COOPER HEWITT

DESIGNING FOR CHANGE TOOLKIT

FACILITATOR VERSION

Smithsonian Design Museum

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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.

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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.

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.

FACILITATOR NOTES

WHAT IS INNOVATION?

Innovation is developing a new method or an improvement on an idea. Inventors create something entirely new, whereas innovators tweak, adjust, or refine things that already exist to make them better. But there are many different types of innovation:

- Social innovation (activism, crowdfunding, & health/wellness)
- Artistic innovation (using public art, performance, or other strategies to connect and beautify)
- Technical innovation (optimizing systems and increasing efficiency to improve a process)
- Cultural heritage innovation (making sure certain stories are heard and honored)

WHAT DOES IT TAKE TO BE GOOD AT INNOVATION?

Core Competencies—For this design innovation project, the student will focus on developing creative thinking, collaboration, and risk-taking skills.
Resilience and Grit—Innovation is the act of carefully experimenting and iterating, not of suddenly discovering. Although a "lightbulb moment" might happen, most innovators must work consistently and overcome many failures before they develop a solid innovation—just as Edison did in conducting thousands of experiments before developing a stable filament design.

DESIGN AS A PROCESS LEADING TO INNOVATION

Design innovation in the real world
Designers and artists make decisions about how things will look, but the primary aim of the designers is to determine how things can function better. To support innovation in the small community of North Shore, California, designers at Kounkuey Design Initiative (KDI) worked with residents to design public space that would meet the needs of the small town.

Using the design process, the designers at KDI created a unique space where the community could gather and support each other. Because the designers collaborated closely with residents, the final design addressed residents' unique needs—like that for a youth-led bike-sharing program called Desert Riderz.

FACILITATOR NOTES

DESIGN AS A PROCESS LEADING TO INNOVATION (CONTINUED)

Design and Art – Art can be thought of as a question to a problem that asks the audience to examine and explore an idea, whereas design is an answer that provides a way to solve or address the question for an individual or a community.

Custom Examples – You may want to reference specific examples of innovation that students might be familiar with in their own communities.

THINK LIKE A DESIGNER

Make space for experimentation—It is critical to establish a playful and nonjudgmental atmosphere where students feel comfortable sharing their wildest ideas or suggestions. Allowing students to share ideas anonymously, or rewarding students for coming up with the most outlandish or impractical solutions, can help lower inhibitions about "getting the answer wrong" and help to generate a wide variety of ideas that can be analyzed and explored later. Sometimes part of a "crazy" idea is just the right thing to make the practical solution work better.

Design is never done—Thinking about a product like the iPhone can help illustrate the idea of a launch. Even after the first version of something is shared, there is much to learn and many things that can be refined, redesigned, or improved in future versions by returning to the other phases of the design process.

COOPER HEWITT DESIGNING FOR CHANGE TOOLKIT

OBSERVE + DEFINE

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.

FACILITATOR NOTES

OBSERVE & DEFINE: ACTIVITY 1

Set constraints—Outline the constraints of the project along three main sectors: time, resources, and people. Make sure students understand the parameters of their project so they can navigate the uncertainty of the design process. Too much uncertainty can paralyze student creativity.

Time—Create a project timeline that outlines the duration of the project and the major milestones and deliverables. Work backward from the final presentation date and allocate the most time for Observe + Define.

Resources—Determine the limitations of the project. Does it need to address a specific location or user group? Will the project become a grant application or community proposal? If so, work backward from those requirements to discern the resources needed.

People—Help students understand the individuals and organizations that are participating in the project, whether directly or indirectly. Student exploration and development should take priority over any competing project goals.

Assignments and artifacts—Students should know exactly what artifacts they need to produce to meet the requirements of the project. Build assignments that outline clear deliverables and encourage students to add additional items as the project takes shape.

