



Designing
Justice+Designing
Spaces

Tool 7



Model Making with Paper





Description

Model Making with Paper

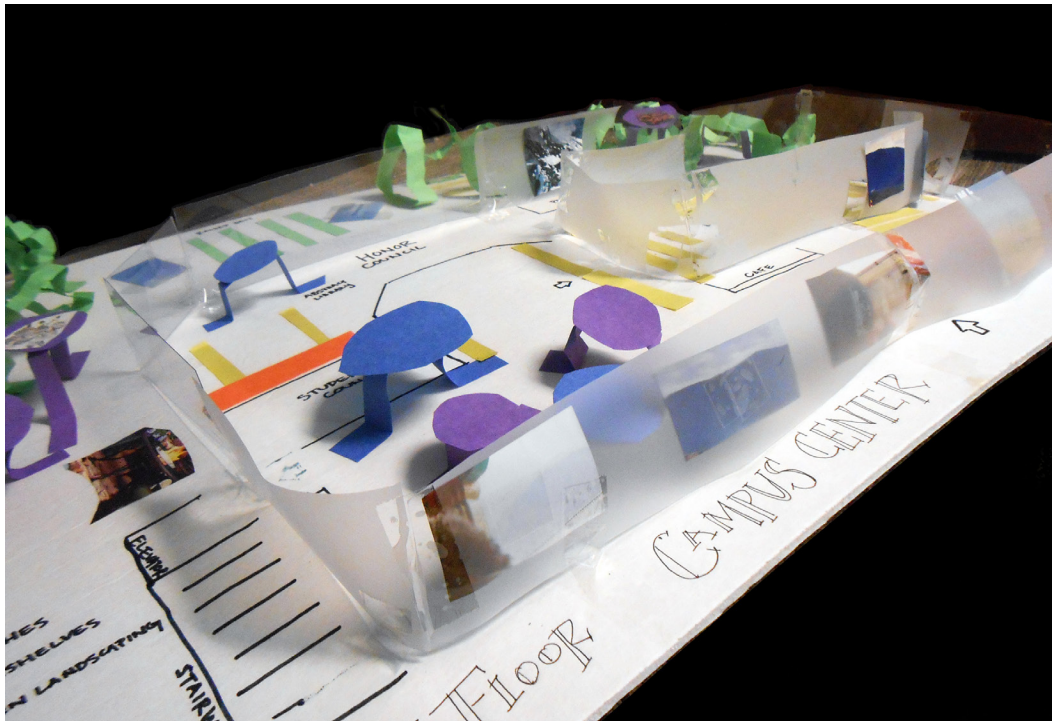
Like model making with blocks, model making with paper provides a hands-on way for participants to express thoughts about space and provide creative and emotional input. This time, however, participants use material techniques, rather than pre-made objects. As a result, these basic paper model-making materials provide more of a blank canvas upon which participants can imprint their unique view of the world. For example, ripping, doing rubbings, and folding and scrunching paper, chip board, acetate, or vellum can provide participants with greater flexibility in creating ideas about how space can be designed for refuge, privacy, or security.

Allowing participants to draw from memory or cut images from magazines of trees or flowers and paste them on to chipboard or paper means they have a much greater range of expression, as you could never provide every kind of plant or animal. It also helps to develop a sense of scale, which is a hard concept to teach to those unfamiliar with representing ideas about space.



SAMPLE EXERCISE

As folding paper is a basic technique for the creation of a paper model, a good first exercise for participants is to make a simple box house. Template 7 is a template for such a house and instructions for working with the template are provided in the Make and Build section. By using this template with a chip board base, participants can practice this paper folding technique.





Plan and Process

Use this tool to:

- Explore space layouts.
- Easily visualize concepts and ideas for three-dimensional building designs.
- Identify and discuss the design characteristics, spatial relationships, and functions of spaces designed to facilitate justice, peace, calm, etc.
- Create and build physical spaces for justice, peace, engagement, reflection, etc.
- Challenge participants to identify and agree on essential design characteristics and spatial relationships.
- Translate the “feel” of a space into a built form.
- Visualize concepts, ideas, or personal experiences.
- Explore participants’ understandings and perceptions of themes under discussion.
- Encourage participation from those who may be less confident in their verbal communication skills.



