

Stand-Alone Adjustable Sink

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https://wiki.lowtechlab.org/wiki/Meuble_lavabo_autonome/en

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 Difficulté **Moyen**

 Durée **6 heure(s)**

 Coût **190 EUR (€)**

Description

Self-sustained Sink Suitable for Both Children and Adults

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Introduction

This "autonomous" sink was originally created for a nursery school classroom.

The classroom didn't have a water line connection, and we didn't want the sink to rely on electricity either. This idea emerged in the COVID era and its concern with sanitation.

We conceived of this sink with the idea that it could equally serve in other contexts, a stand-alone workshop or studio, for example.

We opted, then, for a shelving system that could be adjusted in height, permitting the user to adjust it to the desired size.



Matériaux

See the list of materials at the end of the tutorial.

Outils

- Jigsaw
- Step drill bit
- Wood drill and bit sets
- Screwdriver sets
- Utility knife
- Ruler
- Square
- Tape measure
- Needle nose pliers
- Brush
- Rags





Étape 1 - Assemble the Shelf

For the shelf, the most autonomous action would obviously be to do it yourself, but we are focused on assembly from existing materials. So, to assemble this shelf, refer to the manual provided by Ikea.



Étape 2 - Install the Sink into the Shelf

Materials

- Masking tape
- Ruler
- Square
- Tape Measure
- Drill
- 10mm drill bit
- Jigsaw

Directions

1. Plot the outline of the part of the sink to be inserted on the non-visible side of the board (the underside).
2. Drill a hole on each of the 4 corners of the outline
3. Cut out the outline with the jigsaw
4. Insert the sink
5. Install the shelf with the sink at the desired height according to the size of the children or adults

💡 ...Using masking tape to make the pencil outline can allow you to bypass making marks on the wood.





Étape 3 - Install the Fitting for the Clean Water Bucket

Materials

- Auer plastic food safe bucket - 30 liters
- Masking tape
- Ruler
- Tape measure
- Step drill bit
- Fitting - 12mm diameter, 1/2", straight (not curved)

Directions

1. Mark the location of the fitting on the lowest end of the bucket.
2. Drill the bucket with the step drill bit.
3. Screw the fitting in. Attach the gasket and nut to the fitting inside the bucket.



.....Be careful to leave enough space for the nut which is bigger than the fitting.





Étape 4 - Connect the Tubes

Materials

- Clear tubing 16/12mm (120cm + 20cm)
- Clear tubing 12/10mm (40cm)
- Plastic reducing adapter 12/10mm
- Foot pump
- Swivel spout tap

i ...To avoid dealing with multiple suppliers, we got the majority of the specialized materials concerning the sink on the site www.mon-camping-car.com We didn't find exactly everything we needed there. The foot pump is 12mm and the tap is 10mm, so we had to use two types of clear tubing and an adapter to get the right dimensions for the tap

Directions

1. Connect the clean water bucket to the foot pump. Attach the 16/12 (1.2 meters) tube to the nozzle of the clean water bucket. Then, connect the 16/12 tube to the foot pump (The nozzle on the right when viewed from the bottom (water intake)).
2. Connect the foot pump to the swivel spout tap. Link the 16/12 (20cm) tube from the foot pump to the adapter and then to the 10/12 (40cm) clear tube which goes toward the swivel spout tap.



Étape 5 - Leak Test the Connections

Using 5 litres of water placed in the clean water bucket, test the watertightness of the system in place.

i ...We have not, for the time being, used hose clamps or zip ties for setting the tubes, to see whether or not they are necessary for usage.



