Muinín Catalyst STEAM Education for Sustainable Development and Futures Literacy

Climate Change Engage Game Design

UNIT FOCUS: DESIGNING SERIOUS GAMES FOR CLIMATE CHANGE ADAPTATION AND AWARENESS

Subject AREAS: Design, Environmental Science, Game Design, Geography, Science, Technology

An Roinn Oideachais
Department of Education

SFI Discover
Science Foundation Ireland

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

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Subjects: Science, Design, Game Design, Geography, Environment, Technology, Sustainability

Climate Change Engage introduces learners to the topic of game design within the context of climate adaptation. It introduces them to the concept and process of Design Thinking; the cognitive, strategic, and practical processes for creative problem-solving. The module enables learners to develop a fundamental understanding of serious game design, world-building, character development, presenting, planning and time management.

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 them to keep up with the lightning 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 a serious game design project.

In this module, the learner will...

- gain knowledge about climate change adaptation, mitigation, nature based solutions, and environmentally sensitive design
- develop awareness of the basics of Design-Thinking for problem-solving
- practice problem solving and critical thinking skills as individuals and as part of a group
- be introduced to aspects of serious game design and tools such as Lean Canvas, vision boards and a Pecha Kucha presentation
- develop skills of planning, division of workload and time management

This module includes:

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

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Lesson 1: What is Design Thinking?
Design Thinking is the cognitive, strategic and practical process for creative problem-solving. This lesson will introduce students to the 5 stages of Design Thinking to build a foundational understanding of the process.

Resources include: Worksheet: Introduction to Design Thinking, Flipped Classroom: Learning about Complexity

Lesson 2: What is Climate Change?
In this lesson, learners are introduced to the foundational concepts of climate change including the difference between weather and climate. This enables learners to understand more about climate change, its impacts and gain knowledge that they can include within their game design.

Resources include: Video: What is climate change part 1 and 2, Worksheet: Discussion Questions and Infographic: Impact of 2C vs 1.5C Support: Teachers Guide

Lesson 3: The Cause of Current Climate Change
In this lesson, learners are introduced to the current causes of climate change. Through an exploration of the process of energy transport (radiation), the relationship between greenhouse gases and how heat is trapped, learners develop awareness on the causes of global warming and how this contributes to contemporary climate change.

Resources include: Video: The Cause of Current Climate Change, Infographic: Infographic: Impact of 2C vs 1.5C

Lesson 4: Climate Change Engage
In this lesson, learners are introduced to the concepts of mitigation and adaptation, and identifying opportunities for learners to take climate action by looking at their own behaviour and how they might reduce their impact.

Resources include: Video: Climate action- part 1-mitigation, Video: Climate action- part 2-adaptation, Support: Climate Mitigation Chart, Support: Climate Game Themes

Lesson 5: Design Thinking 1 - Empathy
Stanford Design School's five-chairs exercise is adapted to encourage learners to learn how to develop design principles for a gamer profile. Learners will consider the gamers' needs and develop ideas on paper and create 3D prototypes of their designs.

Resources include: Worksheet: Gamer's profiles

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Lesson 6: Design Thinking 2 - Defining the Problem 1
In this lesson, learners will begin to understand how to define a problem. Learners are asked to begin to identify the problem they want to address within their game design using the driving question and SDGs as a starting theme. They also have an opportunity to develop an awareness of the problem on a local scale.

Resources include: Flipped Classroom Task: Define the Problem, Video: Defining the Problem, Worksheet: Problem Tree

Lesson 7: Design Thinking 2 - Defining the Problem 2, Deconstructing Parts of a Game
Through deconstructing games, learners will develop their understanding and knowledge of different kinds of games and game construction. This lesson enables learners to gain insight into game design; their mechanics and purpose, which provides a foundation for them to construct inclusive games.

Resources include: Worksheet: Deconstructing Games, Worksheet: Game Evaluation, Worksheet: Game Review Sheet

Lesson 8: Design Thinking 3 - Ideate 1, Worst Game ever
This lesson 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: Teacher Support Sheet: Worst Game Ever

Lesson 9: Working with Nature: Nature-Based Solutions & Green Infrastructure
This lesson introduces learners to the closely associated concepts of ‘nature-based solutions’ and ‘green infrastructure’. The lesson challenges them to rethink how and why the places they are familiar with could and should be redesigned.

Resources include: Video: ‘Nature-Based Solutions & Green Infrastructure’, Flipped Classroom: Vocabulary & Case Studies

Lesson 10: Working with Nature: Nature-Based Solutions & Green Infrastructure
This lesson builds on Lesson 9 and involves rethinking how we design the places where we live, work, and play. The lesson deepens the learners' understanding of key concepts and terminology presented in lesson 9.

Resources include: None required

Lesson 11: What are Serious Games?
This lesson introduces learners to what serious games are and their purposes, describing the characteristics of games relevant to integrating nature in cities.

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Resources include: Video: What are Serious Games? Worksheet: Active Listening, Support Sheet: Serious Games Directory (Istrate and Hamel, 2022)

Lesson 12: Climate Change and the Built Environment (Part 1)

In this lesson, learners will learn why we need to adapt the way we plan and build our cities and towns in the future. Learners will consider the challenges of existing low-density settlements, how we can adapt and increase density in built-up area of cities and towns through repurposing buildings.

Resources include: Video: Climate Change and the Built Environment, Worksheet: Active Listening Task, Worksheet / Guide: Using AIRO Maps and Activity worksheet

Lesson 13: Settlement Pattern and Sustainability

In this lesson, learners will reflect on the different settlement patterns in their locality and consider if they are positive or negative for the environment. Firstly, they review some of the key vocabulary / terms from the previous lesson and secondly, look at what these terms mean on the ground in the built environment that they are familiar with.

Resources include: Worksheet: Reviewing Vocabulary, Worksheet: Exploring Settlement Patterns, Reference: Appendix 1 and 2

Lesson 14: Housing Types, Density and Climate Change.

In this lesson, learners will think about different types of housing, their varying densities and how sustainable these are. They will think about the various types of housing they are aware of and reflect on the positive and negative elements of these from a climate change perspective. This lesson focuses on different building types rather than overall settlement.

Resources include: None required

Lesson 15: Defining the challenge (driving question) & forming teams

In this lesson, learners will begin to consider the key aims of the project and forming teams. In order to come up with a well-rounded pitch, it is important to answer the driving question in full. By breaking down and analysing each part of the question, learners have a more focused approach to their research, ideas and solutions.

Resources include: None required

Lesson 16: Mapping the User

This lesson facilitates learners to develop further insight into specific users and develop an understanding of their needs and interests. From this lesson, learners working within their design teams will begin to identify and focus on the users of their game and the design principles, necessary to design their game.

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Resources include: Worksheet: Stakeholder Mapping, Worksheet: Gamer Journey Map, Worksheet: ~ Understanding the User

Lesson 17: Ideate 2 : Generating and Remixing Ideas
This lesson builds on Lesson 8, enabling learners to develop an understanding of the process of generating ideas using the fundamental components of a game. They will work in teams to identify 4 components of 3 games building on their understanding of games from Lesson 7 and how to use random variables to create useful building blocks for design ideas.

Resources include: Worksheet: Ideate Remix, Worksheet: Remix SWOT

Lesson 18 - 20: Developing Designs on Paper and Building Prototyping Skills
In this lesson, learners will begin to consider their ideas for their prototype, develop a concept statement and look at ways to prototype their ideas depending on their gamers / audience. They will also develop their designs on paper using their user profiles and selected game theme. They will also begin to prepare materials and ideas for their vision board.

