

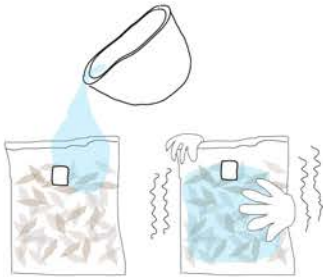
# Reactivating Dry Material



**1** Open the bag of dry material by cutting the top off along the sealed line. Do not cut below the white filter patch, this is necessary for the material to breathe during growth.



**2** In a separate container, add 2 tablespoons (10g) of flour and 1.5 cups (350 ml) of tap water. Stir thoroughly for 1 minute. Sanitize your tools and bowls with alcohol or spiritus before starting and allow to dry. (spray bottles work nicely).



**3** Pour the flour and water mixture directly into the bag of dry mushroom material. Shake vigorously for 1 minute. When there are no longer any dry patches of material or clumps of flour, the material is ready to grow!



**4** Fold the top of the bag over several times and secure shut with tape or a clip. (Do not fold over the white filter patch. This will prevent respiration.)



**5** In a clean area (at room temperature and **not** in direct sunlight), allow the bag to grow out for 3-4 days.



**6** When the bag appears fully white, the material is ready to use! Refer to **Let's Grow Something** instructions. If you do not plan on using the material right away, place it in the refrigerator for up to 2 weeks.

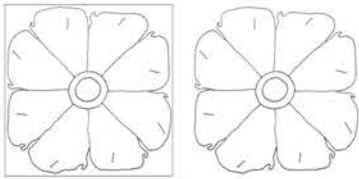
**MAKE TIME:** 20 minutes  
**GROW TIME:** 4-5 days

## You will need:



# Build your paper mold

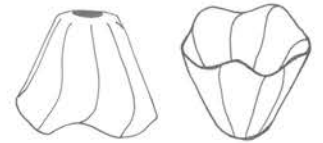
## FOR THE SMALL LAMP



**1** Carefully remove the border from the lamp shade.

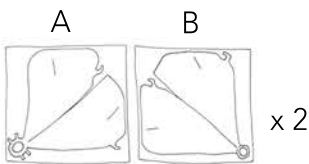


**2** Connect each flap to its nearest incision.

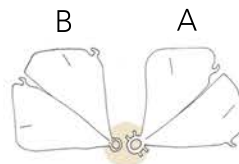


**3** Your little paper mold is ready to be filled !

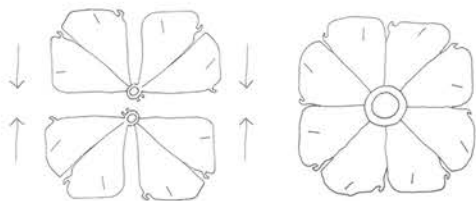
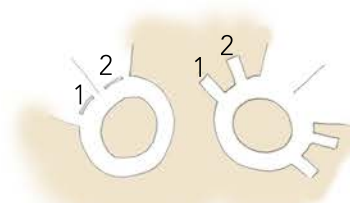
## FOR THE BIG LAMP



**1** Carefully remove the borders from each lamp shade segment.



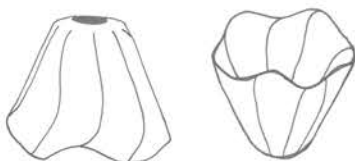
**2** Connect piece A to piece B as above, place A above B and fold. Strap 1 and 2 have to correspond with holes 1 and 2. Repeat this operation with the two other pieces.



**3** Assemble the remaining two parts as in the step 2.



**4** Connect each flap to its nearest incision.



**5** Your paper mold is ready to be filled !

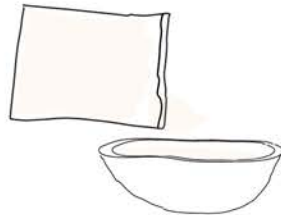
# Let's grow something!

**MAKE TIME:** 1-2+ hours

**GROW TIME:** 5-6 days



**1** With gloves on, sanitize your gloves, working area, and mixing bowl with a small amount of rubbing alcohol. (Spray bottles work nicely.)



**2** Remove mushroom material from bag and place in mixing bowl or clean container large enough for mixing.



**3** Break up material by hand until particles are loose. (Note: material will lose most of its white coloring during this stage.)



**4** Add 2 tablespoons (10g) of flour, and the psyllium and mix thoroughly for 1 minute.



**5** Sanitize your folded paper mold with alcohol and allow to dry (works with paper towel or toilet paper drained in alcohol as well).



**6** Model the GIY material inside the paper mold, tamp against its sides. Leave the hole open for the lighting fixture/led bulb.



**7** Place the lamp in a clean and closed box, or cover top surface of container with plastic wrap foil to prevent it from drying out (pinch tiny holes in foil for respiration).



**8** In a clean area (at room temperature and **not** in direct sunlight), let material grow until fully white again (about 5-6 days).

