COOPER HEWITT

DESIGNING FOR CHANGE TOOLKIT

STUDENT VERSION

Smithsonian Design Museum

TABLE OF CONTENTS

Change & Innovation

Observe + Define

Generating Ideas

TABLE OF CONTENTS

Prototype + Evaluate

Launch

DESIGNING FOR CHANGE TOOLKIT

This toolkit takes you step-by-step in demonstrating how the design process can lead to meaningful innovation in your community. Designing for change in a community does not fall solely on the shoulders of political leaders or professional designers but can be initiated and led by youth and everyday citizens. Our hope is that this framework will give you the tools to be an agent of change in your community.

WHAT IS INNOVATION?

Innovation is a core human trait. "Life hacks" and "pro tips" on social media show us the innovative ways others have solved some of life's inconveniences. We often innovate in our everyday lives by adjusting and customizing our surroundings to remove obstacles or improve efficiency.

The best people to develop an innovative solution are often the ones closest to the challenge. In your local community, you (and your neighbors and friends) may be the best ones to tackle unique and complex problems.

What Does It Take to Be Good at Innovation?

Although anyone can innovate, there are a few common traits that good innovators have in common. Innovators are:

- Creative thinkers who see the world from a unique perspective.

- Collaborators who value the opinions and ideas of others.

- Risk-takers who are not afraid to fail as they learn how to succeed.

Design as a Process Leading to Innovation

Design is a process of solving problems with a specific goal and community in mind. Designers do not rely on luck or wait for a spark of inspiration to strike; instead, they combine creative tools and research techniques to form the design process. The process includes steps and procedures that foster creativity and innovation by creating opportunities for creative thinking, collaboration, and risk-taking.

THE DESIGN PROCESS

Designers use specific tools and strategies to address complex challenges. We can group tools and strategies into distinct phases that support innovation.

- **Observe + Define** — Look and listen carefully to the world around you and determine what challenges can become opportunities.

- **Generating ideas** — Consider all the potential approaches and solutions to your challenge without ruling anything out yet.

- **Prototype + Evaluate** — Create ways to share and test the best ideas so that you can refine them and make improvements.

- **Launch** — Implement your solution in the real world and monitor its progress; keep making improvements.

In practice, these phases of the design process rarely happen in order. The design process does not follow specific steps like you would when following a recipe for baking a cake. Instead, we can think of the process as being like all of the baking ingredients and skills you know.

OBSERVE + DEFINE > GENERATING IDEAS > PROTOTYPE + EVALUATE > LAUNCH!

THINK LIKE A DESIGNER

Designers use the design process to keep themselves from getting stuck, especially when a problem might seem too hard to solve. Each phase of the design process has a specific mindset associated with it that helps to guide the designers' work and support the best possible outcomes.

- **Curious** — When observing and defining the problem, be curious and question everything—even the things you know. Constantly ask "why?" and then do your best to answer your own questions.

- **Playful** — To generate the best ideas, don't ask "why"; ask "why not?" Imagine the world with endless possibilities.

- **Deliberate** — Use prototypes to consider your ideas and options carefully. Evaluate your ideas and listen to others' perspectives. Will the proposed solution meet the needs of the community? Do the right resources exist? Is there enough space, or money, or time?

- **Daring** — Take a deep breath and launch! It takes guts to share something with the world. Know that your project may not be perfect, but it is a step toward accomplishing your goals.

DESIGNING CHANGE IN YOUR COMMUNITY

Let's get started!

Now it's your turn to apply the design tools and strategies in this toolkit. Uncover opportunities and develop innovative solutions that address unique challenges in your own community!

As a citizen of your town or city, you can develop new innovations that meet the needs of your community. To get started, draw on your experiences and listen to those around you attentively to gain a fresh view of the challenges that you may face. Use the design process to guide you through the process of identifying and defining a worthwhile problem to address. Be sure to listen to others, observe your surroundings with new intention, and collaborate with others to take risks and think creatively about how to solve collective challenges close to home. As you refine your solution, anticipate that unexpected problems or new challenges might arise, but that doesn't mean you're on the wrong track. Keep adjusting and refining until the best solution comes into focus.

