SDG 15 Seeding Sustainability MM1: Problem to PitchThe Ice Cream Olympics



MM1: Problem to Pitch - The Ice Cream Olympics

Programme Phase 2: Experimentation and Exploration

Subjects: Climate Action and Sustainable Development, Design, Technology, Science



Problem to Pitch is a generic project management module that can be adapted to any topic. It introduces learners to the concept and process of Design Thinking; the cognitive, strategic and practical processes for creative problem solving.

The module encourages learners to engage with their local context to enable them to explore real-world problems in meaningful and tangible ways that are manageable. The module encourages the development of 21st Century skills supporting learners to keep up with the lightening pace of a constantly changing technologised world.

Design Thinking helps the learners to understand that they can create their own future by enabling them to design their own experiences and participation. Using linked learning and systemic thinking with practical methods of learning, including inquiry and project-based methods, the activities support teachers and learners to undertake projects that address contemporary issues on a local scale, in line with the Sustainable Development goals and the 2030 agenda.

In this Project Management module, the learner will...

- develop skills of organising, planning and scheduling
- develop awareness of the basics of Design-Thinking for problem-solving
- practice problem solving and critical thinking skills as individuals and part of a group
- be introduced to project management tools such as Lean Canvas, Logic models, 5Ws (who, what when, why where)
- Vision boards and a Pecha Kucha presentation

This module includes:

- Lesson plans
- Accompanying resources
- Project-specific worksheets related to specific goals and other project modules,
- Optional assessments Skill support resources



Problem to Pitch – The Ice Cream Olympics

The module leads learners through the design thinking process in preparation for the final event _ The Ice Cream Olympics, a food sovereignty and security project designed to introduce learnners to the concept of local food, grown, foraged and produced. The project ends in an event where all the games are devised to churn ice cream and the Olympic Gold is awarded for the 'best ice cream made from local incredients grown and wild.

Lesson 1: What is Design Thinking?

Design Thinking is the cognitive, strategic and practical process for creative problem-solving. This lesson introduces learners to the 5 stages of Design Thinking.

Resources include: Introduction to Design Thinking, Stakeholder Mapping, Flipped Classroom

Lesson 2: Empathy 1:

Stanford Design School's five-chairs exercise encourages learners to learn how to develop design principles for a user profile. Learners consider the 5 users' needs and develop ideas on paper and create 3D prototypes of their designs, encouraging learners to design with a user in mind.

Resources include: User profiles worksheet, Empathy Map, Step into the Problem worksheet.

Lesson 3: Defining the Problem:

In this lesson, learners will begin to understand how to define a problem. Learners are asked to begin to identify a real problem they have wanted to address on a local or global level, using the SDGs as a starting theme. Learners also have an opportunity to develop awareness of a local problem.

Resources include: Define the Problem support sheet, Problem Tree worksheet

Lesson 4: Ideate, Generating and Remixing - Ideas: This lesson enables learners to develop an understanding of the process of generating ideas starting with their personal experience and then moving into project themes.

Resources include: Ideate Remix worksheet and Remix SWOT worksheet

Lesson 5: Ideate 2

Generating and Remixing Ideas 2.0 - Worst Idea Ever. This lesson builds on lesson 4 and enables learners to develop an understanding of the importance of developing ideas and looking for opportunities to iterate and improve on existing ideas. Learners are also introduced to Open Source concepts, e.g. iteration and collaboration.

Resources include: Teachers Guide: Facilitating Worst Idea Ever

SDG 15 Seeding Sustainability MM1: Problem to Pitch - The Ice Cream Olympics





Lesson 6: Prototype Your Idea:

In this lesson, learners will begin to consider their ideas for prototyping, develop a concept statement and look at ways to prototype their ideas depending on their users / audience.

Resources Include: Rapid Response prototyping worksheet and Ready, Set, Design worksheet

Lesson 7: Test Your Idea:

Creating and Using Vision Boards - Evaluating an idea is a key aspect of Design Thinking. In this lesson, learners will begin the process of testing their ideas with potential users. Learners will learn that this is not the end of the process and that they may learn something that means they might need to return to an earlier stage, e.g. Define or Ideate.

Worksheets include: Vision Board Support Support Resource: Creating a Vision Board, 5 Ws of Business planning, 8Ws Business planning, Lean Canvas and Zone Map

Lesson 8: Pecha Kucha Presentation - Planning

In this lesson, learners will be introduced to the Pecha Kucha format and begin to analyse what makes a good presentation so they can prepare to create their own Pecha Kucha presentation.

Resources Include: Pecha Kucha Analysis

Lesson 9 - 10: Pecha Kucha Presentation - Planning and Delivery

In this lesson, learners will continue to plan, create and present a Pecha Kucha by using the lean canvas and the 5 Ws of business planning to gather the information to present their project.

Resources Include: Pecha Kucha Planning Guide, Pecha Kucha Outline, Pecha Kucha Checklist, 5 Ws Business Planning and Lean Canvas

Module development and expertise:

Dr Anita McKeown, the Ice Cream Olympics was developed and produced during and Artists' Residency in the Rio Grande Del Norte National Monument, Northern New Mexico, with the Bureau of Land Management and LEAP arts organisation. The Seeding Sustainability programme evolved from this project and was devised as an educational programme with Ms Rebecca White and a number of experts - see module overviews. The Problem to Pitch module emerged during the CoDesRes project (McKeown et al, 2018 - 2021)

Using the Resources:

If you wish to use these resources, we can offer an induction and online support throughout the module to help you plan integration into your projects and timetable. To register for this option, please contact us e:hello@futurefocus21c.com

SDG 15 Seeding Sustainability MM1: Problem to Pitch - The Ice Cream Olympics





For more information on the resources please visit www.muinincatalyst.com

Setting up an online learning environment for the lessons on this module:

Our lessons integrate the use of virtual learning environments. To ensure seamless use of our lessons, a module should be setup on your school's virtual learning environment such as Teams, Google Classroom, etc. Learners are encouraged to upload documents to share with their peers. If your virtual learning environment does not support document sharing, we recommend OneDrive or Google Drive.

You can also use Google Sites or Microsoft Sway to encourage learners to present their work over the year - this can easily be set up to reflect the aims of TY and provide a showcase for their work as well as assessment tool.

Setting up a Canva Education account:

As our lessons integrate design, our lessons also refer to Canva. Educators and schools are able to open a free Canva for Education account by registering here: <u>https://www.canva.com/education/</u> Canva for Education provides primary and secondary school teachers and students with premium features and templates. You can then also set up lessons and invite your learners to the class.

