using the other brush.
5. Let sit for 5 minutes and wipe off any extra with a clean rag or paper towel..
6. When the paint is dry on your square board, apply a second coat of paint.
7. Flip your pallet boards over and set them together to form a square frame following the pattern below. One end of each board should be placed touching the side of the next.



8. At each **joint**, you will place one of the short joiner boards. The joiner boards should be placed $\frac{3}{4}$ " from the inner edge of the frame (this will allow room to attach the square board in step 11).
9. To secure the frame together, put glue between the joiner board and pallet frame.
10. In each joiner board, put two nails in each end to further secure the frame together.
11. Once your paint is dry, place the square board in the center of your frame with the painted side down.



12. Put one nail in each corner of the square board and one in the middle of each side.
13. Flip the clock over and measure diagonally from corner to corner and mark the center. Repeat the other direction.
14. Drill the hole for the clock motor where you marked the center.
15. Place the vinyl numbers on the clock.
 - a. You may use clovers in place of the 12, 3, 6 and 9.
 - b. It is easiest to place the 12, 3, 6 and 9 first to get the most even spacing.
 - c. What number goes at the top of a clock?
16. Place the metal hanger over the clock motor followed by the rubber washer.
17. Put the clock shaft through the hole in your clock with the motor on the back and the metal hanger pointing up towards 12.
18. Place the metal washer over the shaft followed by the nut. Tighten down the nut.
19. Push the hour hand on followed by the minute and second hand.
20. Put the battery in and set the time.



Think it over

- What was your favorite part of the project?
- What was the hardest part of the project?
- What skills did you learn that you can apply to other projects or tasks in your life?

Take it further

We used reclaimed pallets in our project to create the frame. What other projects can you do with reclaimed or recycled materials? Why is it important to use recycled materials?

Author: Samantha Schoenfelder, 4-H Extension Educator, Fillmore County

Reviewer: Jessica Pierson Russo, Regional Extension Educator, UMN Extension Department of Youth Development