Remember, the design process is not linear. You may need to revisit some activities several times during your project to adjust and refine your idea.

Defining the challenge or opportunity is the most crucial part of the design process and where you will spend most of your time. In the following pages there are four activities that will give you a strong foundation for developing your innovative solution.

OBSERVE +
DEFINE

OBSERVE +
DEFINE

GENERATING
IDEAS

PROTOTYPE +
EVALUATE

LAUNCH!

OBSERVE + DEFINE

ACTIVITY 1

Set Project Parameters—How will you define success?

It is important to set the goals and guidelines for your project from the beginning. Having clear boundaries will help foster innovation. Determine who is involved in the project, who the stakeholders are, and what you hope to achieve.

🕐 30–60 minutes

🛠 Paper and writing tool

PROCEDURE:

- Make a list of the project stakeholders—all the people who are working on or benefiting from your project.

- Discuss and list the goals of your project—what you hope to achieve. (You should only have 2–3 main goals.)

- List the artifacts or assignments you must complete to achieve your goals.

OBSERVE + DEFINE

ACTIVITY 2

Define the Problem—What are the opportunities for innovation?

Designers identify specific challenges or problems to solve. Understanding and explaining the problem is an important step in developing an innovative solution. The way a problem is defined helps you figure out how to solve it. The definition will include specific information about who is experiencing the problem and what they may need to be successful.

🕐 15–45 minutes

🛠 Paper and writing tool

PROCEDURE:

- Create a list of challenges or frustrations you experience in your everyday life.

- From your list, choose a problem that interests you—ideally, one that others experience as well.

- Starting with the phrase "How Might We…" (HMW), turn your challenge into a question.

- Review and refine your HMW question to make sure you have clarified the opportunity, who will use the design, and the desired outcome.

- A good HMW is not too specific and not too general. Before selecting a final version of your HMW question, see if you can create a version that is detailed and more specific and a version that is broader and more generic.

- A HMW question should never include a solution.

HOW MIGHT WE...

How might we ___*create clear wayfinding*___ for ___*families with children*___ in order to ___*help them explore their park safely*___
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

How might we _____ for _____ in order to _____
OPPORTUNITY   USER   OUTCOME

OBSERVE + DEFINE

ACTIVITY 3

Consider the User—Who will benefit from your innovation?

Designers innovate to benefit people, often referred to as "users." Although each user is unique, designers often group them into a community of people who share similar traits or characteristics. These users all experience the same challenge and can provide key insights about how to innovate.

🕐 15–45 minutes

🛠 Paper and writing tool

PROCEDURE:

- Build a user profile by defining the community of users that you are designing for. Write down what traits unite them. Is it a certain demographic or location? Do they have shared interests/challenges/experiences/values?

- Determine whether your design team is part of the user group. Also, decide how other voices from the community will be included in the process.

- If your team does not have a way to include members of the community you would like to design with, consider adjusting or expanding the user group until it does.

INTERVIEW	
Name of your group of users:	
List of traits they share:	
Describe their common challenge:	

OBSERVE + DEFINE

Community Interviews—What do your users think about the challenge?

Summary: Speak directly to people who are part of your user group to understand their experiences and identify their need(s). Interviews allow you to better understand other perspectives that cannot be easily uncovered by conducting an internet search or a consulting a book. During your interviews, try to listen more than you talk, and be full of curiosity about the experience of your users.

🕐 20 minutes of prep; 20–60 minutes per interview

🛠 Paper, writing tool, and/or a recording device

PROCEDURE:

- Identify several members of your user group to interview.

- Ask potential interviewees if they are willing to share their experience related to your design challenge and schedule a time to conduct your interview. If you are making a digital recording, ensure you get permission from your interviewee.

- Write down your questions in advance and limit the number of questions you ask (aim for 5–8).

- Craft open-ended questions to encourage your interviewee to talk about their opinions and experiences freely. (Asking "What did you think/see/feel . . ." can be a great way to start a question.)