References

Webpages

- Animated Knots by Grog (2019) Complete Knot List. Available at: <u>https://www.animatedknots.com/complete-knot-list</u> (Accessed 25 February 2024).
- Beck, Sarah (no date). Creating a Vision Board. Available at: <u>https://www.pinterest.ie/sunflowerways/creating-a-vision-board</u> (Accessed 25 February 2024).
- Canva (no date) Canva. Available at: <u>https://www.canva.com</u> (Accessed 27 February 2024).
- Codesres (no date) Media Communication. Available at: <u>https://www.codesres.ie/_files/ugd/92a067_a8f108ce0a6448e9851a5b03dd2e8d40.pdf</u> (Accessed 25 February 2024).
- Codesres (no date) Supporting Resources. Available at: <u>https://www.codesres.ie/sdg-4-supporting-resources</u> (Accessed 25 February 2024).
- Canva (no date). Creating a Digital Vision Board. Available at: <u>https://www.canva.com/create/vision-boards</u> (Accessed 25 February 2024).
- Digital, G. (no date) CorkBIC Driving the creation, growth and financing of innovative businesses in the south and mid-west of Ireland. Available at: <u>https://www.corkbic.com/</u> (Accessed 25 February 2024).
- Earley, K. (2020) Irish engineers and doctors join forces in the face of Covid-19. Available at: <u>https://www.siliconrepublic.com/start-ups/open-source-ventilator-project-coronavirus</u> (Accessed 25 February 2024)

SDG 15 Seeding Sustainability MM1: Problem to Pitch - The Ice Cream Olympics





Webpages

- Flickr (no date) Flickr. Available at: https://www.flickr.com (Accessed 27 February 2024).
- Hoover, Justin (no date) Time-Based Art. Available at: http://www.pechakucha.org/presentations/time-based-art (Accessed 27 February 2024).
- HQKerry (2024) HQ Tralee | Co-working desks and hubs in Tralee. Available at: https://hqkerry.com/locations/hq-tralee/ (Accessed 25 February 2024).
- KerrySciTech (2024) Landing 2024 KerrySCiTech. Available at: https://kerryscitech.com/ (Accessed 25 February 2024).
- Kreisher, John (no date) Changing the rules of our reality with technology. (Available at: https://www.pechakucha.com/presentations/changing-the-rules-of-our-reality-with-technology (Accessed 27 February 2024).
- Le, N. (2024) 22 amazing sites with breathtaking free stock photos (2024 update) Available at: https://blog.snappa.com/free-stock-photos (Accessed 27 February 2024).
- LibreOffice (no date) Home | LibreOffice Free Office Suite Based on OpenOffice -Compatible with Microsoft. Available at: https://www.libreoffice.org (Accessed 27 February 2024).
- Makers Empire (2022) 'Design thinking for schools poster.' Available at: <u>https://www.makersempire.com/design-thinking-for-schools-poster/</u> (Accessed 22 February 2024).
- O'Bryan, Amanda. (2015) Daily acts of creativity. Available at: <u>https://www.pechakucha.com/presentations/daily-acts-of-creativity</u> (Accessed 27 February 2024).
- [OFFICIAL] WPS Office for Windows: Download free All-in-One Office Suite (no date) Available at: <u>https://pc.wps.com/</u> (Accessed 27 February 2024).
- PechaKucha 20x20 (no date) Available at: <u>https://www.pechakucha.com/</u> (Accessed 25 February 2024).
- PechaKucha 20x20 (2012) Random acts of courage. Available at: <u>https://www.pechakucha.com/presentations/random-acts-of-courage</u> (Accessed 27 February 2024).
- Tom Crean Business Centre (2024) Home. Available at: <u>https://www.creancentre.com</u> (Accessed 25 February 2024).
- Weadick, Natalie (2015) Fenced In. Available at: <u>https://www.pechakucha.org/cities/dublin/presentations/fenced-in</u> (Accessed 27 February 2024).
- Pixabay (no date) Available at: <u>https://pixabay.com/</u> (Accessed 27 February 2024).
- Prezi (no date) Presentations and videos with engaging visuals for hybrid teams. Available at: <u>https://prezi.com</u> (Accessed 27 February 2024).



References

- RDI Hub (2023) About us RDI Hub. Available at: https://rdihub.com/ (Accessed 25 February 2024).
- United Nations (2022) Youth United Nations Sustainable Development. Available at: https://www.un.org/sustainabledevelopment/youth (Accessed 22 February 2024).
- THE 17 GOALS | Sustainable Development (no date). Available at: https://sdgs.un.org/goals (Accessed 25 February 2024).
- United Nations (no date) Sustainable Development. Available at: https://sdgs.un.org (Accessed 22 February 2024).
- Wellcast Public Speaking (no date) Wellcas Public Speaking. Available at: https://static.tumblr.com/nw2r6wp/2LAmj0c61/publicspeaking.pdf (Accessed 27 February 2024).
- Wikipedia contributors (2023) Main page. Available at: <u>https://en.wikipedia.org</u> (Accessed 27 February 2024).
- Williams, C. (2024) '26 of the Best Free Stock Photo Sites to Use in 2024.' Available at: <u>https://blog.hubspot.com/marketing/free-stock-photos</u> (Accessed 27 February 2024).

Videos

- Brewer, Josh (2013) Tips on giving oral presentations. Available at: <u>https://www.youtube.com/watch?v=QKOO99UjsSE</u> (Accessed 27 February 2024).
- Canva (2022) How to define a problem statement in design thinking | Design thinking process. Available at: <u>https://www.youtube.com/watch?v=w7l8qEj1JX0</u> (Accessed 25 February 2024).
- C MM (2017) Brené Brown on Empathy (Kid friendly!). Available at: <u>https://www.youtube.com/watch?v=HznVuCVQd10</u> (Accessed 24 February 2024).
- Cooper Hewitt (2011) Ready, set, design! Available at: <u>https://www.youtube.com/watch?</u> <u>v=jIXSuZg2awA</u> (Accessed 25 February 2024).
- CreativeCharlie (2016) Design Thinking paper prototypes. Available at: <u>https://www.youtube.com/watch?v=85muhAaySps</u> (Accessed 25 February 2024).
- CSER The Computer Science Education Research Group (2015) What is a Prototype? Available at: <u>https://www.youtube.com/watch?v=4XenqN5lb9o</u> (Accessed 25 February 2024).
- Ecology, O.S. (2024) Open source Aquaponic Greenhouse. Available at: <u>https://vimeo.com/141252002</u> (Accessed 25 February 2024).
- Fanatical Futurist by 311 Institute (2016) Introduction to CRISPR gene editing technology. Available at: <u>https://www.youtube.com/watch?v=1VaG3DpFXjs</u> (Accessed 25 February 2024).