Resources include: Video; Design Thinking - Prototyping, Worksheet: Concept Statement. Worksheet: Rapid Response prototyping (incl. Rapid Response Ready, Set, Design

Lessons 21- 22: Design Thinking - Test 1 Creating and Using Vision Boards
This lesson prepares learners to present their work in a structured way and prepares them for organising documentation (images, details) of their idea development and process. This lesson will begin to help them test their ideas by developing their vision boards using the Vision Board support worksheets and prepare them for their final pitch - their Pecha Kucha presentation.

Resources include: Worksheet: Vision board, Support: Creating a Game Vision board

Lessons 23 - 26: Creating your 3D prototype - Self-directed Making
In these sessions, learners build on lessons 14 - 21, to develop their initial paper prototyping ideas, receive feedback from testing their ideas to create their final game prototype and complete their vision boards in preparation for their pitch presentation.

Lesson 27: Peer Assessment - Developing Pitch Criteria
In this lesson, learners will define their peer assessment criteria. Peer assessment enables those directly involved in the task or project to appraise their own learning. Learners are encouraged to consider what is most important, valuable and successful from what has been learned and the process of learning; taking responsibility, learning to evaluate, increasing motivation and practicing giving and receiving feedback.

Resources include: None required

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Lesson 28: Design Thinking Test 2 Preparing to Pitch - Pecha Kucha 1
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: Video: A Pecha Kucha About Pecha Kucha, Video: Bad Presentation 1, Video: Bad vs Good Presentation, Worksheet: Pecha Kucha Analysis

Lesson 29 - 30: Design Thinking Test 2 Creating a Pecha Kucha
In this lesson learners will continue how to plan, create and present their Pecha Kucha. The lesson and its resources support students to create their outline and begin to develop their presentation step-by-step. They can continue to work on this in lesson 30.

Resources include: Worksheet: Pecha Kucha Planning Guide, Worksheet: Pecha Kucha Outline, Worksheet: Pecha Kucha Checklist

Lessons 31 - 32 Design Thinking Test 2 Peer Review and Pitching Your Ideas
This lesson builds on Lessons 27 - 30 by enabling learners to develop their presentation skills, learn to give peer feedback and constructive criticism. Each team will present their game ideas to the other teams and using the supporting resources assess their peers.

Resources include: Support Resource: Peer Review table

Lesson 33: Facilitating a World Café
In this lesson, the learner will experience the World Café methodology as a reflective tool. A World Café is a series of conversations around a question or issue. It was developed in 1995 and is a simple, flexible and effective way to host large group dialogue. By facilitating a World Café as a reflective exercise for your learners, it will enable them to process their thoughts on the game design process and feedback further on each others' game ideas.

Resources include: Support resource: Facilitating a World Café

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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: https://www.canva.com/education/ 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.

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CCE L1FC: LEARNING ABOUT COMPLEX SYSTEMS

13 CLIMATE ACTION

Learning about Complex Systems

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

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.
3.
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

Watch both the videos above and list 3 areas you could use Design Thinking to work on an aspect of climate change.

1.
2.
3.

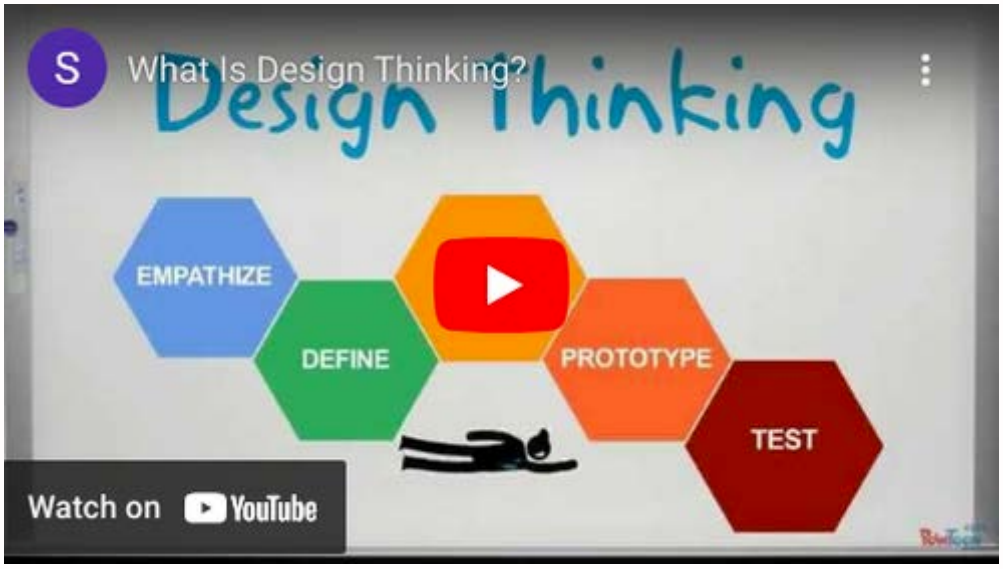
If you are interested in complexity and systems thinking here's a few more videos you might find interesting.

- Jamming on complexity https://www.youtube.com/watch?v=WT_zUxRTEjA
- Boundaries define complex systems https://www.youtube.com/watch?v=9o21WKsM4U8

CCE L1WS: DESIGN THINKING INTRODUCTION

13 CLIMATE ACTION

WHAT IS DESIGN THINKING?



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

1. Ergonomic -

2. Context -

3. Culture -

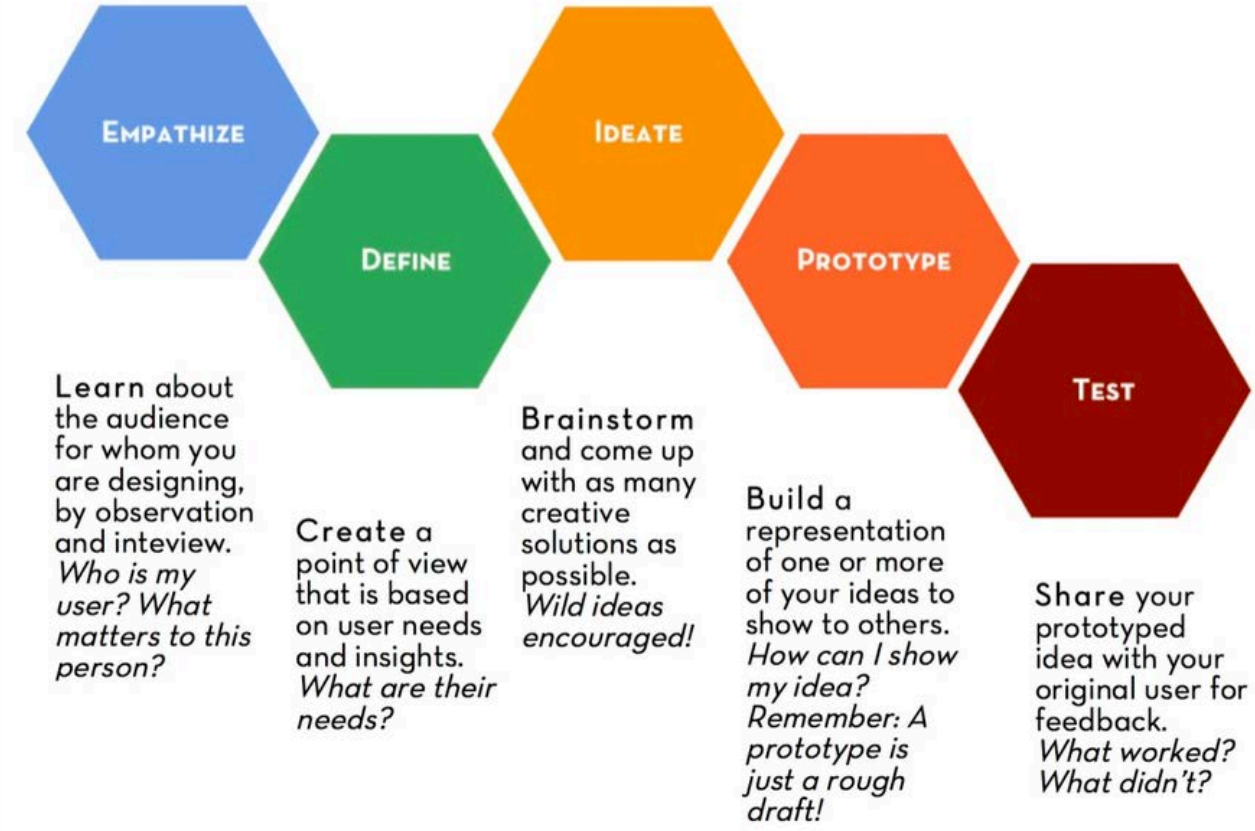
4. Stakeholders -

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

CCE L1WS: DESIGN THINKING INTRODUCTION

13 CLIMATE ACTION

The 5 stages of Design Thinking:



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.

