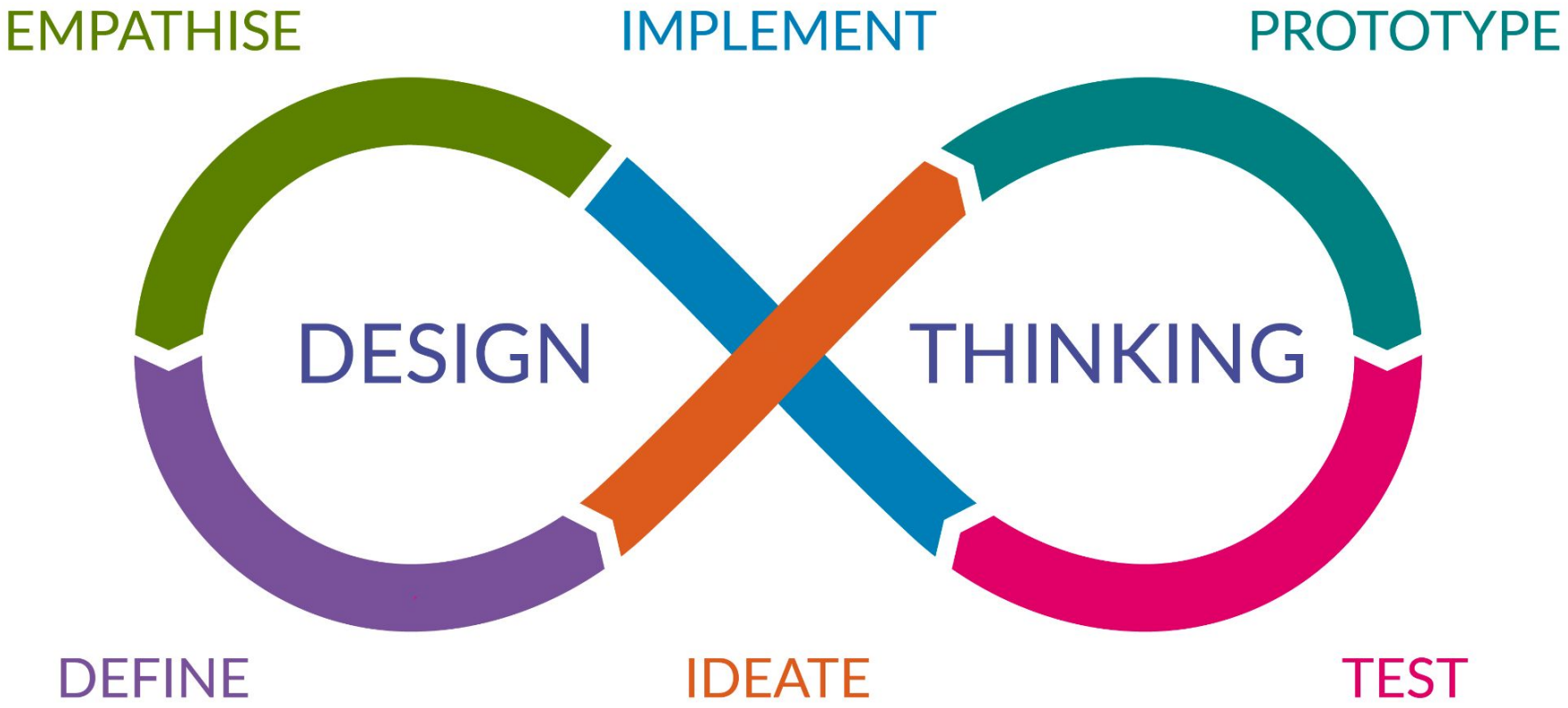

EMPATHISE
IMPLEMENT
PROTOTYPE
DESIGN
THINKING
DEFINE
IDEATE
TEST

Territorial Acknowledgement

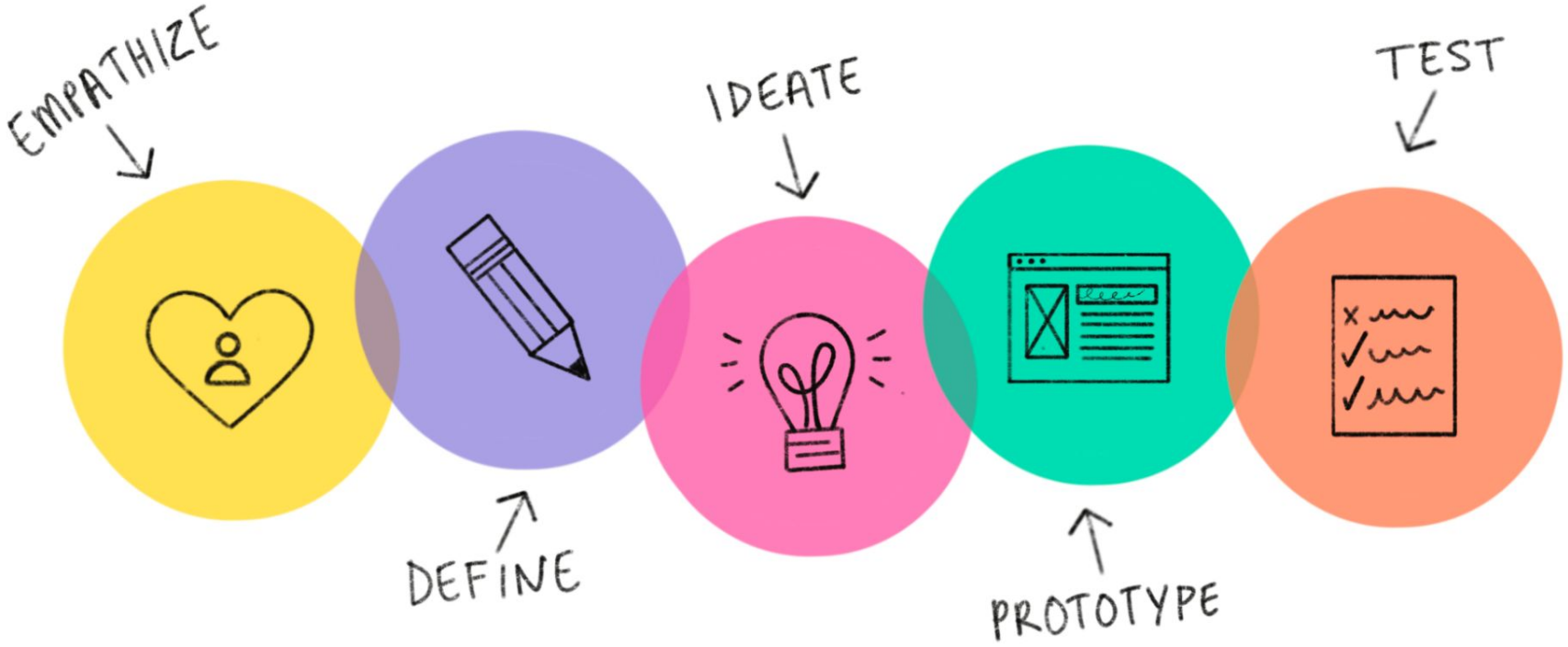
We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

What are we doing?

- Learning **design thinking** and **creative problem solving** with real-world examples
- Practicing skills that are applicable to diverse work and school settings
- Developing teamwork skills through a design thinking challenge

What is design thinking?

