makedo® STEAM DESIGN CHALLENGE

‘STURDY PLACE TO SIT’

THE PROBLEM

Let’s say you are having a big event at your school like a concert or design exhibition and are expecting lots of people to come. For some events, it is helpful to have a place for your audience and participants to sit down. This might be for convenience or because of a specific need. Some people may be unable to stand for long periods, and others might just need to rest or wait. Your school probably has enough space and seats for all the students and teachers but it’s not always possible to have enough seats stored away for events. How can we make sure that we have enough seats for everyone at our event?

That’s where you come in!

YOUR GOAL	Using Makedo resources and cardboard to create a prototype seating solution which functions as a real seat for visitors to the event.
YOUR ROLE	You are the designer tasked with creating a place to sit for lots of people.
YOUR AUDIENCE	The seating solution should be usable for children and adults in a school/organisation.
THE SCENARIO	Your school/organisation is hosting an event but lacks enough seating. They need a low-cost solution to this problem.
THE PRODUCT	The product will be seating for single or multiple users created using cardboard.

HOW TO USE THIS PROJECT SHEET

- As a class, inquire into the design problem. Use this sheet to guide students through the Makedo design thinking process to create your designs.
- Work with students to inquire, generate ideas, create prototypes and test their designs.
- Depending on your group’s age and ability use the “Go Further” section to extend the challenge.

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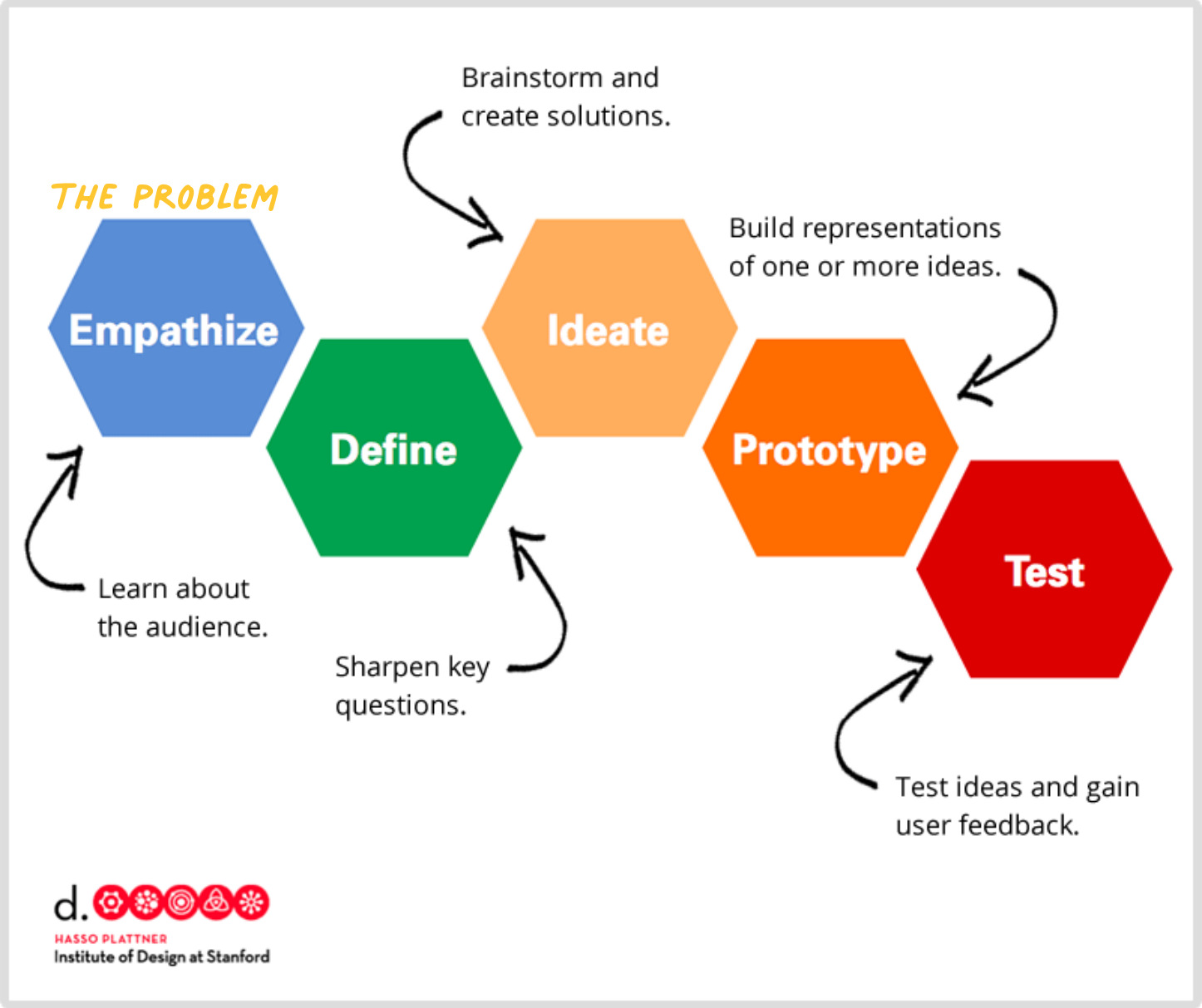
THE DESIGN THINKING PROCESS