Étape 6 - Attach the Swivel Spout Tap to the Shelf

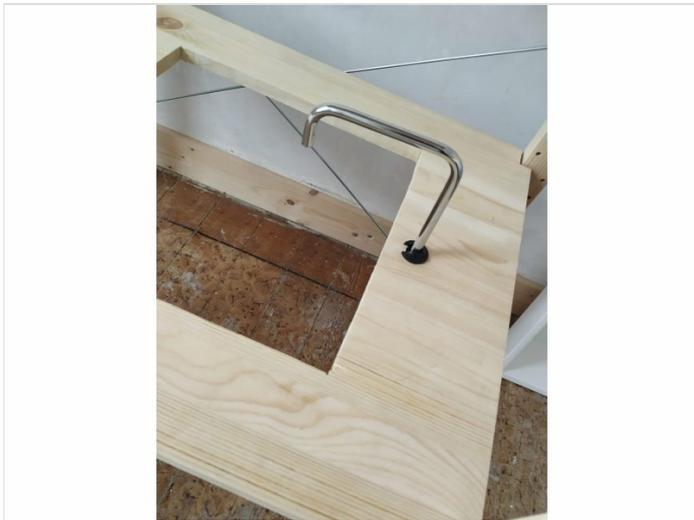
Materials

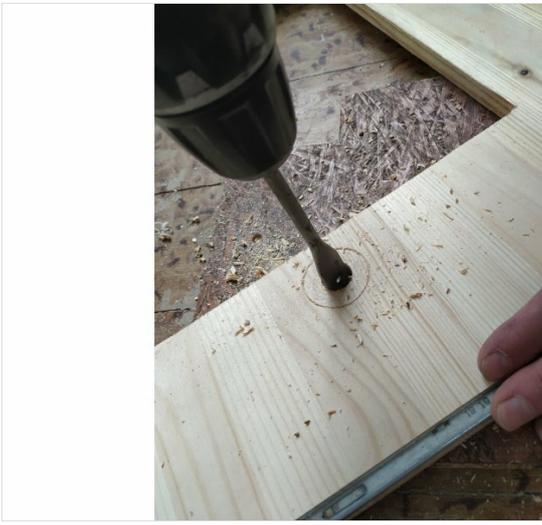
- Drill
- Drill bits
- Swivel spout tap

Directions

1. Mark the location and drill a hole using a size 18 flat wood bit
2. Make a countersink hole using a size 39 flat wood bit on the bottom of the board.
3. Screw the base of the tap into the board and install the spout.

i ...The threaded stem of the tap was too tight against the thickness of the chosen wood board, so a slight widening was necessary.





Étape 7 - Fasten the Drain and Plug to the Sink

Materials

- Straight sink drain 25mm



Étape 8 - Install Sink-Stopper Chain and Metal Fastener (optional)



Étape 9 - Installing Wastewater Drainage

Materials

- Jerrycan/fuel can 20 litres

*Ribbed hosing - 25mm diameter 90cm length

- Drill with step drill bits
- Straight drain and plug 25mm
- PVC fastener 40mm. 4 x 30 screw

Directions

1. Drill a 32mm hole into the lid of the jerrycan with the flat drill bit and drill.
2. Connect the sink drain to the jerrycan.
3. Install a 40mm diameter PVC fastener for the drainage hose. "(When the jerrycan is full and it's time to empty it, this fastener allows you to keep the hose raised, which prevents the water remaining in the hose from spilling on the floor, which happened on our first use...)"
4. Install and test the drainage system.

💡 ...Put a Colson hose clamp (zip tie) on the ribbed hose on the interior of the jerrycan. This stops the children from removing the drainage hose from the water.





Étape 10 - Anti-Tip System

Materials

- Wood board 64cm x 14cm x 22mm
- 2 flat angle brackets 40mm
- 4 wood screws 4 x 20

i ...Double use for this board. While it fixes the pedal in place, it also creates an anti-tipping system for the shelf. This could also be reinforced by fixing the shelf directly to the wall.

Two possible options: one being to fix the board to the feet of the shelf, the other being for the more handy, to make a cut-out to embed the feet of the shelf into the anti-tipping board. We present here the second choice.

1. Trace and then cut out the outlines of the feet of the shelf by drilling then cutting the portions out with a jigsaw.
2. Fix the board to the shelf with two flat angle brackets.

i ...To be permanently attached after having fixed the foot pump in place.



Étape 11 - Fixing the Foot Pump in Place

Materials

- 2 stainless steel screws with tapered head M5 x 30mm



Étape 12 - Treating the Wood

In order to protect the wood from splashes, it was treated with a hard oil, in two coats.



Notes et références

List of materials and links to suppliers : [Google Docs](#)
English translation by Katia Krussel.