SUGGESTED DELIVERABLES INCLUDE:

- Visual presentation (This can be a slide deck, a poster, or even a short video).
- Verbal presentation (Students should be able to present their final project in 10–15 minutes).
- Prototype or model (using whatever media is best to communicate their idea).
- Written project proposal (a written project report that includes a summary of the student process, explains their design, and provides other details such as budget or next steps).

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...

ACTIVITY SHEET

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

FACILITATOR NOTES

OBSERVE & DEFINE: ACTIVITY 2

Include context—Start with challenges that are personal to the student, but try to build connections to shared challenges when possible. Consider whether other students or members of the community are facing the same or similar challenges.

Provide focus—Designers think carefully about how they frame their challenges. Help students to identify potential design challenges by prompting them to imagine specific experiences or scenarios that might be troublesome. Consider using the following sequences to help prompt them.

Thematic: transportation, entertainment, shopping, food and drink, health and exercise, education, etc.

Day in the life: morning routine, commute, school, clubs and sports, work/ volunteering, afternoon commute, etc.

Avoid solutions—Student HMW questions should encourage curiosity and focus on opportunities, not answers. Asking "how might we design a new water bottle?" will produce very different results than asking "how might we design a new way to carry/transport water?" Language that is too specific or provides a solution in the question can limit the creative possibilities of the design process. Instead of asking for a solution, have students include the desired outcome of their project. An example might be: "How could we design a new way to carry water for young children that would avoid spilling?" This type of question clarifies what success will look like.

Revisit and refine—Each team of students should choose only one HMW question to pursue. This question will serve as their "north star," helping them navigate the design process. But keep in mind that the question can be revisited or adjusted. If students are struggling significantly throughout the process, consider tweaking the challenge to make it broader (or more specific) to increase (or decrease) the number of potential solutions.

FOLLOW UP:

- If students are bursting with ideas or have already gathered information through research and observation, move on to Generating Ideas to identify potential design solutions.
- If other Observe + Define strategies have not yet been used, have students gather more information about their HMW topic through observation and research before developing solutions.

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:	

FACILITATOR NOTES

OBSERVE & DEFINE: ACTIVITY 3

Prioritize inclusion—It is critical for designers to consider and include their user group in the design process. When students are choosing a user group, steer them away from communities they will not be able to engage with easily. Throughout the design process, they should be able to discuss the challenge, share ideas, and test their prototypes with members of their user group. We can express this idea using the popular phrase "nothing for us, without us." This means nothing should be created for people without including them in the process. This approach will prevent the introduction of innovations that are insensitive or even harmful to the people who are supposed to be helped.

Labels matter—Words are important. Students should make careful choices about the language they use when referencing users or specific communities of users. How does the community wish to be addressed? What is the common understanding of the terms they choose to use? Does the name or label need to be explained or communicated clearly? It is important that students understand and use specific terms, even if the differences appear subtle.

Manufacture diversity—There may be instances where students have limited access to perspectives and opinions that do not mirror their own. When possible, arrange working groups, or provide outside mentors and participants, that will help students think broadly about their design challenge.

FOLLOW UP:

- Help students expand their understanding of their chosen users by conducting community interviews and/or surveys.

OBSERVE + DEFINE

ACTIVITY 4

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?	

FACILITATOR NOTES

OBSERVE & DEFINE: ACTIVITY 4

Promote objectivity—Help students to limit any bias they might bring to their interviews by reviewing their questions and adjusting the wording when appropriate. Support students to craft open-ended questions so interviewees can share their thoughts freely, without inserting your own ideas. For example, "What don't you like about using the community center?" might be adjusted to "What has your experience been using the community center?"

Consider community surveys—Conducting surveys (paper or digital) may help students gather information or identify shared experiences or opinions among their user group. A survey is best used with a large group of users (25+ is a good sample size) so that trends in responses can be identified.

FOLLOW UP:

- Drawing on the results of your interviews/surveys, consider whether the HMW question needs to be refined or adjusted to address the challenges that interviewees shared.
- Have the interviews inspired specific solutions or potential opportunities? Take some time to generate ideas.