Modify the sample exercise

Exercise 1: Re-envisioning an existing place

In this exercise, best suited as a follow up to the sample exercise, students create unique models using the collection of supplies and instructions outlined in the Make and Build section. Students may create models of existing justice spaces of either 1) their choice or 2) in response to a prompt provided by the instructor. Sample prompts may be:

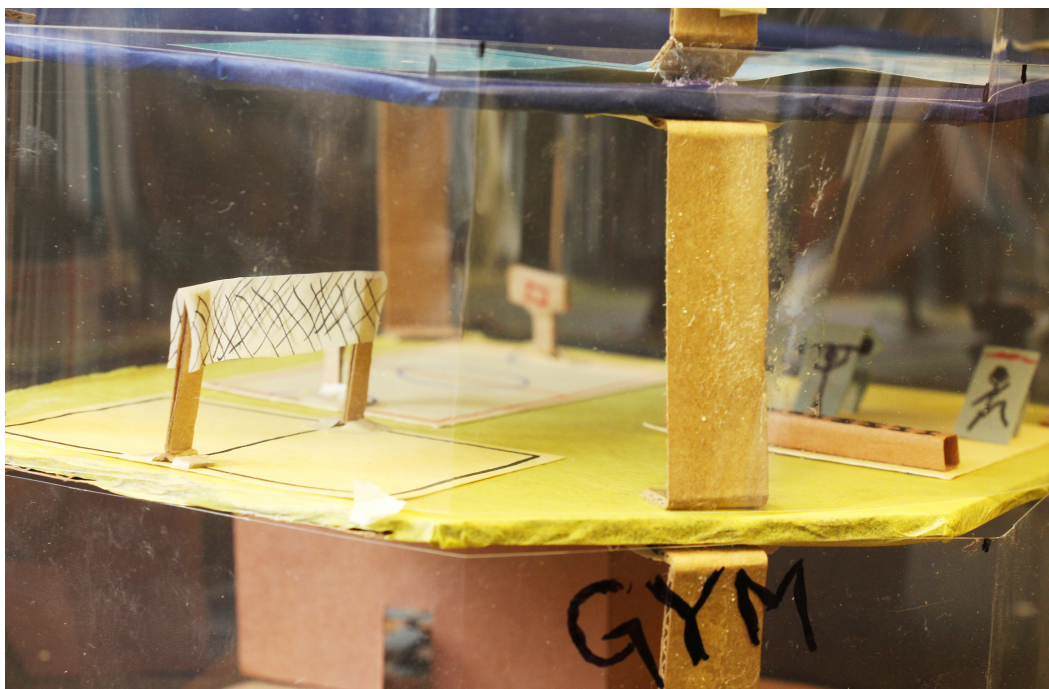
- Re-envision the courtroom design using restorative justice values.
- Remodel the visitor waiting area to support healing and nourishment.
- Select a room in your current environment and redesign it to reflect restorative justice values.

Participants may work individually or in groups to create their model. In addition to physical and built spaces, students are encouraged to also include doors/windows, nature, people, furniture, etc. As they build, they will want to consider the following:

- What functions does the space(s) perform, or could offer?
- How do the different spaces in the model relate to each other?
- How do people relate to each other and move through the space?

As participants are working on their models, do an occasional “desk crit” (or desk critique) to assist them in pushing out their ideas and to promote creativity. Bring a marker and paper with you, so you can sketch ideas that surface during your conversation.

Students will then present their models to the large group.



Exercise 2: Creating a new space

Inviting participants to envision a completely new space, building, or collection of rooms that represents architecture based on restorative justice, love, and other restorative values is an exciting approach that often yields the most creative results. With this exercise, participants respond to a prompt by creating their own building or room from scratch that may have never existed before. Participants can explore their design concept in any way they like. It can be one room from a larger design concept or the entire project. Sample prompts include:

- Create a model of a courthouse design that has been designed using restorative justice values.
- Create a model of a space in which a victim offender dialogue could occur.
- Create a model of a building the supports accountability and forgiveness.