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.

1.
2.
3.

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.

1.
2.
3.

CCE L1WS: DESIGN THINKING INTRODUCTION

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?

carbon capture by dune grass. Benefits in terms of climate adaptation: dunes provide a natural barrier against coastal flooding and erosion.

- https://www.southernstar.ie/news/our-dunes-are-dying-but-if-we-move-quickly-we-can-save-them-4218106
- https://www.facebook.com/Inchydoney-Dunes-Conservation-Group-101291461965770/

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CCE L2WS: ACTIVITY 2 DISCUSSION QUESTIONS

As you watch the video: 'What is Climate Change?' (Part 2), make notes here or in your notebooks under the following headings:

- **Global climate changes**

- **Changes in nature**
  - **melting ice**
  - **species migration**
  - **species disruption**

- **Paris Agreement**

Use the Infographic on the next page to discuss and answer the following questions below:

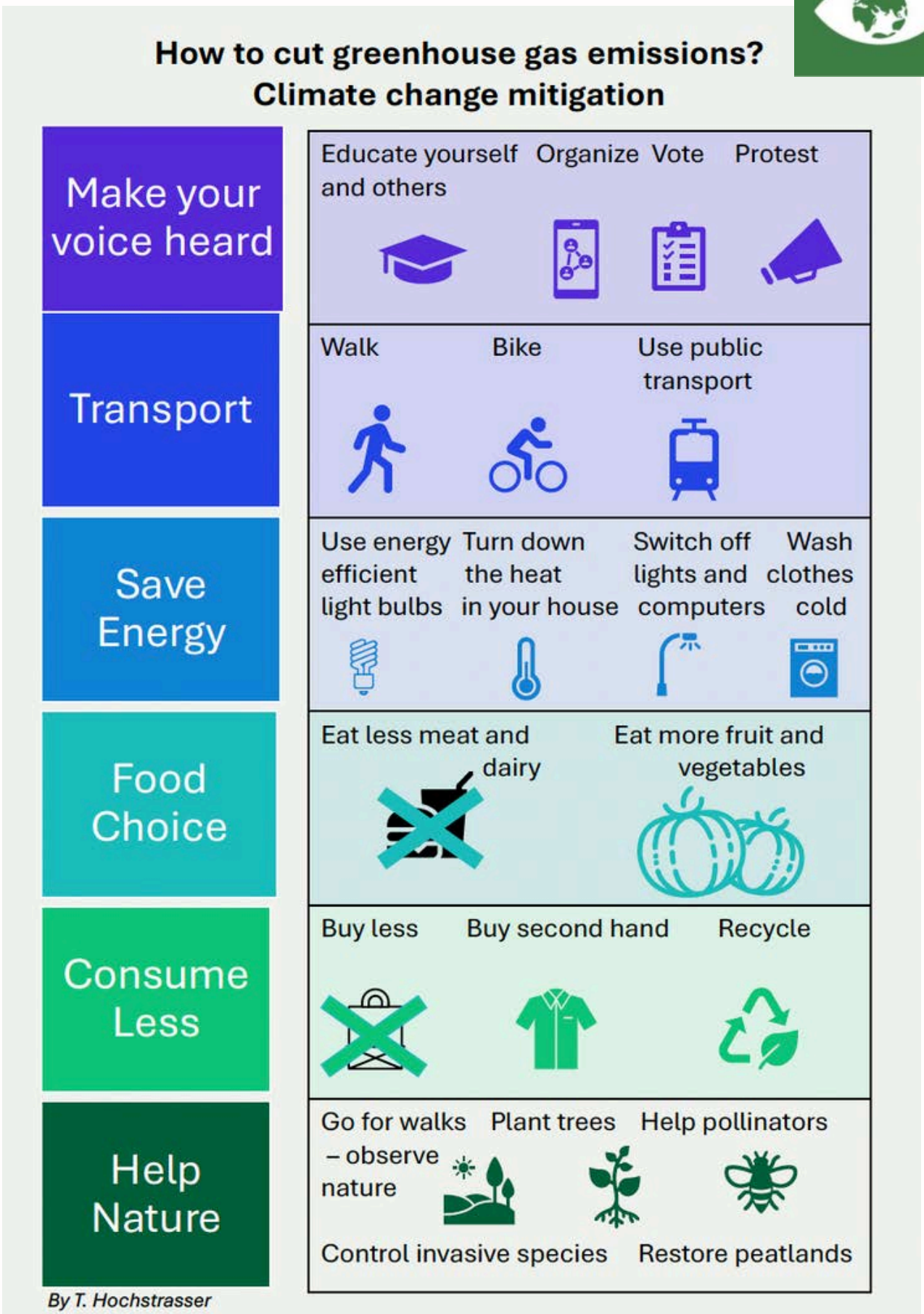
- **What does it mean to lose more plant and insect species?**
- **What happens to these species?**
- **Why are coral reefs so badly affected by climate change?**
- **Why is it a problem to lose more ice?**

CCE L2WS: ACTIVITY 2 DISCUSSION QUESTIONS

https://www.climatecouncil.org.au/resources/infographic-the-difference-between-1-5-and-2-degrees-warming/

CCE L4WS: CLIMATE MITIGATION CHART SUPPORT

13 CLIMATE ACTION



CCE L5WS: GAMER PROFILES

Lisa Simpson loves exploring and will spend hours hunting for clues. She loves mysteries and being the first to discover something. She likes to use her new-found information to make a difference, she's a vegetarian and concerned about climate change . She's not really a team player and likes to go at her own pace. She will spend hours finding out all she can about a place or a topic. For Lisa, it's the journey rather than winning, that she enjoys best.

Janey Powell is Lisa Simpson's best friend - Lisa doesn't spend a lot of time with many people except Janey. Janey is really social so she uses social media a lot to make more friends and loves to get to know people. She's always joining groups and using chat boxes or getting involved in discussion forums. Janey likes social interactive games. She cares about people and being part of a community, and wants everyone to be able to join in and will often look for ways to engage others.

Most adults struggle with Bart Simpson, who's considered a troublemaker and disruptive as he's not that interested in rules. He may not get high grades but he's smart, a quick thinker and good problem solver. He's also funny, so he's very popular and has a number of friends. He likes to do things in groups that require skill and likes both physical and video games, but they must be action orientated.

Milhouse van Outen is Bart's best friend, He has very poor eyesight and this can make him feel vulnerable. He's pretty smart and knows a lot about things that interest him. He is interested in animals and their unique abilities as well as being obsessed with science fiction / fantasy, science, and technology and systems. He notices patterns and connections and wants to understand how things work, so he can invent or create and developed new ideas particularly technical and scientific solutions for climate change.

Ralph is very conscientious in all that he does. He likes to demonstrate his skills and knowledge, particularly about climate change. He's very keen to complete tasks and activities and loves getting badges, trophies, and being recognised for his knowledge and is determined to gain high scores. He can be hard to play with as he likes to be indoors and is focused on completing a task perfectly.

