

CREATE YOUR DREAM SPACE

SESSION ONE: EXPLORATION AND DESIGN

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| Topics Explored | STEM (mathematics, spatial reasoning), Job Exploration (architecture), Creativity |
| Age Group | 9-11, 12-14 |
| Purpose of Activity | Participants will discover the field of architecture as they explore their living space and design their dream house. |
| Time | 50 Minutes |
| Materials | Must Have: Ruler, Tape Measure OR String, Paper, Pencil, One small object Extras: Computer, Markers OR Colored Pencils, Magazines |

Activity Description

Over the past few weeks, most of us have spent countless hours inside. It is time to take a fresh look at the places we live. In this activity we'll use mapping, design, and creativity to explore the spaces we live and dream about the perfect space for our future selves.

Tip: This activity can be done with family members! Ask members of your household to join with you, picking a space of their own to explore and re-design. As a friend to do the same and share your results over video-chat, text message, or email.

Part One: Exploration

Step One: Gather Your Supplies

Search your living space for:

- A ruler
- A tape measure or string
- Paper
- A pencil
- One small random object.

If you have access to markers or colored pencils and a computer, bring those along as well.

Step Two: Select a Space

Select a space or room that you've spent a lot of time in these past few weeks.

This could be the space you sleep, the space you eat, the space you complete e-learning – maybe all three of those spaces are the same!

Step Three: Map Your Space

Use your ruler, tape measure, paper, and pencil to create the most accurate map possible of the space you picked. **Challenge yourself to complete your map in only 7 minutes!** Time yourself with a phone if possible.

Challenge One: Map Scale

Your space will be larger than the piece of paper you are using to create your map. How will you represent the actual size of the room? **Use a Map Scale.**

A map scale is the ratio between the distance of the object in real life and the distance of the object on the map. For example, 1 cm on the map = 2 feet in real life.



Challenge Two: Legend

Your space may have a bed, a kitchen table, chairs, doors, windows. How will you represent different objects in your space? **Use a Legend.**

A Legend is included with a map to help the reader understand the map. Maps often use symbols, shapes or colors to represent items. The Legend labels these symbols, shapes, or colors to explain what they mean.