- GILAMOROUS (2016) DO's and DON'Ts in making presentation more effective. Available at: https://www.youtube.com/watch?v=X50StnWVh9I (Accessed 27 February 2024).
- Google for Startups (2016) Rapid Prototyping: Sketching | Google for Startups. Available at: https://www.youtube.com/watch?v=JMjozqJS44M (Accessed 25 February 2024).
- Husain, S. (2012) Presentation Good/Bad Examples. Available at: https://www.youtube.com/watch?v=S5c1susCPAE (Accessed 25 February 2024).
- Information Design (2014) Wicked problems. Available at: https://www.youtube.com/watch?
 v=IOKpB4KtUZ8 (Accessed 22 February 2024).
- Legionari3 (2011) Bad presentation. Available at: <u>https://www.youtube.com/watch?</u> <u>v=KgObza4ek1U</u> (Accessed 25 February 2024).
- Lifehacker (2017) The importance of empathy. Available at: <u>https://www.youtube.com/watch?</u> <u>v=UzPMMSKfKZQ</u> (Accessed 24 February 2024).
- Marsden, L. (2019) How to make a Pitch using a Mood Board. Available at: <u>https://www.youtube.com/watch?v=8dG--KvDIX8</u> (Accessed 25 February 2024).
- Maynard, D. (2014) Preparing a Pecha Kucha Presentation with PowerPoint-PC. Available at: <u>https://www.youtube.com/watch?v=q0XWIPbXmVY</u> (Accessed 25 February 2024).
- Mindful Marks (2018) 2. Design Thinking: define. Available at: <u>https://www.youtube.com/watch?v=TNAdanuvwtc</u> (Accessed 25 February 2024).
- Mindful Marks (2018) 3. Design Thinking: Ideate. Available at: <u>https://www.youtube.com/watch?v=zbLxs6te5to</u> (Accessed 25 February 2024).
- Mindful Marks (2018) 4. Design thinking: prototype. Available at: <u>https://www.youtube.com/watch?v=Q4MzT2MEDHA</u> (Accessed 25 February 2024).
- Mindful Marks (2018) 5. Design Thinking: test. Available at: <u>https://www.youtube.com/watch?</u> <u>v=UVEQCNM6X-A</u> (Accessed 25 February 2024).
- Moghe, Sumeet Gayathri (2012) A Pecha Kucha about Pecha Kucha. <u>https://www.youtube.com/watch?v=jJ2yepIaAtE</u> (Accessed 25 February 2024).
- National Science and Media Museum (2012) Animation Explaining Open Source Culture for [open source]. Available at: <u>https://www.youtube.com/watch?v=gobBQwtFeyk</u> (Accessed 25 February 2024).
- PechaKucha 20x20 (no date) Available at: <u>https://www.pechakucha.com/</u> (Accessed 27 February 2024).
- PechaKucha, Bemidji (2013) Why I read so much (Pecha Kucha presentation). Available at: <u>https://www.youtube.com/watch?v=FHuB4my_UT4</u> (Accessed 27 February 2024).
- Petersen, M. (2020) Paper sculpture techniques. Available at: <u>https://www.youtube.com/watch?v=pi6Y7yCz7Y8</u> (Accessed 25 February 2024).
- PlaybookUX (2019) What is an Empathy Map? Available at: <u>https://www.youtube.com/watch?</u> <u>v=QwF9a56WFWA</u> (Accessed 24 February 2024)
- Potential (2018) Defining the problem. Available at: <u>https://www.youtube.com/watch?</u> <u>v=2rJRVv-NOaA</u> (Accessed 25 February 2024).



- Practical Psychology (2017) HOW TO Give a Great presentation 7 Presentation skills and tips to leave an impression. Available at: <u>https://www.youtube.com/watch?v=MnIPpUiTcRc</u> (Accessed 25 February 2024).
- Psych2Go (2021) 9 habits that are Destroying your confidence. Available at: https://www.youtube.com/watch?v=_RtUt0RsGMc (Accessed 27 February 2024).
- Quirky (2014) How to make a cardboard prototype. Available at: https://www.youtube.com/watch?v=k_9Q-KDSb9o (Accessed 25 February 2024).
- Riche, R. (2010) Pecha kucha presentation basics. Available at: https://www.youtube.com/watch?v=zAZ_8UJUpno (Accessed 25 February 2024).
- RootEd Education (2018) Climate change: a wicked problem. Available at: https://www.youtube.com/watch?v=XRoCxS6n53U (Accessed 22 February 2024).
- Schoenfeld, I. (2013) Introduction to complex systems: Patterns in nature. Available at: https://www.youtube.com/watch?v=g5evD6AQeCQ (Accessed 22 February 2024).
- Socialsquare (2014) What is Open Source explained in LEGO. Available at: https://www.youtube.com/watch?v=a8fHgx9mE5U (Accessed 25 February 2024).
- Success Formulas (2020) How to improve communication skills? 12 Effective tips to improve communication skills. Available at: https://www.youtube.com/watch?v=v3DiMAPolls (Accessed 27 February 2024).
- Sustainability Science Education (2019) What is Systems Thinking? Available at: https://www.youtube.com/watch?v=FW6MXqzeg7M (Accessed 22 February 2024).
- Spring2 Innovation (2020) Design thinking Step 1: Empathize. Available at https://www.youtube.com/watch?v=LSXop-NTfR0 (Accessed 24 February 2024).
- Systems Innovation (2015) Design thinking. Available at: https://www.youtube.com/watch?
 v=WrdSkqRypsg (Accessed 22 February 2024).
- Teacher A (2020) The seven (7) CS of Effective communication. Available at: https://www.youtube.com/watch?v=xXz1oZONUIM (Accessed 27 February 2024).
- VanGenderen, S. (2014) What is design thinking? Available at: https://www.youtube.com/watch?v=a7sEoEvT8l8 (Accessed 22 February 2024).
- Visme (2019) Presentation skills: 7 Presentation structures used by the best TED talks. Available at: https://www.youtube.com/watch?v=hMk5s1y486I (Accessed 25 February 2024).
- Watchwellcast (2012) Be a more confident public speaker. Available at: https://www.youtube.com/watch?v=tShavGuo0_E (Accessed 27 February 2024).
- Weaver-Hightower, Marcus PhD (2014) How to make a pecha kucha. Available at: https://www.youtube.com/watch?v=32WEzM3LFhw (Accessed 27 February 2024).

WHAT IS DESIGN THINKING?



Working in pairs google these words (or use a dictionary) to find out what they mean and rewrite the definitions in your own words

- 1. Ergonomic -
- 2. Context -
- 3. Culture -

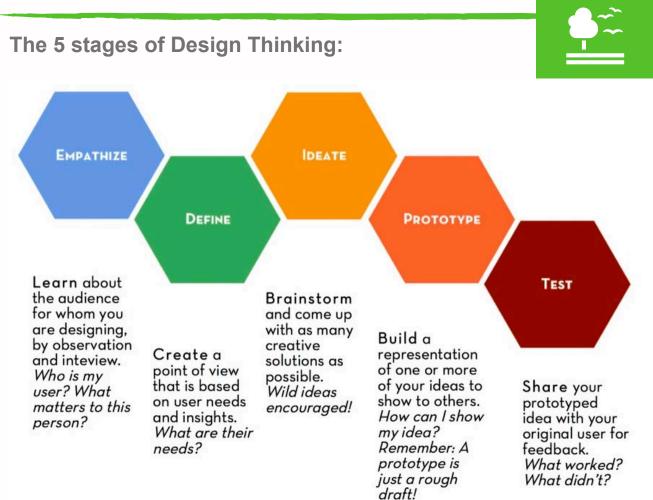
4. Stakeholders -



15 LIFE ON LAND

Your answers will be shared with the other teams to build a vocabulary list and definitions - this is called a glossary

MM1: L1 WS INTRODUCTION TO DESIGN THINKING



15 LIFE ON LAND

Before you start to work on your problem or project have a look at each stage and see what you need to think about in any project. You will also have to manage your time as the last three tasks will take more time.



1. 2. 3.

1. 2. 3.