Adapted from Stanford School of Design 5-chairs challenge, with the story cards profile contentadapted to enable participants to design for gamer types. Creative Commons attribution noncommercial sharealike 4.0 international - https://creativecommons.org/licenses/by-nc-sa/4.0/

CCE L6WS: P2P 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 game, you will need to research to learn more about the problem and possible solutions. In turn, that leads to more brainstorming and refining your problem.

In the next Design Thinking phase - Ideate and Prototype you will think of how to begin 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 early!

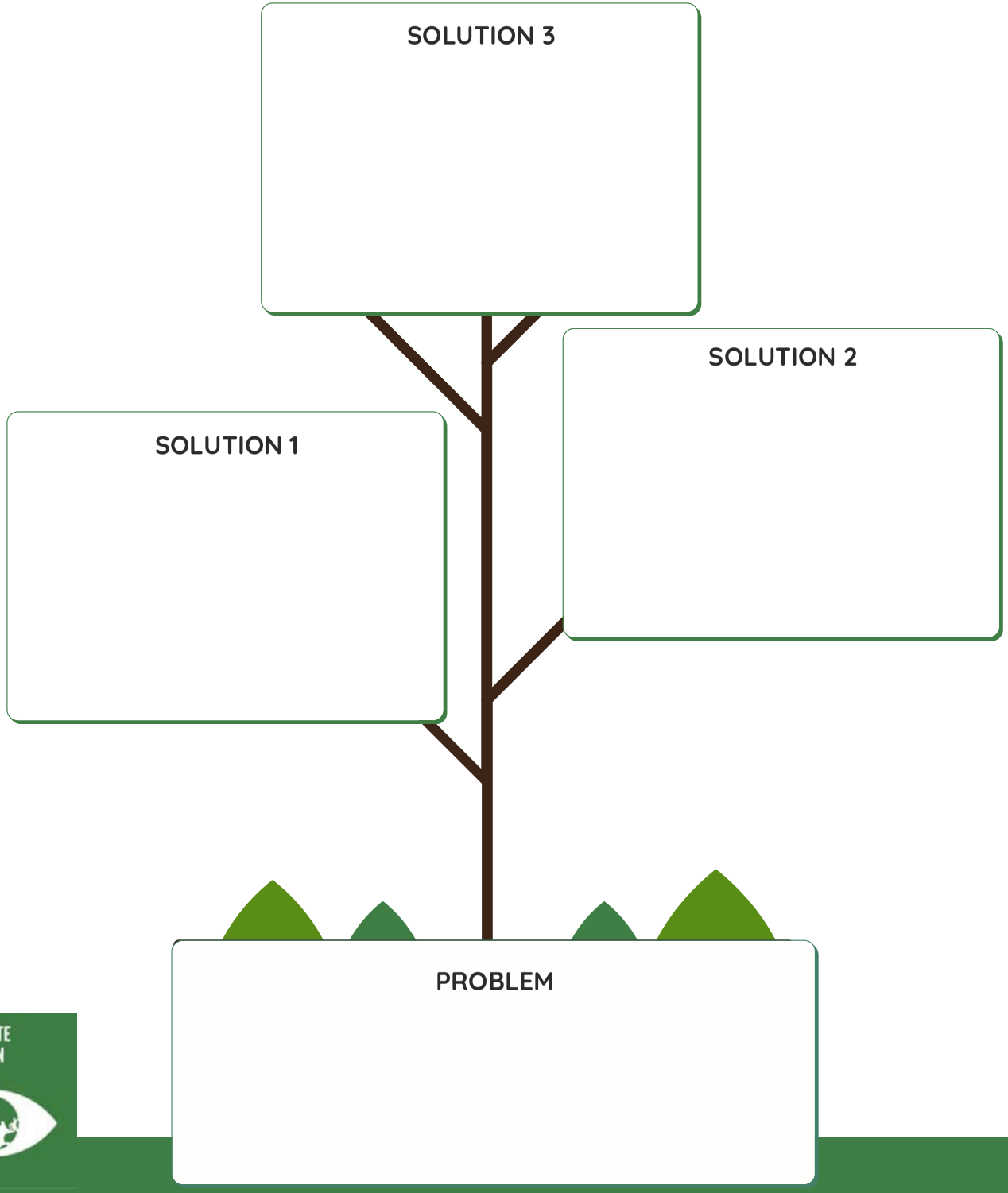
- What materials do you need?
- What will it cost?
- Can you build it yourself or will you need help?
- If you will need to collaborate on this piece, decide who that will be and make plans to work together?

PROBLEM SOLVING TREE

Find out different ways to solve a problem.
Pick the best one.

I choose solution number _____
because _____

_____



CCE L7WS: GAME EVALUATION

13 CLIMATE ACTION

USE THE 'GAMES FOR CHANGE' CRITERIA TO ASSESS THE GAME DESIGNS

GAMEPLAY:

- Is the game playable?
- Is the gameplay smooth and glitch-free?
- Is it well-balanced (not too easy/hard)?
- Do players have meaningful choices in the process of achieving the game's goal?

ORIGINALITY:

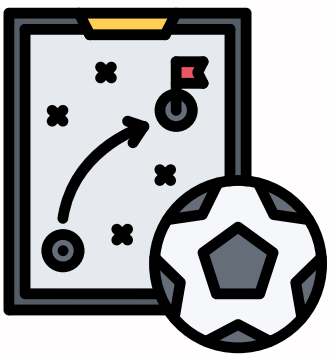
- Is the game new and innovative?
- How unique is the design and concept of the game?
- Does it bear any resemblance to other games?

USE OF THEME:

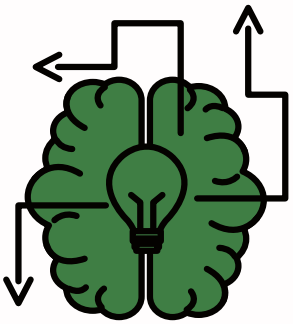
- Does the game address its theme in a meaningful way?
- Is the theme information presented clearly and accurately?
- Is there an engaging storyline or backstory?
- Is there a sense of a 'complete world' for players to engage in?

OVERALL FUN FACTOR:

- How engaging and fun is the game?
- Would you recommend it to someone else?



CCE L7: DECONSTRUCTING GAMES



WORKING IN PAIRS YOU WILL CHOOSE AND EXAMINE PARTS OF A GAME FROM THE LIST PROVIDED.

RECORD THE NAME OF YOUR CHOSEN GAME HERE

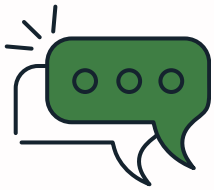
Use this space to mind map your ideas.

1. What are the three possible aims, goals or objectives of the game?

2. What is necessary for the game to function? - the Components of the game, which includes players.

3. What kinds of actions or moves do players do to power the play of the game? - the Core Mechanics.

CCE L7: DECONSTRUCTING GAMES



Using the question prompt to discuss the questions and note ideas in the space below: goal, challenge, core mechanics, rules components, space:

Goal -

- What does a player or team have to do to win?
- How might this be enjoyable and engage the players?

Challenge -

- What obstacles are in the player's way to make reaching the goal fun and interesting?
- How is the player being kept from reaching a goal?
- How might these obstacles engage the player?

Core Mechanics -

- What core actions or moves does the player do to power the play of the game?
- How might these actions or moves encouage engagement?
- How might these affect engagement?

Components -

- What parts make up the materials of play, including players?
- How might these components affect the goal of the game?

Rules -

- What relationships define what a player can and cannot do in the game?
- How might these determine the goal of the game?
- How might these encourage engagement?

Space -

- Where does the game take place and how does that space affect the game?
- To what extent is the space important in the goal of the game?