Chair



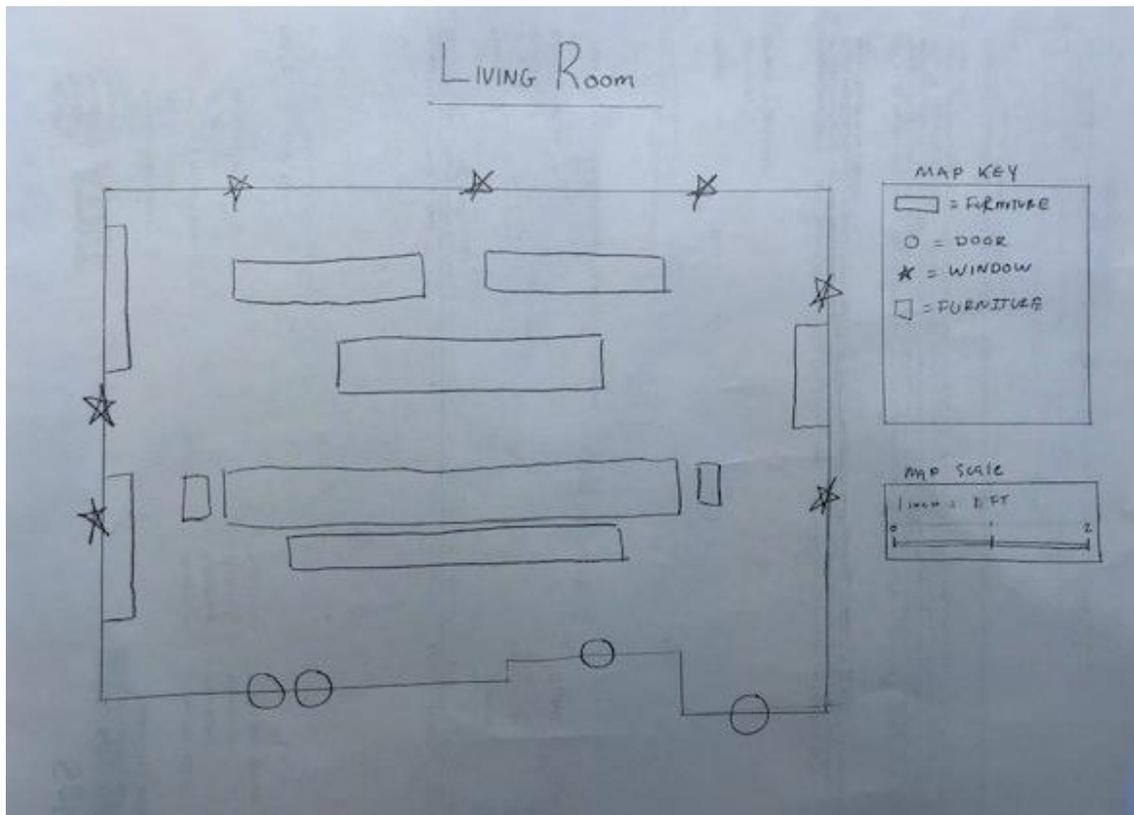
Door



Window

If you do not have a tape measure, use your ruler to measure a length of string. Mark each 6in segment on the string. Use this string as a tape measure.

Check out this example map including the map scale and legend.



Step Four: Treasure Hunt Test

Once your map is complete, take the small object you gathered and hide it somewhere in the room.

Take a pencil or marker and make a dot on your map to indicate where you hid the object.

Find someone in your family to use the map to search for the object.

Did they find it?

If not, how could you adapt your map to be more informative to help them easily find the 'treasure'?

Step Five: Discovery

Think about these questions and share your answers with a friend or family member.

What is something new you learned about your space that you didn't notice before?

What was the most challenging part of mapping your space?

How did it feel to look at your space in a more detailed, focused way?

This activity is related to the career field of Architecture. Brainstorm what you think architecture is. Write down your ideas or share them with a family member.

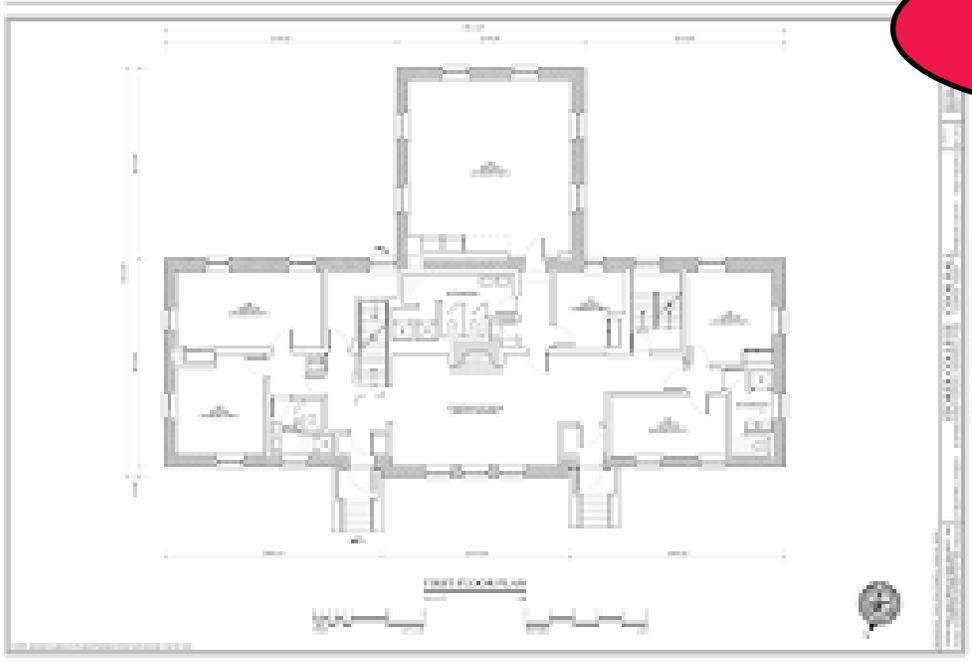
Part Two: Design

Step One: What is Architecture?