Empathise - Most projects will involve people at some point. What might you need to think about - Discuss with your partner and write down 3 things that might matter to a user / audience member.



Define - What's your problem? Often we deal with symptoms - a runny nose, a sore throat but we need to deal with our immune system. In defining your problem you will look at the whole system. Write down 3 problems you know of in your community or the world.

MM1: L1 WS INTRODUCTION TO DESIGN THINKING

The 5 stages of Design Thinking:





Ideate - This is the stage in the process to think about as many ideas as possible. For now, write down the 2 worst ideas you can think of - swap them with your partner and try to create three good ideas from each others bad ideas.

Bad Ideas.	Good Ideas
1	1.
2.	2.



Prototype- using only one piece of paper, build or make one of the good ideas above. You will have to be creative, how will you make the shapes; folding, tearing? If you are to fix it together, how might you do this - links, cutting, what other ways of joining things together can you experiment with?

Remember: There is no right answer this is about experimentation - have fun!



Test - The final stage is testing. In this stage you learn about the product, service or idea you have created . Share your 'good idea' prototype with your partner and they will share with you.

Things to discuss / consider:

Test - The final stage is testing. In this stage you learn about the product, service or idea you have created . Share your 'good idea' prototype with your partner and they will share with you.

Things to discuss / consider and questions to ask:

- 1. Who might the user be?
- 2. Look at how it is made remember there were limits to materials so you are looking at their problem solving and creativity.
- 3. Is there anything they could try to make it better or improve it using the materials they had?
- 4. How might you explore the idea further if time and materials were not a limit?

MM1: L1WS STAKEHOLDER MAPPING

15 LIFE ON LAND

Stakeholder Mapping

A project's stakeholders are the people or groups of people who can impact or are impacted by a project. If doing a project you will need to understand the different parties involved and how you will need to communicate and engage with them.

You will now begin to undertake a stakeholder mapping of your local place. Usually you will start this by having your decision challenge at the centre of your mapping.

Individually or as a class, create a list of all the different individuals, groups, or organisations that you can begin to identify and categorise who you might need to discuss or share your project with.



MM1: L1WS STAKEHOLDER MAPPING

DIFFERENT WAYS OF MAPPING

Now you have a list you are going to practice organising them with project samples.

r	Low	Strength of interest	High
Low	Inform		Consult
on success	LOW INTER LOW INFLU SHARE / MO RESPON	ENCE LOW I HIGH	NFLUENCE INTEREST VOLVE
Influence o	LOW INTE HIGH POV	REST HIGH	INFLUENCE INTEREST
High	KEEP THEM IN Involve	FORMED	E AND WORK TH THEM Partner

- 1. Think about your project The Ice Cream Olympics, will it be for your school only or will you create a public/community event, perhaps as a fundraiser for a school trip, or a local charity or sustainable projects in your school?
- 2. Either way, you will need to think about audience, participants, social media, marketing, ingredients and more. Who might be involved? Use the list you created using the image on page 1.
- 3. Then use the grid above to organise your list of stakeholders and how you will need to communicate and engage with them.



You will undertake another stakeholder mapping during the event production and management activities as you begin to plan your final event

MM1: L1WS FLIPPED CLASSROOM ACTIVITY

Learning about Complexity

Why are systems complex <u>https://www.youtube.com/watch?</u> <u>v=FW6MXqzeg7M&ab_channel=SustainabilityScienceEducation</u>

What is a Wicked Problem (Rittel, 1973)?

What is a wicked problem https://www.youtube.com/watch?v=lOKpB4KtUZ8

Watch the video and give 4 qualities of a wicked problem.

1.

2.

З.

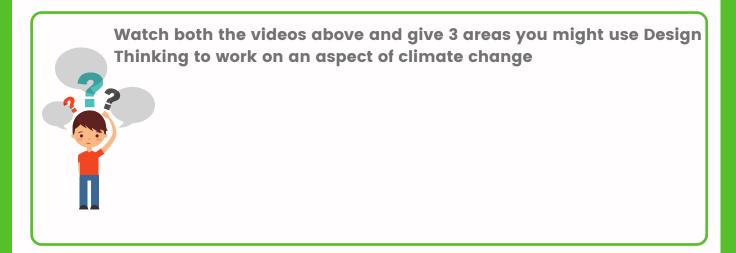
4.

Climate Change is a Wicked Problem

https://www.youtube.com/watch?v=XRoCxS6n53U

How can Design Thinking help with wicked Problems?

https://www.youtube.com/watch?v=WrdSkqRypsg





MM1: L3WS 5 USER PROFILES





Grandad is getting on an can be a bit cranky. Nothing cheers him up like a walk to get ice cream. Grandad has to watch his cholesterol and sugar intake. He has also been told to limit dairy in his diet, but he loves ice cream and his favourite flavour is mint chocolate chip.



Maggie is 9 months old and she loves to play and crawl. When her brother and sister have ice cream she wants some too. Marge tries to limit added sugar as she doesn't want Maggie to have a 'sweet tooth'. She gives Maggie bananas or nut butter as a treat. Maggie also loves avocado and mango.



Neil is an astronaut who travels to space. When he is in his space ship he is in a weightless environment. This is cool most of the time, but it is a challenge when he wants to have an ice-cream. After a few months on the International Space Station, Neil is desperate for fresh fruit and loves to get some ice-cream.



Lisa is a marathon runner who runs every single day and her metabolism is very high and she can eat what she likes. She snacks a lot on nuts as they are high in protein and eats food with a lot of ginger, turmeric, cardamom or cloves to help with aches and pains. She also drinks a lot of milk after her run for calcium.



Ralph is in secondary school and spends about 6 hrs a day sitting down. In the summer he likes to go for ice cream with his friends, but no 99s for Ralph as he is lactose intolerant. He's lucky the shop they go to have other frozen options, but he has to be careful as he is also allergic to nuts and strawberries.

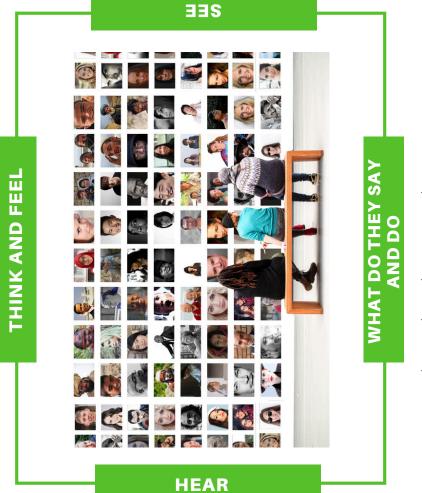
MM1: L2WS Empathy Map

What does your user think and feel?

- What really matters to them?
- What do they think about?
- What are their worries, dreams or aspirations.

What sort of things does your user hear / listen to?

- Where does your user get information?
- Who might your user listen to or be influenced by?



