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Project: Dowel Puzzle

Overview: This is a hands on puzzle that has the user thinking which puzzle slice connects to the next using wooden dowels. Each of the 12 pieces are different, and to win every hole on every slice has to be filled with a dowel. Great for kids; however, just as appealing for adults.

Materials: Try to find a piece of wood that has a neat grain pattern, these little pieces will really come to life. For this example beach is used. Material needs to have a thickness of $5/16"$. $18"$ of a $1/2"$ dowel will be needed.

Minimum Cutting Area: $18" \times 12"$

Bit Size: $1/4"$

Finishing: Minwax wipe on polyurethane is ideal for this project because it covers the faces well and allows one to wipe poly into the holes.



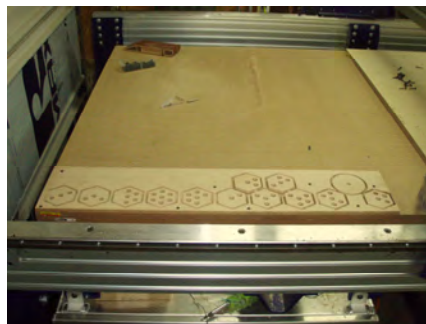
Always read the entire project details before starting to cut the file yourself

Account for the thickness of the physical material on hand and the material thickness in the file

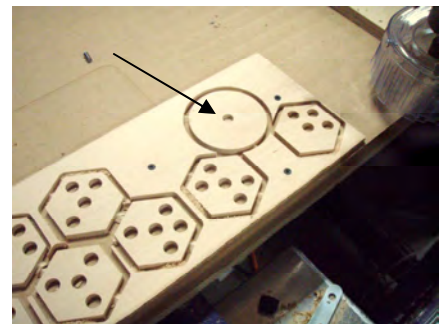
This file is zeroed to the tables surface, Zero your bit to the tables surface



Depending on the machine you are cutting this file with, you will need to account for a hold down method. If using screws, simply reference the cutting area to a safe area to install the screws.



Before removing the work piece check to make sure the profile pass cut all the way through the material.



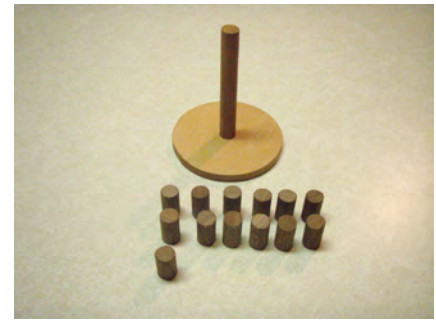
Note that all of the holes should be cut through the piece except for the hole on the base piece. This is only a pocket that goes half way through the wood.



Once the file is complete, flip the work piece over and cut the tabs with a utility knife. If you try to push them out by hand it could lead to tearing out on the wood and take away from the projects appearance.



Hand sand each individual piece. Remember this game is going to be played by your friends and family and you would not want any of them to end up with splinters.



A walnut or cherry dowel will really accent the project. Cut 13 dowels that are 15/16" long. This can be done with a band saw, coping saw, scroll saw, etc. One dowel 3 7/8" long will also be needed for the center.



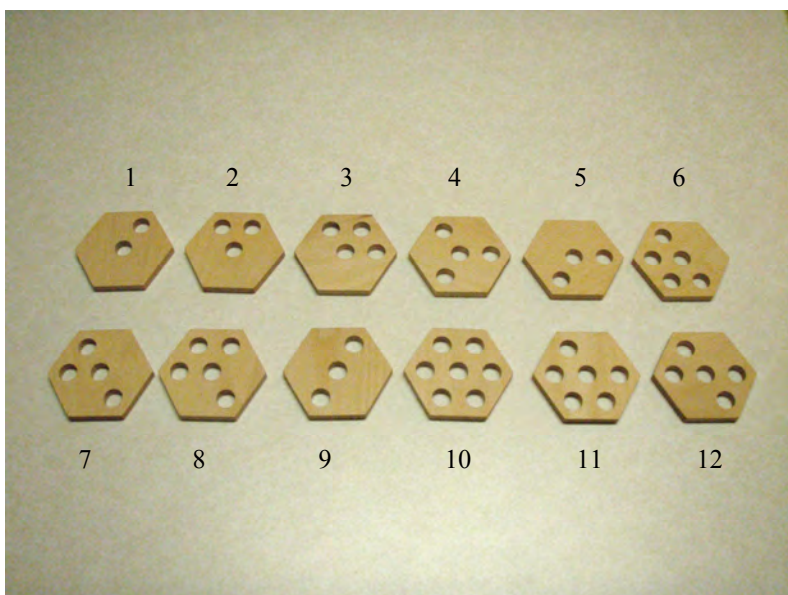
Check all the pieces for any non sanded corners. Finish each piece with a polyurethane of your choice. Minwax wipe on polyurethane works really well for this project.



Simply start stacking pieces, filling the holes with dowels; in order to win the game all of the dowels and all of layers need to be used.



You have figured out the puzzle when all of the pieces fit together like this.



For those of you who need a little extra help figuring out the puzzle, here is a picture of the puzzles key. The pieces are laid out exactly in order from top to bottom. Piece #1 is the top and piece #12 is the one that sits on the base. There are different variations of solving this puzzle.

Dowel Puzzle PartWorks
Dowel Puzzle Toolpath