CCE L7WSC: GAME REVIEW SHEET

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USE THE TABLE TO GATHER INFORMATION ABOUT THE VARIOUS GAMES YOU ARE FINDING

GAME'S NAME	GAME TYPE	# PLAYERS	GAME AIM.	COMMENTS / OPINION

SDG13 CCE L9FC: VOCABULARY AND CASE STUDIES

Look up the meaning of these words and complete the first part of the worksheet. Using your own words develop definitions to create a glossary.

BIODIVERSITY	**CONNECTIVITY**	**DRAINAGE MANAGEMENT**
GREEN ROOF	**GREEN WALL**	**GREEN INFRASTRUCTURE**
HABITAT	**MUTUAL BENEFIT**	**MULTIFUNCTIONALITY**
NATURE-BASED SOLUTIONS	**RESILIENCE**	

SDG13 CCE L9FC: VOCABULARY AND CASE STUDIES

Explore the websites below and make some notes for in-class discussion about each of the examples

Case Studies:

- Green Infrastructure in Worcestershire (9 mins 6 secs) produced by the Worcestershire GI Partnership conveys the green infrastructure concept in layperson's terms using examples from Worcester City: https://youtu.be/etdPM_mUGK0

- AIPH Green City Guidelines' "Case Study Collection" webpage: https://aiph.org/green-city/guidelines/case-studies/case-studies/

- Green Cities Europe "Best Practice Inspiring Projects" webpage: https://uk.thegreencities.eu/best-practices/page/2/

- EU Repository of Nature Based Solutions "Case Studies" webpage: https://oppla.eu/case-study-finder

-

SDG13: CCE L11WS: ACTIVE LISTENING

Video: What are Serious Games?
https://youtu.be/RcymwwgMHDo

Fill in blanks or circle the answers to the questions below.

1. Serious Games are games used for study:

   Yes No

2. Wicked Questions are _____ problems with _____

3. Military games started being played since the _____ century.

4. In Serious Games, the players can

   Compete Cooperate

5. In one word, serious games are _____

6. 'Urban games' address _____ problems.

7. 'Geo games' are often supported by _____ technology.

8. 'Games for sustainability' address societal challenges in the area of _____

CCE L11WS: SERIOUS GAME DIRECTORY

13 CLIMATE ACTION

No.	Name	Game's Description	Time to Play	Players	Target Group	Distribution (Digital vs Board Game)	Play mode (Online/ In-person)	Charges Fee vs For Free	Links to the Game's page/ Materials	Developer
1	Sustain	Sustain is a board game about urban sustainability, developed in an European "Erasmus+" project as support in high-level education. Each player represents a different department in a growing city - facing many issues and solving them based on other players' decisions.	<1h	Multiplayer	Youth & Adults	Digital	Online	For Free	Official page: http://sustainerasmus.eu/wp/ Where to play: https://tabletopia.com/games/sustain-erasmus EU project outputs and reports: http://sustainerasmus.eu/wp/intellectual-outputs/	Erasmus University
2	Climate Smart	Players have five years to climate-proof Dublin (starting year is 2045). The core action of the game is defending against floods through adopting different measures (grey, green and blue, or mixed infrastructure; and policy). One round represents one year.	N/A	Single Player	Youth	Digital	Online	For Free	https://climatesmart.ie/game	Trinity College Dublin, Ireland
3	Urban Climate Architect	Urban Climate Architect allows players to create their own environmental-friendly city - building houses, streets and green spaces, employing citizens in offices and industrial plants, while observing the effect on the city's climate. The impact of each element is informed, and the game is evaluated when finished.	<1h	Single Player	Youth & Adults	Digital	Online	For Free	https://www.clisap.de/stadtklimaarchitekt/	Hamburg University Cluster of Excellence CliSAP
4	Amenajeu	Amenajeu is a game structured according to the coupled infrastructure system (CIS) framework that categorizes the entities of a social-ecological system in four main categories (resources, resource users, public and private infrastructures, and public infrastructure providers). Resource systems, resource users, and infrastructures arerepresented as elements of the game board. Players experiement the interplay of socio-ecological interdependencies.	>2h	Multiplayer	Adults	Board Game	In-Person	For free	https://www.researchgate.net/publication/333916660_Analyzing_coastal_coupled_infrastructure_systems_through_multi-scale_serious_games_in_Languedoc_France	Bonte, Therville, Bousquet, Abrami, Dhenain & Mathevet (2019)
5	Block by Block Minecraft	The UN-HABITAT Minecraft is a game that targets community participation, youth participation, use of images, plans, Google Maps and other available material to model public space as a community participation tool. The Minecraft models are then presented to stakeholders.	Varied	Multiplayer	Youth & Adults	Digital	Online & In-Person	For Free & Charges Fee	https://www.blockbyblock.org/resources https://unhabitat.org/manual-using-minecraft-for-community-participation https://unhabitat.org/sites/default/files/download-manager-files/Using%20Minecraft%20for%20Youth%20Participation%20in%20Urban%20Design%20and%20Governance.pdf	Mojang with UN-Habitat & Block by Block
6	Buy, Sell and Trade	Buy, Sell and Trade is a role-playing exercise that demonstrates the multiple benefits of preserving ecosystems for the services that they provide. It functions as support tool for training decision makers and local stakeholders on managing natural resources.	>2h	Single Player & Multiplayer	Adults	Board Game	In-Person	Charges Fee	https://www.iucn.org/lo/node/3188	WBCSD and IUCN (2008); Gissi & Garramone (2018)

CCE L11WS: SERIOUS GAME DIRECTORY

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7	Eco-GAME (BONUS MARES)	Eco-GAME is a game that is an interface between science, policy and society. It is a participatory and evidence-based appraisal of existing (scientific) knowledge, methods or combinations, providing a matrix to assesses the adequacy of scientific knowledge and methods for different purposes (attributes), by aggregating the four types of capital: Natural, Human, Social and Economic.	N/A	Multiplayer	Adults	Digital	Online & In-Person	For Free	https://www.bonusportal.org/files/6911/BONUS_MARES_Policy_brief_2_-_Playing_and_eco-game_to_assess_the_quality_of_scienwtific_knowledge_for_evidence.based_decision_making.pdf	EU (BONUS MARES Project); University of Tartu; Geomar; E2 Research; PTT;
8	Floating City	Floating City is a brainstorming game for public spaces in which players can create and publicize their ideas and suggestions for city projects.	N/A	Single Player & Multiplayer	Adults	Digital	Online	For free	http://play-uc.net/?page_id=529	Urban Europe; Faculty of Spatial Sciences, University of Groningen; The Netherlands;
9	Flood Resilience Game	Flood Resilience Game is a game that allows players to explore and learn about flood risks and community resilience in river valleys. It helps participants identify novel policies and strategies to improve flood resilience, as players take different stakeholder roles (workers, farmers, entrepreneurs, financial services agents), local government and water board officials.	>2h	Multiplayer	Adults	Board Game	In-Person	For Free	https://floodresilience.socialsimulations.org/#main	Centre for Systems Solutions (CRS), International Institute for Applied Systems Analysis (IIASA), Zurich Flood Resilience Alliance
10	Game of Floods	Game of Floods is a game where players manage community assets, which are flood-prone. Through strategizing on protecting their parcels, while considering community well-being and resources, players need to consider potential loss or deterioration of homes, community facilities, roads, agricultural land, beaches, wetlands, lagoons, and other resources.	1-2h	Multiplayer	Adults	Board Game	In-Person	Charges Fee	https://games4sustainability.org/gamepedia/game-of-floods/ https://www.adaptationclearinghouse.org/resources/game-of-floods.html	Urban Sustainability Directors Network (USDN), American Society of Adaptation Professionals & US Environmental Protection Agency
11	Land Science Virtual Interns	Land Science is a game where players to become office interns at a fictitious urban and regional planning firm. Players weigh trade-offs for land use decisions in ecologically-sensitive areas, interact with virtual stakeholders and use iPlan, a custom-designed GIS, to develop land use plans for local and national sites.	>2h	Multiplayer	Youth	Digital & Board Game	Online & In-Person	For Free	http://www.virtualinterns.org/virtual-internships/land-science/	Wisconsin Center for Education Research, US
12	Map Your City's Future	Map Your City's Future is a game that builds skills, data and networks to support Disaster Risk Management and Urban Planning in Africa. The game uses OpenStreetMap data, digital cartography, technology & community participation for SD, developing high quality data.	Varied	Single Player & Multiplayer	Youth & Adults	Digital	Online & In-Person	For Free & Charges Fee	Open Cities: www.opencitiesproject.org Grace: gdoherty2@worldbank.org https://www.worldbank.org/en/topic/disasterriskmanagement/brief/city-resilience-program	City Resilience Program – supported by GFDRR Labs, Open Cities Africa, World Bank Group