As in the first modified exercise above, participants may work individually or in groups to create their model. Facilitators should encourage participants to represent all the important ideas in their model. Furniture, trees, or other special features can be created using magazine images, drawing on paper, or folding the paper to create the desired element. As they build, participants will want to consider the following:

- What activities occur in the space?
- How do the different spaces in the model relate to each other?
- How do people relate to each other and move through the space(s)?

As participants are working on their models, do an occasional “desk crit” (or desk critique) to assist them in pushing out their ideas and promoting creativity. Bring a marker and paper with you so you can sketch ideas that surface during your conversation.

Participants will then present their models to the large group.



Present and debrief the design tool

Upon the completion of the model-making process, facilitate a large group discussion. Some sample questions include:

- In what ways are restorative values embodied in the models?
- What are common themes across the models?
- What are differences across models?
- What is surprising about the models?





Make and Build

Model making is one of the most challenging tools to use inside a correctional facility but may be one of the most rewarding as participants get a chance to be physically engaged with the tools and to create a three-dimensional representation of their ideas.

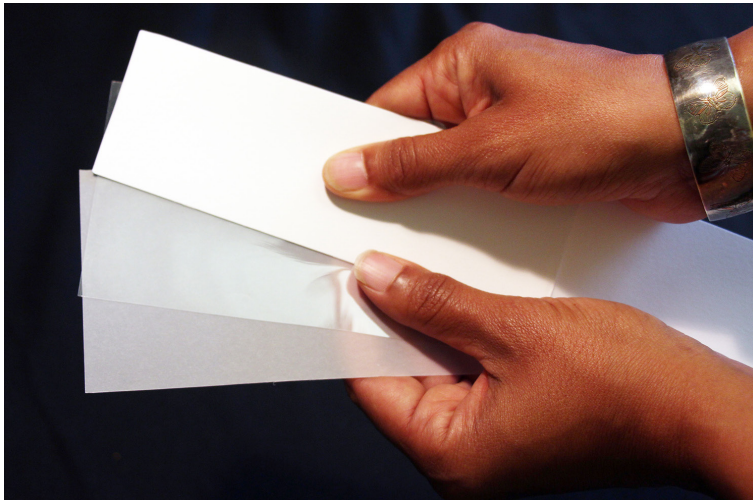
These are rough models and are not intended to be well crafted. In addition to using paper to create walls and structures, participants can scrunch the paper to get textures or interesting volumes. They can tape or glue down strips of paper on two ends to get arches. Magazines and printed/texture paper can be added to the model. Trace or velum can be scrunched up for tree canopies, affixed to the top of rolled up paper to be a trunk, and added to the model as natural features. Any way that participants want to manipulate the paper to convey their design is appropriate.

Those inside correctional facilities are typically incredible improvisors, given their limited access to common resources. Their creativity in exploring these materials should be encouraged. These kinds of “messy” models are often used by architects to investigate ideas in an office setting and, with slight modifications, can also be used inside the institution.