What other things might your user

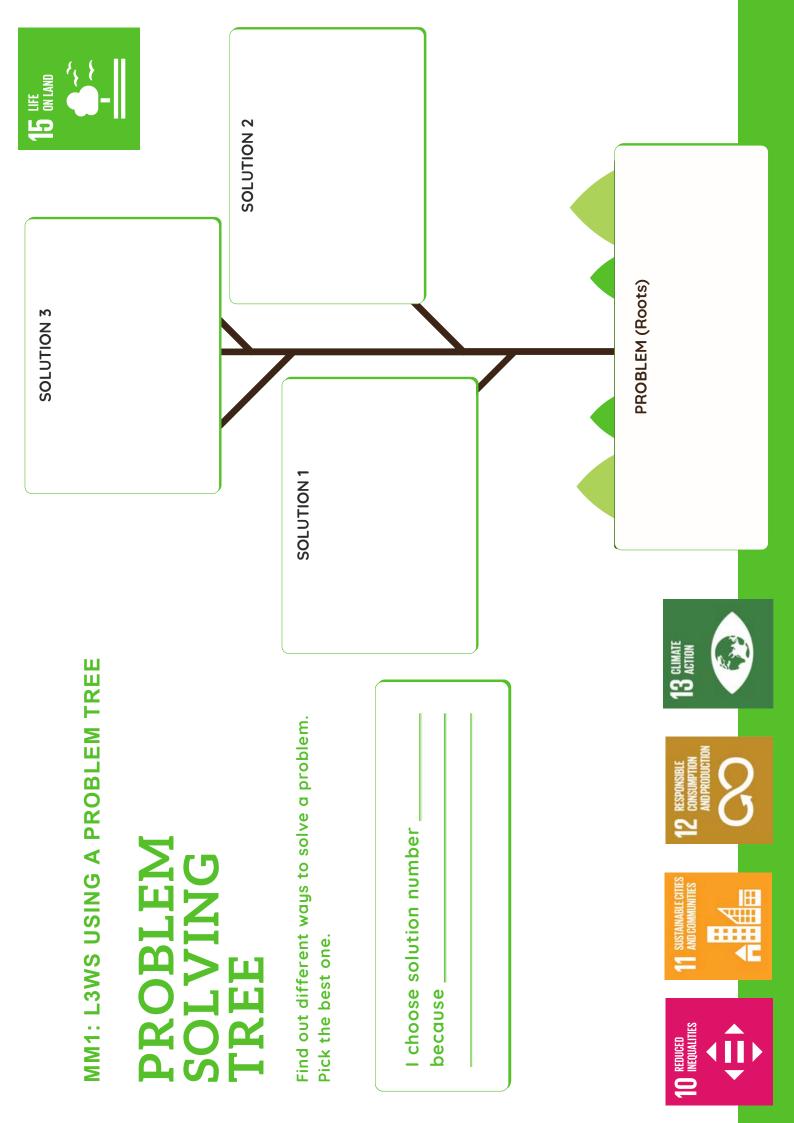
do?

What other things are they interested



- When do they use the town and what do the see? Do they walk, cycle or drive through the town?
 - What might they notice?





MM1: L3WS SUPPORT - DEFINE YOUR PROBLEM

Problem Solving

First Step in problem-solving - Understand the Problem:

While it may seem obvious, identifying the problem is not always as simple as it sounds. The biggest issue can be identifying the wrong source of a problem. This could mean your attempts to solve it are inefficient or even useless. Remember: Once the correct source of the problem has been identified you need to fully define it before it can be solved effectively.

Things to think about:

- What do I know already about the problem? Make a list.
- Can a picture or diagram help you? Try to visually draw or map the problem.
- Who's telling me about this problem? What is their perspective?
- What do I need to find out?
- Do I need to speak with anyone else about this problem?
- Try rewriting the problem in your own words?
- What do you think the problem is?

Step two: BRAINSTORM

In this phase, you will need to think, talk, sketch, doodle, contemplate, or journal, in order to start allowing ideas to formulate. Then, set aside some daydreaming time and get started. Think big and let all the ideas you have hit the page without editing them.



Step Three: Research: How are you going to turn the idea into a reality?



Brainstorming, researching and refining your problem go hand in hand. You will be going back and forth between the three until you come up with a plan. Once you brainstorm some great ideas for your business, you will need to research to learn more about the problem, product or service. In turn, that leads to more brainstorming and refining your problem.

In the next phase you will think of how to turn your idea into a reality. Start to make a make a list of any questions or concerns that come to mind. Its never too eqrly!

- What materials do you need?
- What will it cost?
- Can you build it yourself or will you need help?
- If you will need to collaborate on this piece, decide who that will be and make plans to work together?





MM1: L4WS Design Thinking Ideate - Idea Remix 1

Name

15 LIFE ON LAND

Date

This worksheet will help you play with ideas using your own experience and pastimes. Fill in the boxes - we will then work with the whole group to

develop a number of possible ideas.



MM1: L4WS - DESIGN THINKING IDEATE - REMIX SWOT

Name



Date

This worksheet will help you play with ideas using a SWOT analysis. Fill in the boxes for three ideas, businesses, services or products your team came up with from Lesson 4 and the Ideate exercise.

PURPOSE FURPOSE	STRENGTHS	WEAKNESSES	USERS
PURPOSE	STRENGTHS	WEAKNESSES	USERS
PURPOSE	STRENGTHS	WEAKNESSES	USERS

INTRODUCTION



Watch the following video: 'What is Design Thinking?' https://www.youtube.com/watch?v=a7sEoEvT8l8

Answer the questions below. You can re-watch the video as many times as you need to.

a) What or who does design thinking help you focus on?

b) How do design thinkers learn?

c) What do simple prototypes do?

d)	What	do	rapid	prototypes	do?
----	------	----	-------	------------	-----

e) If you ideate, prototype and test too early - what are three mistakes that can be made?

f) Write down the two reasons for using design thinking.

g) What are the five stages of design thinking?

Watch the video: 'How to make a cardboard prototype' <u>https://www.youtube.com/watch?v=k_9Q-KDSb9o</u> Write down as many tips as you can.

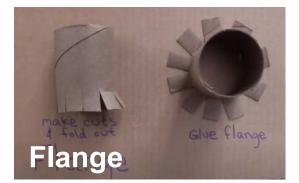


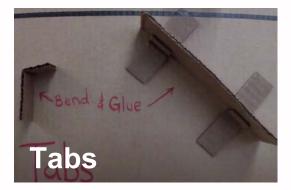


READY, STEADY, BUILD: KNOWLEDGE GATHERING

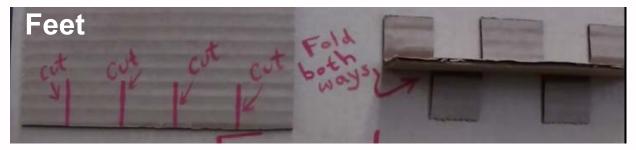
Today we are going to experiment with rapid prototyping with materials that we have to hand. You will explore three basic elements - useful for rapid prototyping:

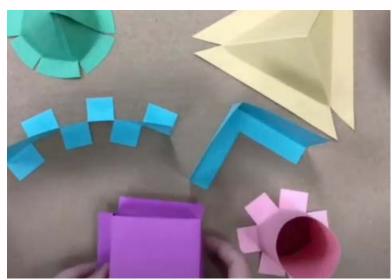
- Structure
- Fastening / Joining
- Surface
- 1. <u>Structure</u> this will provide support and form to your prototype. The structure provides strength by load-bearing if re-enforced or solid, e.g. columns or supports for covering, or other materials, e.g. tent poles. Here's some simple tips for creating structure.