- **Design thinking** is a 5-step *iterative* design process that solves complex problems by approaching it from the user's perspective



DESIGN THINKING

A FRAMEWORK FOR INNOVATION

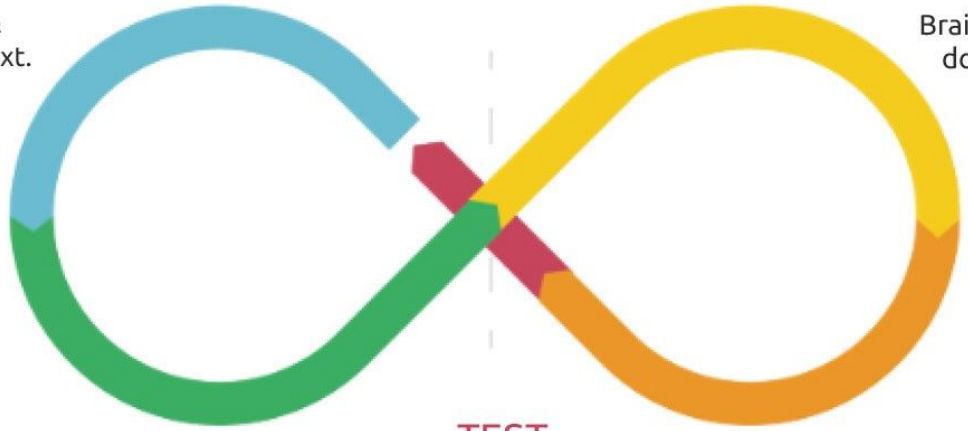
EMPATHISE

What Is the problem?
Define the challenge & explore the human context.

IDEATE

How do we solve It?
Brainstorm ideas good & bad, don´t stop at the obvious.

CONTEXT



FORM

DEFINE

Why Is It important?
Research, observe, understand & create a point of view.

TEST

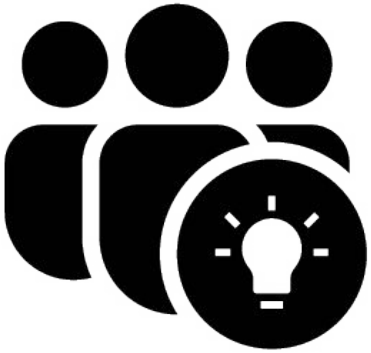
Does It work?
Implement the product, show & don´t tell, start to refine the product.