Architecture is the art of designing and constructing buildings. If you are interested in math, engineering, design, and enjoy being creative, architecture could be a career you explore for your future. You can learn more about being an architect at the link [here](#).

How do you think architecture is represented in the mapping activity we just did?

Architects create documents called Technical Drawings. A technical drawing is a very detailed map of a building or a structure.



Technical Drawings were once called Blueprints because of the color of the paper on which they were drawn.

In what ways does the process of mapping your space relate to building a technical drawing?

Share your answers with a friend or family member.

Step Two: Imagine Your Dream Space

We are one step away from building a technical drawing of our dream space. Before we start drawing, consider the items architects think about before they start their technical drawings.

- *What will the space be used for?*
- *What size should the space be?*
- *Who is using the space?*
- *Where should the walls, windows, doors, electrical outlets be placed?*

What other items are important to consider before you start your technical drawing?

Make a list of the answers to these questions before you begin.

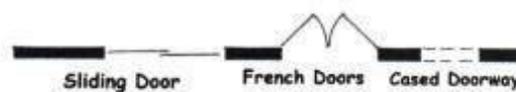
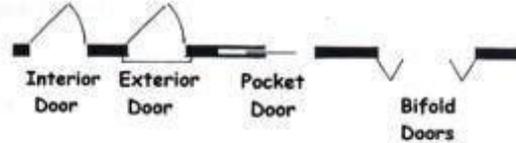
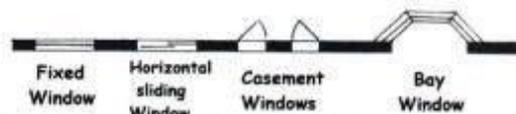
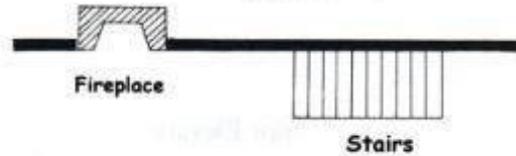
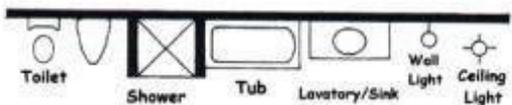
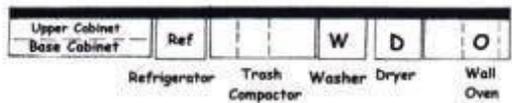
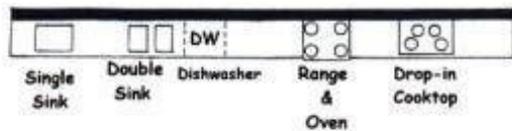
Step Three: Design Your Dream Space

Use your new mapping skills to develop a technical drawing of your dream space.

Remember to include a Map Scale and a Legend in your drawing.

Architects use universal symbols to represent things like furniture, doors, windows, stairs, electrical outlets, etc. Use the legend below in your final technical drawing.

Architectural Blueprint Symbols



Step Four: Discovery

Congratulations on creating a technical drawing of your dream space! Take some time to be proud of the investment you made in learning about mapping and architecture. Consider the amount of creativity and ingenuity you committed to the project.

Think about...

- How did you decide what elements to include in your dream space?
- What is something you learned about the career field of architecture?
- How can you use what you learned in the future?

We'd love to see what you created! With permission from your trusted adult, post a photo of your dream space and tag [@girlsincindy](#) or [#girlsincindy](#).

Coming Soon

Check back next week to learn how to translate your technical drawing to a digital model using a computer design program. We will explore careers paths that help bring a space from a drawing on a paper to a real building.