15 LIFE ON LAND





Watch the short video on structural techniques - all these processes can be scaled up to make bigger models and forms.

Write down the key ideas in the video. Use bullet points.



Creating 3D sculptures https://www.youtube.com/watch?v=pi6Y7yCz7Y8

 <u>Fastening</u> / joining and attaching - this can be done using structural approaches, such at slots and tabs, or using other materials like pins, paperclips, string tape or glue.









Some techniques can be both structural and used to join things together like the slots / tabs here on the left.

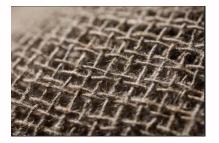
What other ways do you know of joining things together? Discuss this in your group and make a list.

Knots are another useful joining technique- here's a useful website for learning to tie knots <u>https://www.animatedknots.com/complete-knot-list</u>

3. <u>A surface</u> - a surface has a number of functions, such as protection, decorative, textural, adhesive, and are made from numerous materials, e.g. plastic, wood, fabric, paper, both natural and synthetic.



15 LIFE ON LAND



Sometimes they can be structural as well as serving other functions. This surface material could provide support and be used as an attachment or joining function as well as offering a decorative purpose.



Natural materials often have other properties such as insulation, waterproofing, protection as well as being structural, making them good for outdoor construction.



Waterproof, or those that are water repellent materials (hydrophobic), are often inspired by nature, whether a rough surface that minimises water contact and absorption or the nanopatterns of insects who fly in the rain undisturbed. You can also treat materials with sprays to make them waterproof.



Safety surfaces can be both decorative and functional. They often use bright colours and recycled materials from other processes. They can be highly durable and so reduce maintenance.



Interior design surfaces, e.g. upholstery, curtains, wallpaper, bedding, worktops, are increasingly synthetic and made from recycled materials, e.g. SeaQual or Econyl from recycled fishing nets. They can be durable, easily cleaned and pleasurable to look at.

MM1: L6WS CREATING A CONCEPT STATEMENT

What is a Concept Statement?



A concept statement summarises a project's meaning, purpose, direction and depth. Concept statements are used at the beginning of the project planning stage. Within innovation and product development, the concept statement helps to focus ideas and keep the team on task.

Use the prompt boxes below to help your team create a concept statement for The Ice Cream Olympics event, game or Ice Cream flavour.

1. Define the need in two sentences



You are developing The Ice Cream Olympics event, game or Ice Cream flavour for... Who? (tell us about your attendee / player / consumer). To do what? (This is the purpose of the event, include your specific theme / SDG focus).

2. The problem / issue - explain how your concept will address the problem

3. Your people / person's needs - tell us about your user and their needs from your solution



4. Details- explain how your solution's concepts meets this need



MM1: L6 WSC READY, STEADY, BUILD: THE CHALLENGE



READY, STEADY, BUILD: THE CHALLENGE

The Challenge:

- 1. Indoor activity- set by the teacher
- 2. Outdoor activity- selected from the list below in Challenge 2

The rules of the challenge:

- 1. 5 minutes to plan + 15 mins to build a prototype
- 2. You must include at least one material / object from each element
 - Structure
 - Fastener / Joiner
 - Surface

Challenge 1 (Indoor): Set by the teacher.

Challenge 2 (Outdoor):

Select <u>one</u> of the following challenges to complete in your team.

- 1. Create something to shelter from the weather wind, sun, rain.
- 2. Create something to encourage more biodiversity or wildlife to the area.
- 3. Create a raised bed that stops animals eating what's growing but looks good and is interesting.
- 4. Create a table / seating that allows buggies, and wheelchairs to fit comfortably

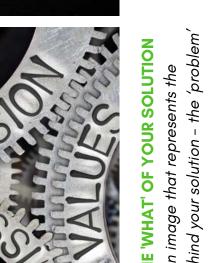
Post-Challenge Discussion

Let's discuss each teams' design. Use these questions to help focus the discussion:

- How would you help them?
- What might be the next stage of the project?
- If this was to be developed, what are the issues that should be considered e.g. users' needs, surveys, market research?
- Is there anyone local that they could talk to if this was a real project?

MM1: L7WS Design Thinking - Test 1.0 Vision Boards

BOARD VISION 4 REATE C



Develop the central message this is an image that will represent your solution.

Keep it colourful and visual Our brains love images.



STEP 1 THE 'WHAT' OF YOUR SOLUTION

you want to fix. Use pictures, texts or quotes reason behind your solution - the 'problem' that help you tell what your business is. Develop an image that represents the



STEP 2 THE WHY OF YOUR SOLUTION

your solution will provide for people or fix Develop an image that will show what their problem. Use pictures, texts and quotes that help you show how your business helps your customers.

magazines and drawings Google images, cut out images and texts from Use can use Pinterest,

Vision board examples on Pinterest. https://www.pinterest.ie/scrap <u>pinmichele/vision-board-</u> sam<u>ples/?|p=true</u>

STEP 3 THE WHO OF YOUR SOLUTION

Develop an image of the people who will quotes, statistics that help to you define use your solution. Use pictures, texts, vour users



STEP 4 THE 'HOW' OF YOUR MARKETING

quotes, that help you tell the reason for consumers? Use pictures, texts and How will you reach your users or our business.





CREATE A VISION / MOOD BOARD

15 UFE ON LAND



STEP 1 MATERIALS

You can choose to do your vision board online but if you make it you will need to gather card board, card /paper, glue, scissors, images.



STEP 4 GATHERING IMAGES

Begin to gather images that tell the story of your project - you can use drawings, cut outs, images printed from Google or Pinterest or if digital, you can scan your images online.



STEP 2 DECIDE ON WHO WILL DO WHAT

Each person should in the group should be responsible for one of the four sections in the image board worksheet.

STEP 5, ORGANISE YOUR INFO

You can organise the sections in different ways - think about your audience - who are you trying to reach? Look at examples of posters, communication for that audience.

STEP 3 PLANNING YOUR BOARD

As a group you can start to plan the size, shape and format of your vision board - see examples but don't be limited. It should reflect your project.



REMEMBER MESSAGE AND AUDIENCE

1. Will they read left to right? 2. Will you direct them how to read using arrows or numbers? Will your central idea be the biggest image?

MM1: L7WS Design Thinking - Test 1.0 Vision Boards

VISION ∢

ш ⊢

4 ш М C

CREATIING A DIGITAL VISION BOARD USING CANVA Step 1: Gather and share your digital Images

section – gather your digital images and save them all together in a folder. You can create and use a When you have decided who is working on what

Step 2: Open an account in Canva

shared drive folder to work in a group.

https://www.canva.com/

Step 3: Open a new design in Canva

Design," and choose the template you like, perhaps Once you're signed in, you'll want to click "Create a mood board, poster or photo collage.

choose USE CUSTOM DIMENSIONS. You can see this in If you plan on printing your vision board, you can the top right of the screen.