Materials

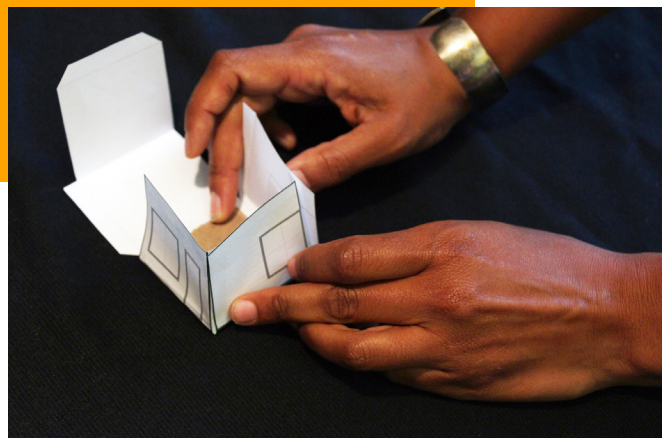
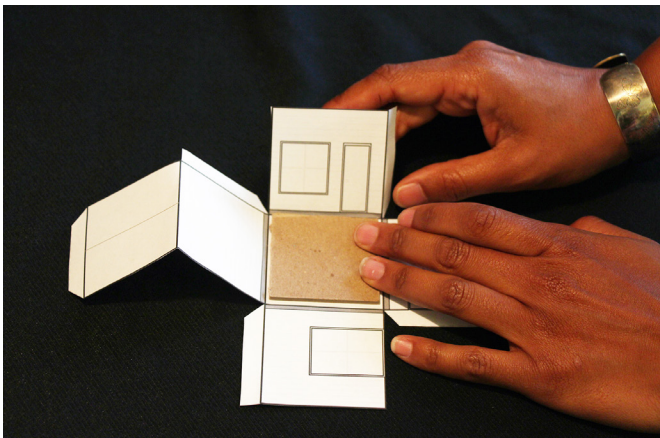
- Two-ply chipboard ruler and triangle (Template 1): This is helpful for ripping paper along an edge or creating straight lines while drafting the outlines of windows and doors onto the paper.
- Pencils/pens: These are used for drawing on the model and for carving into paper, if necessary, for cut out windows, and other openings.
- Magazines, textured, colored, or printed paper, and any other interesting papers that you find and can bring into the institution that are helpful in expressing design intent.
- Single- and/or double-sided tape and/or glue sticks (if using tape, double-sided tape makes a cleaner model).
- Scissors (if permitted) or pre-cut strips of paper (see below regarding bristol board, vellum/mylar, and acetate).
- Chipboard, two-ply: Chipboard serves as the base of the model to which walls and other elements are attached, as described in the exercises.
- Papers:
 - You will want various types of papers so you have solid, clear, and translucent surfaces that can better express students' ideas. These can be pre-cut to the height you would like walls to be in order to make it easier to work with in prison and jail settings.
 - Bristol Board, 85 lb – 24" x 36" sheets or 18" x 24" pads of mix media paper: This can be used to represent elements that are solid or textured. It may come in the form of a booklet or large sheets, which can be cut into strips according to scale.
 - Vellum (paper-like) or Mylar (plastic-like): This translucent material can be used to represent elements that are translucent, such as frosted glass, and can be used to explore themes of privacy and visibility. It may come in the form of a booklet or large sheets, which can be cut into strips according to scale.
 - Acetate: This is a clear plastic-like material that can be used to create windows and other see-through spaces. It may come in 8.5" X 11" or larger sheets and be cut down into strips according to scale.



Process

SAMPLE EXERCISE

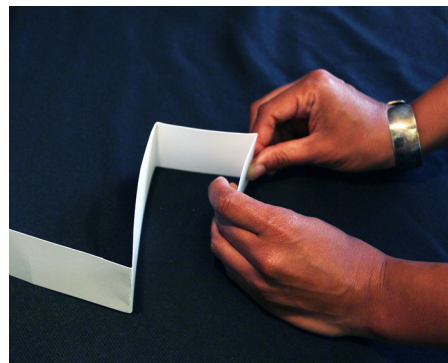
1. Print out a copy of Template 7 onto thick construction paper or 50 lb card stock, both of which are available at any office or art/craft supply store. The paper just needs to be thick enough to hold its form once folded.
2. Using chipboard, cut out a model base that is sized to the small square on Template 7. This will serve as the base for the house.
3. Participants will cut or tear out the two-dimensional form of the house and the small square (which serves as the base) using scissors or the chipboard rulers from Template 1. To save time, this template can be pre-cut.
4. Once participants have the basic flat form of the house cut out, they fold the house along the solid lines.
5. Once the house is loosely folded, they glue or tape the chipboard base in the center forming the floor of the house. Participants can glue the floor of the house on the base.
6. Participants then attach the walls to form the house. They do this by folding down and overlapping the tabs on the adjacent walls and then attaching them to another using double-sided tape or glue.
7. Participants finally fold down the roof of the box and tape it to the side wall. They should now have a completed little house.



Exercise 1: Re-envisioning an existing space

For this exercise, as you will be creating a floor plan and walls, it is easiest to create models that represent a collection of rooms to a scale of $1/8''$ or $1/4''$ per foot.