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)

FACILITATOR NOTES

OBSERVE & DEFINE: ACTIVITY 5

Build connections—Students may need extra support to connect to offline resources in the community. If possible, call ahead to local organizations like libraries, historical societies, and town halls to determine what records or resources may be of value to the students.

Divide and conquer—To maximize efficiency, teams or individual students can collect information from different sources and add it to a single document or resource tool that is accessible to the entire class.

Timing your research—Assessing resources could take place at the beginning of the project to help set the stage, or it could be introduced in the middle of the project once there is a topic or area of focus. Introducing certain resources earlier can inspire unexpected challenges or HMW questions, but without a clear objective, the research may also yield a lot of information that is not relevant to the individual student projects.

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?*

FACILITATOR NOTES

Observing the invisible—Student challenges may involve something that is missing, like not having enough afterschool activities or a safe space to skateboard. Encourage students in this predicament to observe what people are currently using as an alternative to their idea.

Observe people, not spaces—For many student projects, there may not be a specific space/location where their challenge occurs. For example, students may discover that it is difficult to navigate the local library website when trying to access resources. In this example, it would be beneficial to observe members of their user group using the current website to understand how they are using it and where they are getting stuck. These observations may be combined with user interviews.

FOLLOW UP:

- Based on the results of observations, the HMW question may be adjusted or the user group may expand or contract.
- Have your observations inspired specific solutions or potential opportunities? Take some time to generate ideas.

COOPER HEWITT DESIGNING FOR CHANGE TOOLKIT

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

ACTIVITY SHEET

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

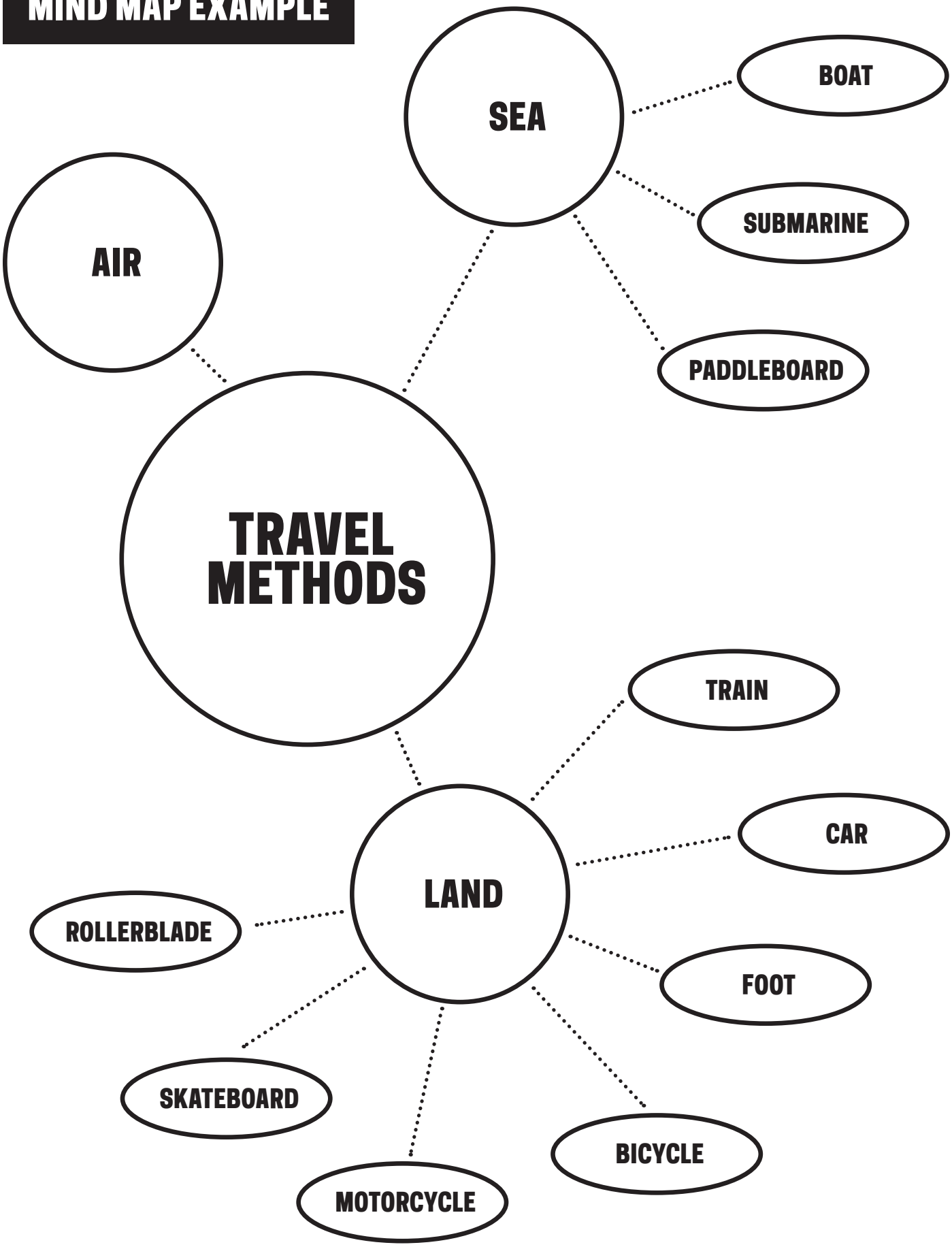
Large sheet of paper or whiteboard and writing tools