## You will need:



gloves



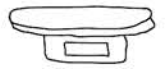
wet GIY material



tape



flour



scale



rubbing alcohol



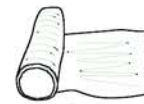
mixing bowl



psyllium



spray bottle



plastic wrap



growing container  
(see **Form Tips** if applicable)

**9** Remove object from growing container and leave to dry. (For instance above central heating or behind window in direct sunlight), till it has lost over half its weight.

# Forming Tips

## A FEW WORDS OF ADVICE ON GROWING CONTAINERS...

GIY Mushroom® Materials need **Forms**(a growing container) to grow into their final shape. Forms also help to lock in moisture, which is important for strong fungal growth.

### WHAT MAKES A GOOD TOOL?

- It's waterproof
- It's non-porous and smooth
- It gives you the desired feature resolution
- It can eject your part/s easily
- It can be reused (optional and ideal!)

### OPTIONS FOR TOOLING YOUR DESIGNS:

1. **Found tooling** - things like bowls, cake pans, sand castle toys, candy molds... whatever you can find!
2. **Custom tooling** - making small 'proof of concept' designs from carved or applied wax, or 3D printed designs, or small scale thermoforming (your local MakerSpace may have one)
3. **High volume tooling** - if you're making a lot of shapes, there are commercial thermoformers available to make larger quantities of tools

### OTHER TIPS & TRICKS:

1. Use draft angles of 3° and chamfered edges where possible
2. **No 'negative drafts' or 'undercuts'**
3. Avoid features smaller than 1cm wide or tall. Bold geometry and textures will be easier to fill with material and will be more visible when finished.
4. Plastic wrap is a great liner for porous materials, and can help eject your part
5. Plastic wrap is also a good 'lid' to keep the moisture sealed in once you've filled the cavity
6. For more complex shapes, use multi-part tools
7. Grow INTO the tool by using materials like cardboard or any natural fiber-based material, but this may make your project more susceptible to contamination!
8. Skip the tool entirely and add a few tablespoons of a natural gelling agent such as psyllium husk : water (1:4) mixture - it makes it behave like a chunky clay!

Materials that DO need a plastic coating	Materials that DON'T need a plastic coating
<ul style="list-style-type: none"> <li>• wood</li> <li>• clay</li> <li>• plaster</li> </ul> <p>Try using kitchen plastic wrap, painting on a silicone coating, or sealing with waterproof coating.</p> <p>When coating any materials, look for a waterproof, non-stick, non-porous solution.</p>	<ul style="list-style-type: none"> <li>• Wax</li> <li>• molding silicone or epoxies</li> <li>• Plastic (recyclable PET works best)</li> </ul> <p>Try thermoforming, 3D printing, or injection molding for plastics. Wax can be carved out or painted into a final shape.</p> <p>As always, use caution and read any safety instructions when working with plastics and castable materials.</p>

# Safety & Warnings

**Warning:** This kit contains materials that may be harmful if used incorrectly. Please read all instructions before beginning. Failure to follow these instructions and warnings could result in serious consequences.

## SAFETY

A Material Safety Data Sheet for this product is available upon request by contacting [giy@ecovatedesign.com](mailto:giy@ecovatedesign.com).

Not for human or animal consumption.

Not to be used by children under age 13 except under adult supervision.

This kit contains small parts, including agricultural particles, which may be harmful if ingested or inhaled, or otherwise misused.

The GIY process requires the addition of flour, and may not be advisable for those with severe gluten allergies. As a substitute you may use multidextrin.

The material can be dusty when dry. Material may irritate airways if directly inhaled. In case of inhalation, remove the person to fresh air. If irritation persists, contact a physician.

Do not touch eyes while handling the material.

This material is not rated or recommended for structural applications.

## STORAGE & DISPOSAL

Dehydrated material is shelf stable for up to 10 weeks from the date on your bag in a cool, dry place.

Rehydrated material can be stored in the fridge for 2-3 weeks after the initial rehydration stage.

Excess raw material and finished Mushroom products are environmentally safe and can be safely disposed of in the trash, composting systems, or in gardens.

To compost the material, break it into small pieces and mix with soil or other composting materials. Given the right amount of moisture and soil organisms, the material will break down in a few months.

## FUNGAL BIOLOGY

Common household mold species may contaminate the material if the workspace is not sufficiently cleaned before use. Should mold growth occur, dispose of contaminated material immediately and clean work surfaces and materials with dish soap and water.

Gloves are recommended to protect the Mushroom Materials from competing organisms and to keep hands clean, but the material is safe if it comes in direct contact with skin. Do not touch eyes while handling the material.

The kit is not intended to produce mushrooms, but mushroom growth can occur if the growth of the material is not completely stopped during a final drying step. Mushrooms can produce aerial spores, which are a potential allergen for those sensitive to fungi or airborne particulates. Ecovative advises against growing the material to this stage.