1. Before you can re-model an existing space, you must choose the room/space you want to model and make sure to prepare base materials, such as a chipboard outline of the floor plan. Because you are not likely going to have access to photos of the space or a tape measure, if inside a correctional facility, you will need to pace out, or walk, the space to get its dimensions. This process has an advantage over just a photograph as you can get estimates of the measurements needed for building the model. Follow the process for pacing out a space found in the Perspective/Montage Make and Build section.
2. Outline the floor plan of the space (by hand or on a computer), using the measurements you paced out. Make enough copies for each participant and glue down the plan onto the chipboard base. You can either cut around the floor plan to create a profile of the room or you can just leave the chipboard as is, with the plan in the middle. When the chipboard is not cut to exact dimensions of the floor plan, participants can use the extra areas outside the floor plan to add adjacent or support spaces.
3. It is helpful to cut into strips, either before class or in class if scissors are permitted, each sheet of paper you would like to use to form the space. These strips are cut to the height at the scale to which you are working. If using a scale of $1/8''$ or $1/4''$ per foot, a typical 8 ft ceiling height would be represented by a 1" or 2" strip of any material. We also recommend creating additional strips of varying widths that can suggest a difference in height or can be used as other elements in the building, such as low walls, ceiling, roofs, and screens.
4. In the absence of knives or metal rulers, the usual tools of architects/designers, participants fold and rip paper to create their models. Like with the box model in the sample exercises, participants fold the paper where you want a wall to end and continue to fold it along the perimeter to enclose the space. They can also create a sharp crease and tear the paper at the corners to create separate wall planes. It is helpful if, while creating these walls, participants create tabs on the bottom of the walls, which they can later use to tape/glue the wall to the base.
5. At this point, prior to gluing/taping the model components into place, participants also sketch out where they want such features as windows and door openings. Once these are sketched onto the paper, participants tear or cut out these elements of the façade. For example, to cut out a window, participants fold the paper along the center line of the window and tear or cut the paper where they want the top and bottom to be. One of our participants also used the end of his pen to deeply carve out, or perforate, the edges of his windows and doors, which proved to be a very good technique. This same process can be used for the acetate and vellum strips as well.

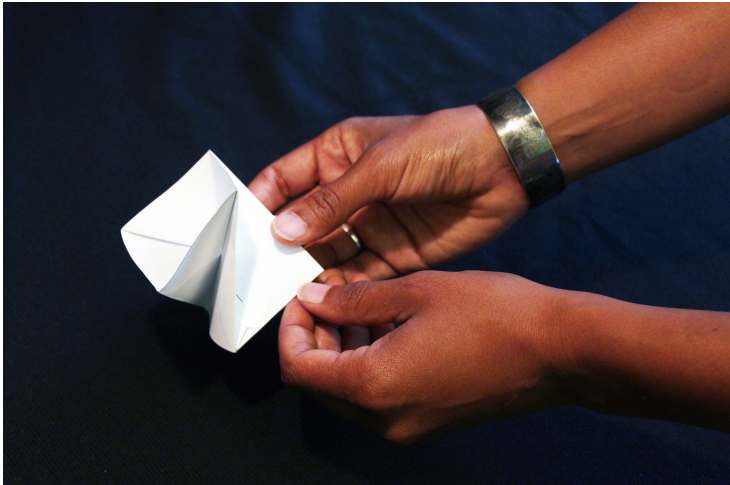


6. Once this is done, participants use double-sided tape or glue to attach the model surfaces to the chipboard. This is most easily done if one has created a tab at the bottom of the wall that can be attached to the base. If not one can attach them with tape at the corners.
7. In this final stage, participants can add a roof or ceiling plans and images from magazines to represent features in the space such as people, planting, and furniture, or other three-dimensional elements of the space.

Exercise 2: Creating a new space

Preparation for this exercise for this process is less arduous than re-envisioning an existing space, as you do not need to create a specific floor plan on which to work.

1. Bring to the session precut walls (1" to 2" high is recommended) as well as additional sheets of paper (8.5" x 11", 11" x 17", or 18" x 24") that can be cut down inside the institution. Also bring precut chipboard bases (11" x 17" is a good size), on which participants will build their models. Two such pieces of chipboard per group will allow them to use them individually or combine them for a larger project.
2. Follow steps 4 through 7 from Exercise 1 above.