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.

MIND MAP EXAMPLE



FACILITATOR NOTES

BRAINSTORM

Make space for experimentation—During the brainstorming phase, everyone should withhold judgment of their ideas and the ideas of others. An idea that sounds outlandish at first can be the missing key to unlock innovation.

Quantity is better than quality—Encourage students to move quickly during the brainstorm. It is helpful to set a minimum number of ideas for each student to come up with at the beginning of the activity. This approach encourages students to go ahead and contribute ideas even if those ideas aren't perfect. To find the minimum number for the time allotted, it is a good rule of thumb to calculate 1–2 ideas per minute.

Structure the time—It may be beneficial to divide the brainstorm into shorter segments of time. The first segment can be used for students to come up with ideas individually. Students can switch to working with partners or small groups in the second segment to encourage collaboration.

MASH-UP

Mash-up activities are an excellent way to help generate ideas when students are stuck or focused on a single solution. Requiring them to combine the idea they like with alternative features or requirements can help to get them unstuck.

Think in sets—Help students by providing sets of variables they can use. The traits do not have to be related to the main idea. What would the idea look like if it were made by Bike, their grandmother, McDonald's, or Yoda?

MIND MAP

Organize the complicated—Mind mapping is an excellent way to generate ideas and understand complex concepts.

COOPER HEWITT DESIGNING FOR CHANGE TOOLKIT

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

TECHNIQUE 2

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

TECHNIQUE 4

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.

FACILITATOR NOTES

STORYBOARDING

Storyboarding and videos—Storyboards are used in this activity to help break down and communicate the steps of an experience. However, they can also be used as a tool to help students create a film or short video about their idea. It is important to understand that storyboards tell a visual story in a specific sequence, so students should focus on identifying the important parts of the story that they want to convey about their design.

SKETCH/DIAGRAM

Drawing is not art—Many students try to avoid drawing because they believe they are bad at art or because their drawings do not look like what they see in their head. Encourage students not to think about whether their drawings are pretty or not, but rather whether or not they can be easily understood by others.

Capture the angles—Depending on the complexity of the design, it is usually helpful to create multiple drawings of the design, because each drawing provides additional information. Instead of spending a long time having students create one "beautiful" and detailed drawing, it might be better to have them create 2–3 quicker drawings that show the design from multiple angles or zoom in and highlight a chosen detail.