- Designate one person to ask the questions and at least one other team member to take notes during the interview. If you have the permission of the interviewee, it is also good to record the interview.

- Once you've completed the interview, analyze your findings.

COMMUNITY INTERVIEW

ACTIVITY SHEET

INTERVIEW	
Full Name	
Date of Interview	
Interview notes	

POST INTERVIEW	
Did anything from the interview surprise you?	
Did the interviewee share opinions that agreed with your other findings?	
Did any information disagree with your other findings?	

OBSERVE + DEFINE

ACTIVITY 5

Assess Your Resources—What are your current assets?

Summary: Your local community is rich with resources that you can use to inspire and support your innovation. Create a list of available resources in your community using the library, the historical society, government records, and more.

🕐 30 minutes–60 minutes

🛠 Paper and writing tool or shared document

PROCEDURE:

- Beginning with what you know from memory, create a list of the specific resources in your community.

- Use the categories below to organize your list.

  – Physical/Infrastructure (buildings and sewage services)

  – Financial (grants and subsidies)

  – Human (notable individuals and historic figures)

  – Intellectual (special skills and capabilities)

  – Political (elected officials and community groups)

  – Natural (parks, native plant species, and natural phenomena)

  – Social (volunteer groups, clubs, and teams)

  – Cultural (unique histories, local food, and special customs)

OBSERVE + DEFINE

ACTIVITY 6

Direct Observation—Can you see opportunities for improvement and innovation?

Summary: People can behave in unexpected ways. It is important to drop any assumptions you may have about your challenge and go observe what's really happening. You may see positive situations—like neighbors helping each other—that you want to improve and expand upon. Other observations may be unwanted behaviors—like littering or vandalism—that you want to stop or limit. Using all your tools of observation will help you view your challenge with new eyes.

🕐 1–6 hours

🛠️ Paper and writing tool and/or camera

PROCEDURE:

- List where your users experience the challenge that you outlined in your HMW question.

- Determine how and when you can observe the challenge happening. If the challenge happens only at specific times of day or on certain days of the week, will you be able to be there to observe?

- Observe carefully, paying attention to the smallest of details. Pretend to be a detective and use all your senses to gather information and clues about your challenge.

- Take special note of what people are doing. Are spaces and objects being used as intended? Have people already developed their own innovations or workarounds?

- Depending on the location, it may be helpful to come back at a different time to see how the challenge may worsen or improve (things may get worse on a rainy day or improve on a quiet weekend).

- Record as much information as possible about your observations. Take photos/videos/sketch/audio-record/etc. Write down what you see, hear, smell.

DIRECT OBSERVATION

ACTIVITY SHEET

Location:

SEE	SMELL
Draw or photograph anything of interest.	*Are there specific odors or aromas?*

TOUCH	HEAR
What are people handling or interacting with? Where is the flow of activity?	*Record or describe sounds. Are people saying anything interesting related to your challenge?*

GENERATING IDEAS

GENERATING IDEAS

TECHNIQUE 1   > We will share three different techniques. Use one or all of them.

Brainstorm—More is more

🕐 15 minutes–60 minutes

🛠 Post-it® notes and markers

Summary: Let your imagination run wild! Work as a team to come up with as many solutions as possible to your HMW question. Share the most unique, fun, thoughtful, or complicated solutions you can imagine. During this step, there is no such thing as a bad idea. Do not criticize or judge anyone's ideas during a brainstorm (including your own)! Build on the ideas of others.

PROCEDURE:

- Be sure everyone in the group knows the HMW question.

- Set a timer (15 minutes is a good length of time per brainstorm session) and try to generate as many solutions as possible before the time runs out.

- Sketch or write ideas as quickly as possible using one Post-it per idea. Use headlines or key words to describe your ideas, and avoid giving too much detail.

- Reward participants for coming up with the most ideas or having the most outlandish ideas.

- Have a group session and an individual brainstorming session.

- Have several sessions of each if necessary.

- End each session by sharing and grouping similar solutions and ideas.