Step 4: Import your images into Canva

BOARD 0 0 W





HTTPS://WWW.PINTEREST.IE/SUNFLOWERWAYS /CREATING-A-VISION-BOARD/



ANALYSIS

MM1 L8WS PECHA KUCHA means 'chit chat' in Japanese and was devised as a presentation format to get presenters straight to the point.



Team:	
Date:	

Watch the following presentation and answer the questions below https://www.youtube.com/watch?v=jJ2yepIaAtE

- What did you like about the format?
- Was there anything you didn't like or thought was boring?
- What stood out most for you about the presentation?
- Does this feel easier or harder as a format for a presentation?

Visit www.pechakucha.com and select 2 contrasting presentations. Use the questions in box 2 and 3 to make notes about the presentations.

Peach Kucha #1 Title:

- What was the presentation about?
- What stood out to you about their images?
- Did the image and words work well together?
- What did you learn from the presentation?

ANALYSIS

Pecha Kucha (pe cha ku cha) MM1 L8WS PECHA KUCHA means 'chit chat' in Japanese and was devised as a presentation format to get presenters straight to the point.



Team:	
Date:	

Pecha Kucha #2 Title: _____

What was the presentation about?

- What stood out to you about their images?
- Did the image and words work well together?
- What did you learn from the presentation?



Think about your answers above - use them to start thinking about your presentation.

- Who is your audience think about their age and interests or what might interest them about your topic.
- What style will you use drawings, photos, collage?
- What information do you want them to know?

MM1: L9-10 WS PECHA KUCHA PLANNING

Your task: Create a basic Pecha Kucha on your game and its development 20 SLIDES X 20 SECONDS = 6 MINUTES & 40 SECONDS!

You can access Powerpoint through Office 365



15 LIFE ON LAND

- How to make a Pecha Kucha
 https://www.youtube.com/watch?v=32WEzM3LFhw
- Using powerpoint for a pecha kucha <u>https://www.youtube.com/watch?v=q0XWIPbXmVY</u>

Home	Insert	Draw	Design	Tran
Paste	 ↓ Cut □ Copy ~ ✓ Format 	New	Rese	ut ~ et ion ~

- Open PowerPoint. In slide view, right-click on the first slide on the left and select 'Layout' then 'Blank' on the dropdown menu. This creates a blank canvas.
- Right-click again on the slide and select
 'Duplicate'. This creates another slide just like it.

3. Since the duplicate command is already in PowerPoint's memory, use the shortcut Ctrl-Y to repeat the duplicate (or just right-click duplicate again)

18 more times, for a total of 20 blank slides.

4. Use Ctrl-A to Select all slides in the left, and then go to 'Transition', advance slide and set it to 20 seconds. If you didn't select all slides then apply timing to all slides.

L Duration	00.20	\$
이》 Sound:	[No Sound]	\$

5. You can also select transition styles and speed here. The simplest is the best. Maybe nothing more than a simple fade, particularly as you only have 20 seconds per slide.

Tips on creating a Pecha Kucha

- Most important, keep it simple as you have less than 7 minutes. Focus on the most important points.
- Remember your slides should be images only with your text spoken / read out
- Your images You can resize your images to your liking. Best is to fill the whole slide with your image unless you have a reason for using space, e.g. emphasising something.

MM1: L9-10 WS PECHA KUCHA PLANNING

• Also limit the text on your images and superimpose your text over the image use colour to make your text standout.

Free presentation software

- <u>https://prezi.com/</u>
- https://www.canva.com/
- <u>https://www.libreoffice.org/</u>
- https://pc.wps.com/
- Google Slides <u>https://www.youtube.com/watch?v=dYOLZuw-b00</u>

Getting Free images

In public domains such as Wikimages or Pixabay often you just have to credit the photographer or they are free for non-commercial or educational use. Remember to check and credit!

- https://pixabay.com/
- https://www.flickr.com
- <u>https://en.wikipedia.org/wiki/Wikipedia:Public_domain_image_resources</u>
- <u>https://blog.hubspot.com/marketing/free-stock-photos</u>
- <u>https://blog.snappa.com/free-stock-photos/</u>

Examples of Pecha Kuchas

- <u>https://www.pechakucha.com/presentations/daily-acts-of-creativity</u>
- <u>https://www.pechakucha.com/presentations/random-acts-of-courage</u>
- https://www.pechakucha.org/cities/dublin/presentations/fenced-in
- <u>https://www.pechakucha.com/presentations/changing-the-rules-of-our-reality-with-technology</u>
- https://www.youtube.com/watch?v=FHuB4my_UT4
- <u>http://www.pechakucha.org/presentations/time-based-art</u>

Remember to share with your peers anything that helped you and your group.

- What tips would you add?
- How would you explain to someone what a Pecha Kucha is?
- How would you explain how to design a Pecha Kucha?





20 SLIDES X 20 SECONDS = 6 MINUTES & 40 SECONDS!

1. Start With an Outline - All presentations should start with an outline

What is an outline - this is the structure of the story you are going to tell. Stick to one idea per slide then have 1 or 2 sentences about that idea / slide – Remember you have only 20 seconds per slide.

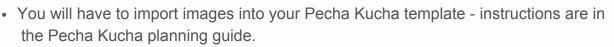
- Use the points below to help you order your outline
- Think about how many people are in your group
- Think about how many slides that is each per person
- Divide your content between your group
- You should always have an introduction slide
- You should always have an summary slide at the end
- You can can use paper, post-its, the outline function in Powerpoint, or a digital notebook or Microsoft Word to plan your presentation.

2. Tweak Your Outline

- Play around with the order of your information and slides to tell your story. Remove details or slides if they don't help you say what you want to say.
- You might separate some of your sentences / ideas or combine them depending on what you want to say - you only have 20 slides x 20 secs each slide.
- Think about your audience try to make it interesting for them. Keep playing with the order of your ideas and your story / message.

3. Make your template and add your pictures - Once you have your 'story' then find strong visual images for your 20 slides that help tell your story. Work together - think about your image choices and how they fit with your text.

Let your images be the tip of the iceberg – as presenters you will explain what's 'behind' your image.



- You should limit the text on your slides try to keep them as only images / graphics or images / graphics with titles.
- The most successful Pecha Kuchas don't use much if any text. No more than 5 words per slide is a good reference.









15 LIFE ON LAND

4. Practice - Practice as much as you can. And practice again.

- Speak your text out loud with your slide show running more than once and time it you will see that even with your 1 or 2 sentences per slide you might have too much.
- Keep practicing your slides with the text you want to speak do they tell your story well? Keep re-doing them until you are happy.

'The 7Cs of Effective Communication': https://www.youtube.com/watch?v=xXz1oZONUIM

- You can also have a number of slides for each idea or sentence to help slow things down or improvise. Be careful when improvising it is easy to run over time.
- Tips on giving oral presentations https://www.youtube.com/watch?v=QKOO99UjsSE

5. To Animate or not?

• Animations and transitions can be distracting and also mess up your timings. General advice is not to animate as the slides are only 20 secs long.

6. Practice your masterpiece again

- Yes, time to practice again. With less than 7 minutes to present, you can afford to practice more often. The slideshow runs automatically so you will run out of slides or have images that do not connect to your ideas / spoken text if you're timing isn't right.
- Remember add your own personal flair, humour and interest.
- Oh, did I mention practice?