CCE L11WS: SERIOUS GAME DIRECTORY

13	Mission 1.5	Mission 1.5 is a online game which educates people about climate solutions and asks them to vote on the actions that they want to see happen. It is known as the world's biggest survey of public opinion on climate change.	N/A	Single Player	Youth	Digital	Online	For Free	Game Website https://mission1point5.org/be/about https://unric.org/en/mission-1-5/	The United Nations Development Programme (UNDP)
14	New Shores	New Shores is a game where players are sent to an island with wild forests and rich coal deposits. Players start earning money, building households and public infrastructure. They discover that while exploiting the island's natural resources may quickly improve their living conditions, it may also disturb the island's ecological balance and lead to natural disasters.	1-2h	Multiplayer	Youth & Adults	Digital	Online	For Free	https://newshores.socialsimulations.org	EU, Erasmus + Programme
15	SIMCITY	SimCity is an engaging city-building game intended to let players design a city — imagine being a mayor of the city and designing your city the way you want to. The aim is to convey basic skills such as arithmetic, but an understanding of complex systems such as the economy, the environment and the relationships that tie them together.	N/A	Single Player & Multiplayer	Youth	Digital	Online	For Free	Official Website: www.ea.com/games/simcity Article: SimCity Created a Generation of Urban Planners www.reason.com/2020/02/09/simcity-created-a-generation-of-urban-planners/	TU Delft & Maxis, Electronic Arts (EA)
16	Sprites of Meadowlands	Sprites of Meadowlands is a game designed to activate a specific urban location. It addresses the exploration of hidden green spaces. It starts with a walk and all the details that can characterize the morphology of the garden.	N/A	Single Player	Youth & Adults	Digital	Online	For Free	https://meadowlands.surge.sh/	Mateja Rot (Slovenia)
17	Tradeoff! InVest	Tradeoff! InVest is a series of mapping games introducing concepts related to nature's benefits to people while mirroring the InVest analytical approach.	1-2h	Multiplayer	Adults	Board Game	Online & In-Person	Charges Fee	https://msp.naturalcapitalproject.org/msp_concierge_master/tradeoff.html	Natural Capital Project
18	Tygron	Tygron Geodesic Platform is a game that can be configured for the specific purposes of each project, including features of: water, climate, environment, energy, city planning and GIS BIM.	N/A	Single Player & Multiplayer	Adults	Digital	Online	For Free & Charges Fee	https://www.seriousgamemarket.com/2014/07/tygron-serious-games-for-spatial.html	TU Delft
19	World Climate	World Climate is a game simulation in which participants experience how their decisions affect the global climate system. In the game, players learn about the dynamics of global negotiations on climate change, taking on roles of the world's most important leaders and take the responsibility for the Earth's future and enabling deeper understanding of the systems shaping our world.	>2h	Multiplayer	Adults	Digital & Board Game	Online & In-Person	Charges Fee	https://www.climateinteractive.org	Dr. Elizabeth Sawin and Andrew P. Jones, New Venture Fund

CCE L11WS: SERIOUS GAME DIRECTORY

20	Nexus	Nexus Game is a game that incorporates the interconnected Water-Food-Energy Nexus challenges. Participants get insights of water management challenges for energy and food production, striving to address needs of population, industry and agriculture, at the same time facing challenges of climate change.	>2h	Multiplayer (Large Groups 8-24 players)	Adults	Board Game	In-Person	For Free	https://nexus.socialsimulations.org/#applications	Centre for Systems Solutions, International Institute for Applied Systems Analysis, Sustainable Energy for All Initiative
21	ASPIS Sustainability Game (Auditing the Sustainability of Public Spaces)	ASPIS Sustainability Game is an immersive 3D simulation/ role-playing game designed to support planners, architects, environmental NGOs, teachers or the general public to understand sustainability issues in public spaces (e.g. parks). The impact envisaged concerns the wider benefits of sustainable development in cities and town planning practices, as well as democratic governance (public participation).	#N/A	Single Player	Varied	Digital	Online	For Free	http://serious.gameclassification.com/EN/games/43211-ASPIS-Sustainability-Game-/index.html https://www.youtube.com/watch?v=lvFf45gEfLU	PRISMA
22	B3 - Design your Marketplace!	B3 provides a playful digital environment in which the citizens gain information about the current situation in the city district, have the possibility of submitting their own designs for the marketplace, vote for the preferred designs, and chat with the experts and other participants.	#N/A	#N/A	Adults	Digital	Online	For Free	https://geogameslab.net/portfolio/b3-design-your-marketplace/ Research Paper: https://www.researchgate.net/publication/260275454_Digital_Serious_Game_for_Urban_Planning_B3-Design_Your_Marketplace	GeoGamesLab
23	Complete Street	The Complete Streets Game is a capacity-building workshop tool that enables participants to play with re-arranging and rebuilding their neighbourhood streets and to visualize what the opportunities and options can be.	#N/A	Multiplayer (Small Groups 4-6 players)	Adults	Board Game	In-Person	Charges Fee	Link to game description: https://www.completestreetsforcanada.ca/complete-streets-game-2-0-is-here/ https://www.o2design.com/complete-streets-by-design	The Centre for Active Transportation
24	City Skylines	City Skylines is a a game that mirrors real-world systems (inspired by SimCity), and players face interconnected urban planning and policy challenges. The game mixes strategy and decision-making focused on building and managing cities. Urban planning and policy aspects are coupled with the task of maintaining a city's budget, mobility, pollution (land, water, and noise), population and residents' health, happiness, and employment.	#N/A	Single Player	Adults	Digital	Online	For Free	http://gamesforcities.com/database/cities-skylines/	Paradox Interactive
25	Doodle City	Doodle City is a family game of city building, that allows the drawing a network of road, building a city and trying to score points for their hotels, shops, and taxis, all while avoiding pollution.	<1h	Multiplayer (Small Groups 1-6 players)	Youth & Adults	Board Game	In-Person	Charges Fee	https://boardgamegeek.com/boardgame/162107/doodle-city	999 Games & Aporta Games
26	Dubes Game	Dubes is a decisional making game that supports sustainable development. The game invites players to take on the role of stakeholders and draw a plan-for the sustainable urban renewal of a neighbourhood.	>2h	Multiplayer (Small Groups 2-10 players)	Adults	Digital	Online & In-Person	For Free	www.gamesforcities.com/database/the-dubes-game/ Academia: https://www.academia.edu/4730994/The_DUBES_Game_Combining_DSS_and_Interaction_Seminar_De_Spelende_Stad_-_The_Playful_City Research Publication www.researchgate.net/publication/260224943_The_Dubes_game_supporting_sustainable_urban_renewal_project	Play the City & TU Delft