PROTOTYPE

How do we create It?
Start creating, experiment, fail cheap & fast.

Why do we need it?

- Design thinking can help us:
  - Build things that people will actually use
  - Fulfill a niche in the market (ie. have a successful business)
  - Design and build with diversity and accessibility in mind
  - Ensure extra time and resources are not wasted fixing things later
  - Get contributions from people with diverse backgrounds



Collabovation Challenge

Create • Innovate • Collaborate

Today's theme:

Conservation 🌎

How can we use technology to help conservation efforts?

What is conservation?

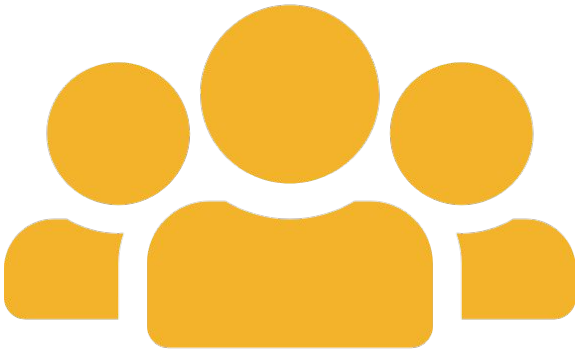
According to National Geographic, conservation is **the act of protecting Earth's natural resources for current and future generations.**

It includes things like:

- Protecting biological diversity
- Mitigating climate change

Stage 1: Empathize

Objective: Understand your users, and their needs, experiences, and motivations



Mini-Challenge: Building a Team

Empathize is also about getting to know yourself and your team - their strengths, skills, and weaknesses. In groups of 3-4, introduce yourself with one thing you're confident about and one thing you'd like to improve.
Does anyone in your group complement your strengths or weaknesses?

What does it look like in the real world?

- Surveys or interviews with target users and team members
- Tracking user habits
  - Understanding frustrations or pain points
  - Amount of products sold and to whom
- Evaluating potential issues with competing services / solutions

Challenge 1: Interviews

7 minutes

In groups of 3-4, discuss the following questions:

- What does conservation mean to you?
- What do you think is the most important issue in conservation efforts right now?
  - *Ex. Deforestation, overfishing, habitat destruction, fossil fuel use*
- Why is that an issue?

Stage 2: Define

Objective: Use the data you collected during the Empathize stage and determine the user's needs

What does it look like in the real world?

- User stories or user personas
  - Creating user flows
  - Determining user needs, wants, and wishes

- Narrowing down the field of focus to solve 1 thing really well (instead of 5 things mediocrely)
  - Planning / budgeting resources

Challenge 2: Insights + Needs

5 minutes

Based on the interview, discuss with your group:

- Can we agree upon 1 major conservation problem to solve?
- Who does this problem affect?
- Why do we need to solve this?

Then, choose 1 problem to phrase as a need statement:

[MY USER] needs a way to [SOLVE PROBLEM] because [REASON]

EX. Firefighters need a more efficient way to battle wildfires because the current solutions consume too much time and resources.

Stage 3: Ideate

Objective: Find new, alternative and creative solutions to the need statement you've created

What does it look like in the real world?

- Brainstorming sessions
  - Design thinking sprints
  - Meetings with stakeholders and team members
- Combining with prototype stage
  - Mockups
- Sometimes, going back to define or empathise to narrow down the problem and who needs it solved

Challenge 3: Generating Solutions

7 minutes

Now you have identified the single challenge to address, it's time to think of as many different ways as you can to solve the problem through technology (of any kind)

Remember: No idea at this point is off-limits - be creative, but keep it within the realm of possibility

PS. Write these down, since you'll need to remember them later

Stage 4: Prototype

Objective: Make an inexpensive, scaled down version of the solution to test and improve

What does it look like in the real world?

- Literally building a prototype product
- Design mockups, wireframes, or schemes
  - Combines with ideate stage
- Detailing out the solution (its features, the resources it needs, etc.)
  - Delegating tasks between team members with personal strengths and skills in mind

Stage 5: Test

Objective: Get user feedback so that you can iterate and improve

What does it look like in the real world?

- Meetings with stakeholders, team members
- User input
  - Surveys
  - User behaviour tracking
  - Sales, investments, etc.
- After testing, you will probably need to go back an iterate on your ideas

Challenge 4: Innovation Feedback

10 minutes

Pair up with another group to get feedback on 1-3 of your ideas:

- *2 stars:* What do you like?
- *1 wish:* What do you wish it had?
- Questions about the solution?
- Do you think it could work in the real world?

What did we learn?

- Design thinking is an **iterative** process
- It is a valuable framework for approaching engineering problems
- It can be applied to any problem-solving situation at school or in any type of work