GENERATING IDEAS

TECHNIQUE 2

Grid Mash-Up—Mix and Match

🕐 10–15 minutes

⚒ Worksheet and writing tool

Summary: Create a new combo! Push yourself to generate unexpected solutions by combining two different traits or objects. This activity requires that you think about the different parts or functions of your idea and rearrange or replace them, like with a Mr. Potato Head. Get ready for some wildly amazing (and some amazingly wild) ideas.

PROCEDURE:

- Draw or write your primary idea above each mash-up grid.

- Above each square, add the "variables," which may be objects, characteristics, or other elements.

- Attempt to mash the two ideas together to create a new idea; it might be a Frankenstein or a Swiss army knife.

MASH-UP EXAMPLE

Idea #1: *Headphones*

Summer	*Fall*	*Winter*	*Spring*
VARIABLE	VARIABLE	VARIABLE	VARIABLE
Sunglasses with speakers	*Wired headphone made with yarn*	*Earmuffs that play music*	*Umbrella plays song like a music box*

MASH-UP

Idea #1: _____

VARIABLE	*VARIABLE*	*VARIABLE*	*VARIABLE*

Idea #2: _____

VARIABLE	*VARIABLE*	*VARIABLE*	*VARIABLE*

New Idea: _____

VARIABLE	*VARIABLE*	*VARIABLE*	*VARIABLE*

GENERATING IDEAS

TECHNIQUE 3

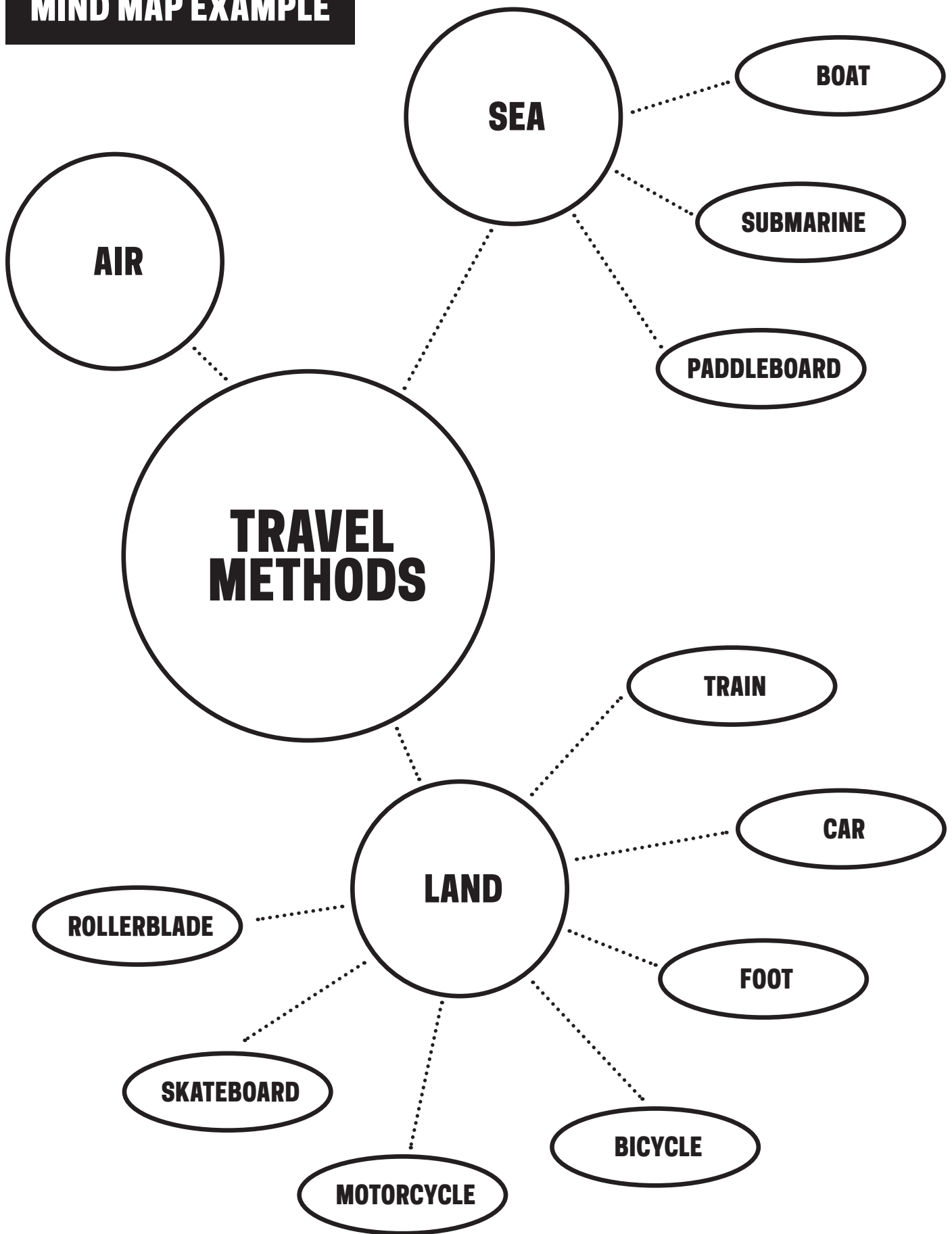**Mind Map**—Diagram Your Idea

🕐 15–30 minutes

🛠️ Large sheet of paper or whiteboard and writing tools

Summary: Use mind maps as a visual way to diagram information and generate ideas. Create a mind map to diagram and organize the elements and make the relationships between them visual. Organizing information in this way can help you to break down big concepts into more manageable parts, identify things you have overlooked, and highlight interesting opportunities.

PROCEDURE:

- Write your main theme or idea in the middle of the diagram.

- Split the idea into its primary components or sections and draw them branching off of the main idea.

- Take each branch individually and continue to organize it into smaller and smaller sections and lists.

SEA

BOAT

SUBMARINE

PADDLEBOARD

AIR

TRAVEL METHODS

TRAIN

CAR

LAND

FOOT

ROLLERBLADE

SKATEBOARD

BICYCLE

MOTORCYCLE

PROTOTYPE + EVALUATE

PROTOTYPE + EVALUATE

TECHNIQUE 1

> We will share four different techniques. Use one or all of them.