CCE L11WS: SERIOUS GAME DIRECTORY

13 CLIMATE ACTION

27	Keep Cool Mobil	Keep Cool Mobil is a game about climate politics, where young people take control of global metropolises. They decide which path their economies will take, their climate protection strategy and exert influence on an international scale.	<1h	Multiplayer (6 Small Groups of up to 3 players)	Youth	Digital	Online	For Free	http://www.climate-game.net/	Potsdam Institute for Climate Impact Research
28	IBM CityOne	IBM CityOne is a game where players explore new and innovative solutions for a 'smarter planet' in areas of energy, water, retail and banking. Players must evolve all these four areas on a limited budget, while making decisions affecting revenue, profit, citizen satisfaction and environmental betterment. The goal is to create more connected, intelligent and efficient cities.	#N/A	#N/A	Adults	Digital	Online	For Free	http://gamesforcities.com/database/cityone-a-smarter-planet-game/	IBM
29	Pipes – Public Infrastructure Participatory Engagement Simulation	Pipes is a game where players experience problems and dangers connected to ageing water infrastructure. Players practice collaboration among various organisations and groups of interest, and experience problems and opportunities in complex systems.	>2h	Multiplayer (Large Groups 8-24 players)	Adults	Board Game	In-Person	Charges Fee	https://pipes.socialsimulations.org/#benefits	Centre for Systems Solutions (CRS), Michigan State University, Games4Sustainability & Social Simulations
30	Rubbish!	Rubbish! is a game designed to specifically address the waste crisis in Bangalore. Players take the role of John – a Dry Waste Collection Centre (DWCC) manager; players' responsibilities include collection and disposal of dry waste and ensuring the overall cleanliness of the city. Each player runs his own DWCC in one ward. Every round, waste is generated in all wards, but the players can only collect from those wards that have a DWCC, with the remaining waste dumped in the landfill. When the landfill overflows, all players lose. If the players manage to create a DWCC in every ward, they all win the game.	#N/A	Multiplayer (Small Groups 4-6 players)	Adults	Board Game	In-Person	For Free	http://gamesforcities.com/database/rubbish/ https://medialabamsterdam.com/blog/project/rubbish/	Fields of View, mediaLAB Amsterdam
31	StreetComplete	The players are asked simple questions in their vicinity to complete the info on the respective site. The info entered is then directly added to the OpenStreetMap in the name of the player.	#N/A	Single Player	Youth & Adults	Digital	Online	For Free	https://play.google.com/store/apps/details?id=de.westnordost.streetcomplete&hl=en&gl=US	Tobias Zwick
32	Urban Gems	UrbanGems is a game that identifies the visual cues that are generally associated with concepts difficult to define such beauty, happiness, quietness, or even deprivation.	#N/A	Multiplayer (Small Groups 8 players)	Varied	Board Game	In-Person	Charges Fee	https://urbangems.org/	Adam Barwell, Daniele Quercia, Jon Crowcroft
33	Urban Science	Urban Science is a game where players become urban planners to redesign the city. Use of GIS model to propose land use changes.	#N/A	Varied	Youth	Digital	Online	For Free	https://www.cse.msu.edu/~cse498/2016-08/projects/urban-science/	University of Wisconsin
34	ECO	ECO is a game where players harvest from the environment to craft their own creations. Players can collaborate to build a civilisation. Every action affects the environment with many animals and plants.	>2h	Single Player	Varied	Digital (PC Game)	Online	Charges Fee	https://games4sustainability.org/gameopedia/eco/ https://play.eco/	Strange Loop

CCE L11WS: SERIOUS GAME DIRECTORY

13 CLIMATE ACTION

35	Animal Crossing	Animal Crossing is a simulation-style game which allows players the chance to create their own versions of paradise on a deserted island inhabited solely by animals. The customizable player/ character names their island and establishes a small village within, and then build elaborate homes, tend gardens, fish, throw parties, and converse with their always-kind animal neighbours.	Varied	Multiplayer (Small Groups <4 players)	Children	Digital	Online	Charges Fee	https://animal-crossing.com/;	Nintendo
36	Article 27: the UN Security Council Game	Article 27: The UN Security Council Game is a game focusing on decision-making process in UN Security Council (Germany is added). Each player can present a proposal to the Council. It marks the start of the negotiations phase.	1-2h	Multiplayer (Small Groups 2-10 players)	Varied	Board Game	In-Person	Charges Fee	https://games4sustainability.org/gamepedia/article-27-un-security-council-game/ https://boardgamegeek.com/boardgame/113293/article-27-un-security-council-game	Stronghold Games
37	Budget Games	Budget Games is a game that lets each group has to unanimously decide on urban investments and social services selection. Each participant has some of the game's currency, but not enough to finance the projects preferred. The players need to work together to reach common solutions. Each team creates its list of proposals. But the final ranking depends on the average from all tables.	N/A	Multiplayer (Small Groups 8-10 groups of 10 players)	Varied	Board Game	In-Person	Charges Fee	http://graobudzet.crs.org.pl/about-the-game/	Luke Hohmann & Innovation Games
38	Civilization	Civilisation is a game where players are tasked with guiding an entire civilization throughout the ages, taking ownership of your people's technology, economy, culture, and military, as well as all the choices that go along with them.	1-2h	Varied	Youth	Digital & Board Game	Online	Charges Fee	https://civilization.com/ https://www.pcgamer.com/civilization-6-review/ https://www.commonsensemedia.org/game-reviews/sid-meiers-civilization-vi	MicroProse
39	Climate-Poker	The players become Climate Diplomats to protect the climate. Players can join forces to organize climate negotiations for climate agreements.	<1h	Multiplayer (Small Groups 2-10 players)	Adults	Board Game	In-Person	Charges Fee	https://games4sustainability.org/gamepedia/climate-poker/	BeWitched Spiele
40	Cultural Memory Game	Cultural Memory Game is a game that teaches the key factor contributing to community resilience. The bits and pieces of past catastrophic events are scattered around the city, offering prompts to those who are ready to relate facts.	1-2h	Multiplayer (Small Groups 6-12 players)	Varied	Board Game	In-Person	For Free	https://culturalmemory.socialsimulations.org	EU Horizon 2020 Programme
41	DisCoord – The Disaster Coordination Game	DisCoord is a game where as the leader of a Sub-County (consisting of 15 villages) in Uganda, a player must ensure that the population is satisfied. However, growing population, floods and landslides frequently occur, and money is not enough. The players need to discuss and interact with each other since policies need to be proposed and enacted at district level gh a majority vote. Each round (year) consists of 4 phases.	>2h	Multiplayer (Small Groups 2-8 players)	Adults	Board Game	In-Person	Charges Fee	https://games4sustainability.org/gamepedia/discoord/	Kewan Mertens, Matthieu Kervyn