References

- The Paper Architect: Fold-It-Yourself Buildings and Structures by Marivi Garrido and Ingrid Siliakus.
- Folding Architecture [9th print Paperback] by Sophia Vyzoviti.
- Folding Techniques for Designers: From Sheet to Form [Paperback] by Paul Jackson.

Tool
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Participant Handout

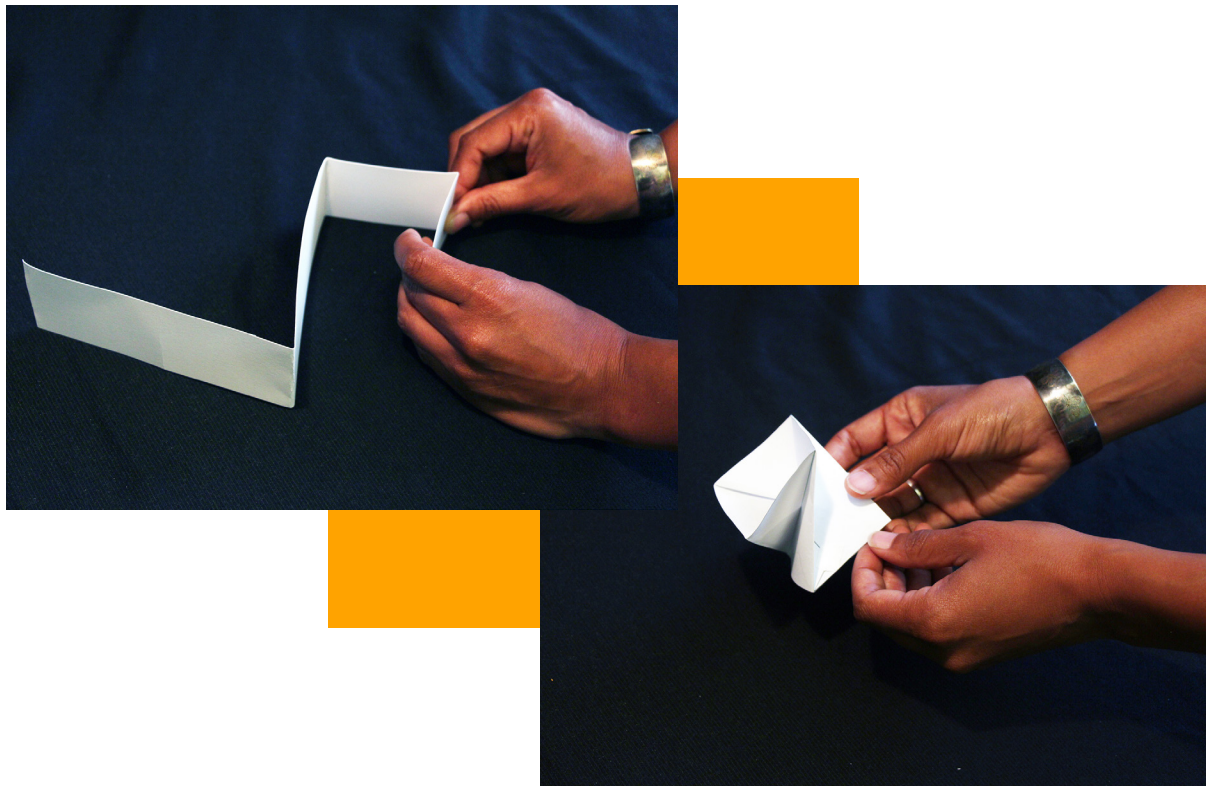
Model Making with Paper

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Model Making with Paper exercise

This sample exercise introduces you to the basics of model making, skills that you can then apply to the creation of models of other spaces.

You will receive a two-dimensional paper copy of a house. If not done already, cut or tear the house and the small square out of the paper. Once you have the basic flat form of the house cut out, loosely fold it along the solid lines. Glue the provided chipboard base into the center of the house, so it forms the floor. Glue the paper floor of the house onto the base. You can now attach the walls together to form the house. To do this, fold down and overlap the tabs on the adjacent walls and attach them to each other using double-sided tape or glue. You are now ready to finish the house by folding down the roof and taping it to the side wall. You now have created a model house with paper.



Tool
7



**Model Making
with Paper**

Templates