Identify one or two of your top brainstorming ideas and make them visual using a prototype to help communicate your idea to others.

Promo/Trailer—Create a brief promo video or infomercial for your idea.

🕐 1–3 hours

🛠 Recording device (mobile phone, tablet, or laptop) and simple editing software (iMovie, Animoto, WeVideo, etc.)

Summary: Take your idea viral with a punchy video or promo. Use the tools that you have at your disposal to act out a skit, create an influencer-style video, or film a commercial that communicates your design solution. Be sure to include your HMW question and a brief description of your design; communicate who it is intended for and highlight any of the special features that are important for people to know about.

PROCEDURE:

- Use a storyboard to plan your video and explain your idea, keeping your total video to 30–90 seconds.

- If you find it helpful, write a script for exactly what you will say. Include how your design works and who will benefit from using it. Be sure to highlight any special features.

- Film and edit your video, keeping your focus on telling the story of your design, not on winning an Oscar.

PRODUCTION PLANNING

ACTIVITY SHEET

WHAT WILL YOU SAY?	VISUALS	TIME
The Butler will carry all your packages and make your life 1000% better.	*[Robot follows person carrying all of their bags]*	*5 seconds*

PROTOTYPE

Storyboarding—Tell the story of how someone will interact with your design.

🕐 30–60 minutes

⚒ Paper and markers/pens or drawing software

Summary: Some designs do not come alive until they are used. If the user experience is very important to your design solution, you can use a storyboard to explain the experience of your design step-by-step. It's like drawing a comic book for inspiration!

PROCEDURE:

- Think about the experience of using your design and break it down into a sequence of steps.

- Imagine the most important moments from each step and draw one of them per square, like a comic book.

- Use boxes to show different locations or details if that is helpful.

- Use the storyboard to explain your project and evaluate if the idea is clear or more details are needed.

STORYBOARD

ACTIVITY SHEET

SCENE:	SCENE:	SCENE:

SCENE:	SCENE:	SCENE:

SCENE:	SCENE:	SCENE:

PROTOTYPE

TECHNIQUE 3

Sketch/Diagram—Draw what your design should look like and explain how it works.