7. Finally, don't forget your audience! Make eye contact, be warm, be human.



1. Start With an Outline - All presentations should start with an outline

What is an outline - this is the structure of the story you are going to tell. Stick to one idea per slide then have 1 or 2 sentences about that idea / slide – Remember you have only 20 seconds per slide.

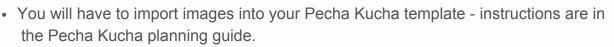
- Use the points below to help you order your outline
- Think about how many people are in your group
- Think about how many slides that is each per person
- Divide your content between your group
- You should always have an introduction slide
- You should always have an summary slide at the end
- You can can use paper, post-its, the outline function in Powerpoint, or a digital notebook or Microsoft Word to plan your presentation.

2. Tweak Your Outline

- Play around with the order of your information and slides to tell your story. Remove details or slides if they don't help you say what you want to say.
- You might separate some of your sentences / ideas or combine them depending on what you want to say - you only have 20 slides x 20 secs each slide.
- Think about your audience try to make it interesting for them. Keep playing with the order of your ideas and your story / message.

3. Make your template and add your pictures - Once you have your 'story' then find strong visual images for your 20 slides that help tell your story. Work together - think about your image choices and how they fit with your text.

Let your images be the tip of the iceberg – as presenters you will explain what's 'behind' your image.



- You should limit the text on your slides try to keep them as only images / graphics or images / graphics with titles.
- The most successful Pecha Kuchas don't use much if any text. No more than 5 words per slide is a good reference.









15 LIFE ON LAND

4. Practice - Practice as much as you can. And practice again.

- Speak your text out loud with your slide show running more than once and time it you will see that even with your 1 or 2 sentences per slide you might have too much.
- Keep practicing your slides with the text you want to speak do they tell your story well? Keep re-doing them until you are happy.

'The 7Cs of Effective Communication': https://www.youtube.com/watch?v=xXz1oZONUIM

- You can also have a number of slides for each idea or sentence to help slow things down or improvise. Be careful when improvising it is easy to run over time.
- Tips on giving oral presentations https://www.youtube.com/watch?v=QKOO99UjsSE

5. To Animate or not?

• Animations and transitions can be distracting and also mess up your timings. General advice is not to animate as the slides are only 20 secs long.

6. Practice your masterpiece again

- Yes, time to practice again. With less than 7 minutes to present, you can afford to practice more often. The slideshow runs automatically so you will run out of slides or have images that do not connect to your ideas / spoken text if you're timing isn't right.
- Remember add your own personal flair, humour and interest.
- Oh, did I mention practice?

7. Finally, don't forget your audience! Make eye contact, be warm, be human.



owners who love to keep up and own the latest tech innovations as soon as they come out.	per owners and celeority 1V personalities on Animal Planet, then do a billboard, print and web and social media campaign. ams	Love Paws is the Nest of personalit pet tracking devices. Then do a web is web is the form of the form	Number of units sold.	market that track your pet's market that track your pet's location. Some track steps and various other stats. There is a separate camera device that can be worn by your pet, but nothing exists that works as a GPS, camera and communication device in one. Cost Structure
Early Adopters List the characteristic of your ideal customer Early adapters are pet owners who love to keep up	Channels List your path to customers Give away for free to celebrity pet owners and celebrity TV	High Level Concept List your x for y analogy (e.g. youtube = flicker for videos	Key Metrics List the key numbers, that tell you how your business is doing Number of units sold	Existing Alternatives List how these problems are solved today There are various collars on the
	campaign.			הקרמו מוה המוויהו מ הראוהה ווימו
Early adapters are pet owners who love to keep up	Give away for free to œlebrity pet owners and celebrity TV personalities on Animal Planet,	Love Paws is the Nest of	Number of units sold.	solved today There are various collars on the market that track your pet's
Early Adopters List the characteristic of your ideal customer	Channels List your path to customers	High Level Concept List your x for y analogy (e.g. youtube = flicker for videos	Key Metrics List the key numbers, that tell you how your business is doing	Existing Alternatives List how these problems are solved today
Early Adopters	Channels	you reraway. High Level Concept	miss pet and want a way to connect while at work-you will be able to connect using your voice while you're away	connect while at work
high income, tech-sawy pet owners who spend a significant time away from their pets.	I am Cesar Milan, world famous dog trainer and I have my own TV show and numerous celebrity dients.	Love Paws makes it possible to be with your pet even when you're away.	all times. worry that pet is up to no good when home alone-you will be able to see what your pet is doing at all times. miss pet and want a way to	-worry that pet will get lost -worry that pet is up to no good when home alone -miss pet and want a way to
at all the second s		that turns an unaware visitor into an interested prospect	worry that pet will get lost-you will be able to track your pet at	Problem List your customer's top 3 problems
List your customer segments and users	Somthing, that can't be easily	Single. clear compelling message.	Outline a nossible Solution for	

MM1: L9 - 19WS LEAN CANVAS

Lean Canvas is adapted from the Business Model Canvas (http://www.businessmodelgeneration.com) and is licensed under Creative Commons Attribution-Share Alike 3.0 Un-ported Licence Adapted version from Ash Maurya leanstack.com

8,8

MM1: L9 - 19WS LEAN CANVAS

PROBLEM List your top 1-3 problems.	SOLUTION Outline a possible solution for each problem.	UNIQUE VALUE PROPOSITION Single, clear, competiting message that states why you are different and worth paying attention.	UNFAIR ADVANTAGE something that cannot easily be bought or copied.	CUSTOMER SEGMENTS List your farget customers and users.
EXISTING ALTERNATIVES List how these problems are solved today.	KEY METRICS List the key numbers that tell you how your business is doing.	HIGH-LEVEL CONCEPT List your X for Y analogy e.g. YouTube = Filokr for videos.	CHANNELS List your path to customers (inbound or outbound).	EARLY ADOPTERS List the characteristics of your ideal customers.
COST STRUCTURE List your fixed and variable costs.		REVENUE STREAMS List your sources of revenue.	AMS	15 LIFE ON LAND
				} } -

MM1: L9 - 10WS THE 8W'S OF PLANNING





2. WHY do you want to do this project? WHO will benefit?

1. WHAT are you planning to do?



3. WHEN and WHERE will the activity take place?

Date: _ _ _ _ _ _ _

Time: _ _ _ _ _ _ _ _ _

Location: _ _ _ _ _ _ _ _



4. WHAT funds are needed to do this activity?

MM1: L9 - 10WS THE 8W'S OF PLANNING



8 WHAT kind of publicity is needed? WHEN?

Type of publicity. When needed?

15 LIFE ON LAND

- 1.
- 2.
- 3.
- 4.
- J WHO will do the WORK?I Task3 TaskPerson ResponsiblePerson ResponsibleDate DueDate Due2 Task4 TaskPerson ResponsiblePerson ResponsibleDate DueDate Due

8. We're Done!! Was it Worthwhile?



WHAT went well? WHAT didn't go well?

WHAT would you do differently next time?

WHO needs to receive a thank you note? Name WHO will write it?