MODELS

Encourage iteration—With all prototypes, but especially models, it is important to remind students that "pretty" is not the primary objective. Instead, students should be thinking about the quickest and simplest way to convey their ideas and learn from the prototypes they make. To prototype a more comfortable bike, for example, you wouldn't need to worry about how to build the wheels (and maybe not even the frame) because the seat, the handles, and the pedals are the parts that people touch most often. Building just those pieces to test out would be much easier and take far less time than trying to build a model of an entire bike.

EVALUATE

ACTIVITY 1

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

FACILITATOR NOTES

EVALUATE

Develop key questions—Before a presentation or feedback session, help students to assess their project and determine what pieces of information might help them to move forward. Maybe they are struggling to choose between two very different (and equally good) ideas or looking for alternative locations to host an event. Help them to prepare specific questions for your feedback session that will focus the conversation on these critical challenges.

Recruit participants—Select the group that can provide the best feedback for the current stage of the project. If students are designing a structure or deciding on a location, selecting individuals who have technical expertise with architecture, engineering, zoning, or building permits might help. (When possible, think about selecting groups where everyone will feel comfortable sharing; for example, children may not feel as free to speak up if their parents are also in the group.)

Set the scene—During a feedback session, let the participants know that you will hear about projects first and then be asked for their feedback and participation. Students should be as concise as possible (3–8 minutes) in giving just enough information to participants to allow them to give feedback—it is not necessary to share every step of the process at this time. Student prototypes can help students to illustrate and quickly communicate their ideas.

Listen intently—Help students to stay engaged and really listen to feedback after presenting their projects (it's often a relief for them just to get done speaking). It is best for students not to get defensive or argumentative about their projects; it is also important to insulate them from negative or abusive language. If participants are speaking in a negative or condescending way to the students, it is best to step in and remind everyone that the purpose of the feedback is not to pass judgment but to look for opportunities to improve and evolve.

Take notes—Make sure at least one member of the design team is responsible for writing down key ideas, questions, and reactions that are shared during the feedback session. It is easy to forget what was said once the session is over, and the notes will be helpful to students when they are planning next steps.

Review and revise—Once students have listened to the feedback, encourage them to take time to review and compare their notes. Although it is important to address the needs of the user group, not all feedback needs to be incorporated into a revised design. Have students look for feedback that is relevant, useful, and/or feasible. Let them sort through the different options and decide what ideas to pursue and which ones to ignore (for now).

COOPER HEWITT DESIGNING FOR CHANGE TOOLKIT

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

ACTIVITY 2

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.

FACILITATOR NOTES

PRESENT

Practice, practice, practice—Encourage your young designers to practice their roles before the presentation day. Use a timer to help students edit and structure their presentations, or get serious and film students doing a run-through to help them identify areas for improvement. Who will present the HMW question? Who will talk about the research and interviews? Who will tell tales of fun facts or places where they stumbled? Who will present the prototypes?

Tell the story right—Assist with the storytelling of their design process. A finished prototype or final product has more meaning and value when the audience understands how the solution evolved. This process transparency helps validate student decisions and adds credibility to their solution.

Don't forget to celebrate—Ensure students have fun presenting. It is normal to have presentation jitters, but students should also be reminded that they are done, and now they can show off all their hard work. This is where they can shine and share their journey with their community.

EXECUTE

This process step would come after the community presentation.
Few projects can be launched exactly as designed, but this can be an excellent way to get the community to think about the opportunities. Beginning with a small pilot or testing an element of the project is a great way to launch without too much risk.

Not all projects will be complete or ready to execute.
The students' project experience and exposing the community to opportunities has extreme value.

If your students are passionate about launching the project, encourage them to connect with the stakeholders, such as community leaders, business owners, or organizations, to aid them in making their ideas, or part of their idea, a reality.