🕐 15–60 minutes

⚒ Paper and markers/pens or drawing software

Summary: A picture is sometimes more valuable than words. Drawing or sketching your idea, even if you don't have great drawing skills, is a great way to communicate your design to others. If your design is an object or a space, it's much easier to show the different parts and how they relate to each other with a drawing than with words.

PROCEDURE:

- Draw your design. Use more than one angle if you need to.

- Use simple line drawings. Add stick figures if they are needed to help communicate scale or how people will use your design.

- Add close-ups of details or important components that you'd like to highlight.

- Add text that names the different parts of your design or provides additional context.

- Share your sketches with others to see if your design is clear and if anything can be added or removed to make it more understandable.

PROTOTYPE

Models—Create a physical model or diorama of your idea in action.

🕐 1–3 hours

🛠 Assorted materials (paper, cardboard, clay, found objects)

Summary: Building a model of your design is a great way to communicate how it looks and how the different parts relate to each other. Models can be built out of almost any material and should be made quickly and inexpensively to help you understand your design. Think about the materials as representational: paper can stand in for glass, or cardboard and tape can represent metal and rubber in your final design. Use models to portray scale, shape, and the relationship between different parts of your design.

PROCEDURE:

- Use materials that are simple and easy to work with to represent your final design, and focus your time/effort on the most important details.

- Build smaller items life-size, but for larger designs, like buildings or parks, construct them at a smaller scale.

- Supplement your model with drawings or sketches if they are needed to communicate important parts of your design.

- Once you're done, consider improvements or alternatives to your design and create another version of your prototype if needed.

EVALUATE

Gather Feedback—Share your ideas with users and hear what they have to say!

🕐 30–60 minutes

⚒ Presentation, note-taking materials, participants

Summary: Stay open to new ideas and differing perspectives from your user group. Even if you have a good idea, others may provide new and unexpected ways to improve your project. Although this feedback can be given informally in a variety of spaces, you should also be sure to schedule dedicated time to share your ideas and listen openly. Set up a time to share your ideas with a small group of peers, community stakeholders, or advisors throughout your project development. These check-in moments will help ensure that you are on the right track and keeping the end user/audience of your project in mind.

PROCEDURE:

- Write a few notes on what you will share about your design. Use any of your prototypes to help you communicate your ideas to your user group.

- Present your design to your user group quickly to leave plenty of time for questions and conversation at the end. You can even share where you are struggling or need help.

- Listen to the feedback you receive and take notes. Do not argue or disagree with any opinions that are shared; instead, try to understand the different opinions and ask for further explanation if you are puzzled.

- After gathering feedback, take time to review your notes and decide what suggestions or ideas you heard should be used in the next version of your design.

STAKEHOLDER NAME	FEEDBACK

LAUNCH

LAUNCH

ACTIVITY 1

Present—Share your design with others.

Summary: Share your ideas and prototypes with a broader community. This is a great time to practice articulating your solutions, get further feedback, and connect with potential partners.

PROCEDURE:

- How will you tell the story of your project? Consider bringing research and data that supports your proposed solution. Think about how you will introduce your user and what prototypes best explain your design. Select only the items that are needed to tell the story of your idea.

- Present your How Might We question clearly.

- Decide on each team member's role in your presentation. Practice delivering a concise project summary. Try to anticipate questions and prepare for them.

- Dress the part and present your work confidently, knowing that you and your team did your research, involved other voices, and were thoughtful about developing your idea. No project is perfect at launch, so remember that this is just the first version and future iterations will be better.

- Stay open to potential partners and new possibilities. Everyone you speak to has the potential to further your idea, connect you with the right person, or point you to funding.

LAUNCH

Execute—Put your idea into action!

Summary: Once you have designed your project, it's time to make it a reality! Review your project proposal and next steps. Figure out which steps you can accomplish independently and which ones will require outside support and from whom. Take the first implementation step and recruit the team members needed for your innovation work.

HURRAY!