USING THE DESIGN THINKING PROCESS

- When starting out you can work through each section step by step. As you get more experienced, you can rearrange the sections or jump back and forth between stages to get a more authentic design experience. For example you could test an idea before making the final prototype!

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EMPATHISE

OBSERVE: What are the different parts of the problem?
Where is the problem happening?
What can we observe that will help us to design our own solution to the problem?
Who is involved; the users, clients and designers. These people are our stakeholders.

ENGAGE: Ask questions and learn everything you can about the design problem.
Why are we solving this problem?

CONNECT: What connections did you make between what you have found out and what you observed?
Talk to other designers about the problem.

DEFINE

FOCUS: What exactly is the problem we will solve?
How could you begin to solve the problem?
What things do we need to be aware of as we move forward?

PATTERNS: What connections and patterns did you see while you investigated the problem?
What areas should you focus on when you start to create ideas?

NEEDS: What do your stakeholders need from a solution?
What are the essential things our solution must have?
How will we know if we have succeeded in solving the problem?

IDEATE

CREATIVITY: How can we represent different parts of the problem or initial ideas for solutions?
Are some ideas best represented with... Mind-maps? Sketches? Models?

FLEXIBILITY: How many different ideas can we come up with to solve the problem?
Do our ideas need to solve all aspects of the problem or just some?
How can we get feedback on our ideas?

DEVELOPMENT: How can we move from our first idea to the final design?
What rationale will we use to choose the best idea(s)?
How can we represent our final idea(s)?

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PROTOTYPE

BUILD: Even if you are not sure of all of the details, begin to create your design using Makedo tools

OPTIONS: Make sure to create multiple options or different versions of your ideas.
Remember these are prototypes, not final products.

RESOURCES: Using Makedo tools allows you to work with any kind of recycled cardboard and paper.
What can you find to work with?

USERS: Remember who you are designing for.
What are the needs and preferences of the users we identified earlier?

TEST

SHOW, DON'T TELL: Will we learn more about our prototypes by describing them to others or by showing them off?
What different perspectives will users have of our prototypes?
What can you learn from observing and listening to users while they experience your prototypes?

EXPERIENCES: Does your prototype create an experience for the users that explains how the product would work?
Is it good if our prototype breaks or fails during testing?

COMPARE: Did you create multiple prototypes which can give users multiple options to compare and contrast?
Can we compare to other designers' prototypes to assess our own success?
Can we compare our prototype to existing real products?

KEYWORDS

Here are some keywords and terms you can explore to help you understand the design thinking process.

Design	**User**	**Design problem**
Empathise	**Engineer**	**Observation**
Define	**Design solution**	**Preference**
Ideate	**Sketching**	**Perspective**
Prototype	**Modeling**	**Client**
Testing	**Resources**	**Existing products**

GO FURTHER!

LEVEL 1: Can you design a seat that can hold more people than any other design?

LEVEL 2: Can you design a social seating system that fits together to make rows or groups?

LEVEL 3: Could you make the design in such a way that it can be folded away for easy storage?

SHARE YOUR CREATIONS!

Share your Makedo Design Challenge adventures with our Makedo community!

Upload here to be considered for our HUB

Post on Instagram and tag us @makedo

SCAN ME