

PD6 Workshop

Preparation & tips for online participants



1. Ideas for Materials

What follows are some categories of use for different types of items you might find in your home. This list does not include many typical "crafting supplies," as if you have those, you probably already know what they are for.

Even if you have access to proper crafting supplies, you are still encourage to peruse this list, as it may get you looking at everyday materials in creative ways that could contribute to your model-making.

This is NOT an exhaustive list. What else can you find in your house in these categories?

Tools:

- Scissors
- Kitchen knives
- Razor blades: can be carefully wrapped in tape to make a craft knife
- Screwdrivers: can also pry things open and punch holes
- Spoons and forks: good for poking holes, moulding things
- Needles

1.1 Materials that carry meaning you can use:

These are materials that carry cultural significance by representing complex ideas in a simple, culturally-contextualized form. In semiotics, we would call them "Signifiers" of some cultural meaning. Bear in mind that in most use cases you'll be explaining your model with words as well, so the meaning doesn't have to be obviously apparent to everyone immediately.

- Action figures, Dolls, Toys
- Pictures from magazines
- Sports gear
- Junk drawer contents: a battery can represent "power." a broken digital watch can be "technology,"

1.2 Materials that add texture, colour, decoration

These materials can add decoration, colour, and emotional content to your models through the addition of colour and texture. Fabric tends to humanize your models.

- Clothing
- Puffy paint
- Fabric
- Markers
- Ribbon
- Plastic bags
- Coloured Tape

1.3 Materials that add structure, or can be moulded into shapes

- Aluminium foil
- Duct tape
- Paper
- Plastic wrap
- Paper clips
- Scrap wire
- Cardboard: Save old boxes, because cardboard is a great material for moulding into useful shapes. If you don't have glue or tape you can push holes in cardboard and thread it with string to hold it together.

1.4 Materials that hold things together

- Tape
- Glue
- String
- Shoelaces
- Thread (you can pull from old clothes)

1.5 Random things that can look like other things

These are items that can be useful for making parts of a model because its shape suggests other things. Use your imagination: grab an object at random and ask yourself: What else can this be?

- Silverware: Spoons can be heads, knives can be legs, forks are great hands, etc.
- Plates: great stages for holding your entire created "world"
- Cups: upside down they can be torsos or skirts, right side up they can be boats, on their side they can be wheels.
- Old batteries: need a cylinder? Grab a battery!
- Junk Drawer" contents, pencils, springs ...
- Vegetables!: Many veggies can be carved with a kitchen knife into all sorts of shapes.

1.6 Making Kits

Maybe you never threw these out from your childhood, maybe you still love them, maybe you have a younger sibling or nephew...

- LEGOs
- Wooden blocks
- Tinker Toys
- Play-doh

2. Tools for online collaboration

These tools can be thought of as an extra help during the workshop and also for the future.

- Storyboarding: **SAP Scenes** creative commons licensed tool
- Remote circuit analysis: **Circuit Lab** and **Multisim** which are free open tools that enable sharing what is being built and checking where the problem lies.
- Building CAD models online together: **Onshape**, universities can make a free account.
- Online Legos: **LeoCAD**
- Large whiteboards: **Miro** and **Mural** with “post-its” and shapes to drag and drop.
- Scribbles to prototypes: **Marvel POP**
- Combining sub-systems of prototypes: **Node-RED**
- Ideas for prototyping: **Molly.is** protobot