Screenshot

CCE L11WS: SERIOUS GAME DIRECTORY

42	Earthgirl	Earth Girl is an interactive game focused on making strategic decisions to minimize risk in communities which are exposed to natural hazards. In the game, a smart and action-loving Southeast Asian girl plays to save her family and friends from natural hazards.	<1h	Single Player	Children & Adults	Digital	Online	For Free	www.earthgirl2.com	Earth Observatory of Singapore (EOS)
43	Earthrise	Earthrise is a game that is a sandbox massively multiplayer online role-playing game shooter set in a post-apocalyptic world where players must craft their gear and fight for survival.	>2h	Multiplayer (Small Groups 2-10 players)	Varied	Digital	Online	For Free	https://www.mmorpg.com/earthrise-first-impact	SilentFuture
44	Full Spectrum Warrior	Full Spectrum Warrior is a game commissioned by the U.S. Army to train light Infantry troops in urban combat situations.	N/A	Varied	Youth	Digital	Online	Charges Fee	https://www.gog.com/game/full_spectrum_warrior?gclsrc=aw.ds&&gclid=CjwKCAjwhMmEBhBwEiwAXwFoEQ09ECYvOyuwBrA-7MbPQ-JNPYT8SqLQlr6l7_DX9r49ehrAtzpD9xoCXEYQAvD_BwE	Pandemic Studios & THQ Nordic GmbH
45	Greenspace	GS is a game to convert/flip (remediate in the real world) all contaminated 2D brownfield tiles in the centre of the Monopoly-like game board to viable 3D green spaces. Rewards from tasks such as cleaning garbage and building renewable energy resources give players a sense of accomplishment as they move through the game. RocketOwl and its partners have vowed to plant a tree in the real world as players complete milestones.	>2h	Varied	Youth	Digital	Online	For Free	https://web.archive.org/web/20121014011354/http://www.appsontapp.com/greenspace/	RocketOwl
46	Gifts of Culture	Gifts of Culture is a game where players represent various groups living in the flood-prone valley. Although their views and ideals differ, they have the same goal of improving living conditions in their communities. The players experience cultural differences, but learn to turn diversity into opportunity.	>2h	Multiplayer (Small Groups 8 players)	Varied	Board Game	In-Person	For Free	https://giftsofculture.socialsimulations.org/en/	EU Horizon 2020 Programme
47	Hazagora	Hazagora is a game where the players are the inhabitants of a volcanic island, which they have to develop and where to sustain a community. Geological hazards are regular, and the community needs to be ready to face them.	>2h	Multiplayer (Small Groups 2-10 players)	Adults	Board Game	In-Person	Charges Fee	https://games4sustainability.org/gamepedia/hazagora/ https://www.wtnschp.be/sciencesays/	Vrije Universiteit Brussel, Science Communication Expertise Brussels Innoviris Free for non-commercial purposes
48	Laudato Si	Laudato Si is a game that manages common goods through a forest (which is the players' home, giving them place to sleep and providing everything they need to live and develop their community)	<1h	Multiplayer (Small Groups 5-6 players)	Youth	Board Game	In-Person	Charges Fee	https://laudatosi.crs.org.pl/en/	New Earth Project by Climate KIC

CCE L11WS: SERIOUS GAME DIRECTORY

13 CLIMATE ACTION

		community)								
49	Lords of the Valley	Lords of the Valley is the action takes place in the river valley, which is in danger because of unexpected droughts and floods. The players take on roles of farmers, local authorities, bank and ecological NGOs. They face numerous challenges, resulting from other players' decisions and unpredictable environmental conditions.	>2h	Multiplayer (Large Groups 12-36 players)	Varied	Digital	In-Person	Charges Fee	https://systemssolutions.org/portfolio-items/lords-of-the-valley/ https://lordsofthevalley.socialsimulations.org/#technical-details	Centre for Systems Solutions
50	Sustainable Shaun Online Game	Sustainable Shaun Online Game is a game that explores how to create a cleaner, healthier, more 'sustainable' future for our cities and the planet, build a new eco-friendly city for stray animals of a farm, making sure to keep them all happy by monitoring resources, food, energy, transport and nature issues.	N/A	N/A	Youth	Digital	Online	For Free	https://ec.europa.eu/environment/sustainableshaun/game_en.htm	Sustainable Learning Team (UK)
51	The World's Future	The World's Future is a game where players adopt high-level leadership roles. They experience the pressure of making trade-offs and the thrill of finding synergies for sustainable development. Players make choices about energy and industrial investments, social development, and environmental management, among other factors, which influence their country – and surrounding countries – in the long term. Incorporates the SDGs and players experience how interconnected the global goals are and what the consequences of their decisions are.	>2h	Varied	Adults	Digital & Board Game	Online & In-Person	Charges Fee	https://worldsfuture.socialsimulations.org	Centre for Systems Solutions, International Institute for Applied Systems Analysis
52	Urban Renewal	Urban Renewal is a game where the players take part in a complete transformation of the city. Each player, starting with the one who takes the role of Mayor, spins the Decision Engine Wheel. The wheel can stop at one of those icons: Condominium, Commercial Building, Public Housing, School, Bulldozer, Park, Planning Directive. The player has to follow the instructions connected to the spinning outcome.	>2h	Multiplayer (Large Groups >10 players)	Adults	Board Game	In-Person	Charges Fee	http://flaviotrevisan.com/2011/the-game-of-urban-renewal/	John Walker
53	Urbanix	Urbanix is a Wii ware game in which player controls a tiny little tractor that has to build a town on an empty field in a given time, while avoiding the enemies. The object of the game it to populate enough of the empty area before a time limit runs out.	1-2h	Varied	Varied	Digital	Online	Charges Fee	https://www.nintendo.co.uk/Games/Wii-Ware/Urbanix-287064.html https://nintendookie.wordpress.com/2011/01/28/urbanix-review-wiiware/	Nodcurrent
54	World Rescue	World Rescue is a game where players learn about SDGs and 21st century development challenges in different parts of the world. The game features five characters from diverse parts of the world—India, China, Norway, Brazil, and Kenya. With culturally relevant and research-based storytelling and art, World Rescue offers a bird's eye view into the food, environment, society and culture through gameplay.	<1h	Single Player	Varied	Digital	Online	For Free	http://worldrescuegame.com	UNESCO MGIEP
55	Darfur is Dying	Darfur is Dying is a game where the player takes the role of a displaced Darfurian living in a refugee camp. The player faces lack of water and needs to find a new source, through a careful search, so he/she doesn't get captured by aggressive security guards.	<1h	Single Player	Adults	Digital	Online	For Free	http://www.gamesforchange.org/game/darfur-is-dying/	Take Action Games

CCE L11WS: SERIOUS GAME DIRECTORY

56	Digital Zoo Gallery	Digital Zoo gallery is a game where player can visit two art galleries with different themes. The game offers 2 galleries for the players; Modern Art Gallery and Jurassic Jungle. In the game players can explore the jungle filled with dinosaurs while at the same time enjoy artworks or visit a modern gallery for a more relaxed experience.	<1h	Varied	Varied	Digital	Online	Charges Fee	Game website: Not Available Resource: https://store.steampowered.com/app/1511330/Digital_Zoo_Gallery/	Digital Zoo
57	Evacuation Challenge Game	Evacuation Challenge Game is a game that the challenges are connected with disaster response and evacuation (in this case – zombie apocalypse!). Participants take the roles of citizens and rescue team members, but the road to safety is not easy.	1-2h	Multiplayer (Large Groups >10 players)	Adults	Digital	Online	For Free	https://evacuationchallenge.socialsimulations.org	Center for Systems Solutions, andEDUCEN project
58	Monument Valley	Monument Valley is an MC Escher inspired puzzle game that bends architecture and follows a silent princess through a captivating world. In the game player leads the princess Ida through mazes of optical illusions and impossible objects while manipulating the world around her to reach various platforms.	>2h	Single Player	Varied	Digital	Online	Charges Fee	Game website: https://www.monumentvalleygame.com/mv2 Resource: https://en.wikipedia.org/wiki/Monument_Valley_(video_game)	Us two
59	My Little Princess : Castle	My Little Princess Stores is a storytelling digital dollhouse game. It is a castle where child interacts with everything.	1-2h	Single Player	Children	Digital	Online	Charges Fee	https://play.google.com/store/apps/details?id=mylittleprincess.castle&hl=en_US&gl=US	My Towns Games Ltf
60	Myst	Myst is a game where players solve puzzles, and by doing so, travel to four other worlds, known as Ages, which reveal the backstory of the game's characters.	>2h	Multiplayer (Small Groups 2-10 players)	Children	Digital	Online	Charges Fee	https://cyan.com/games/myst/ https://www.commonsensemedia.org/game-reviews/myst-nintendo-3ds	Cyan
61	Project Pandora	Project Pandora is a SCIFI board game where one player controls the evil human corporation and the alien eight race on a modular tile board moving miniatures and rolling dice to achieve some scenario-driven objectives.	<1h	Multiplayer (Small Groups 2 players)	Children	Board Game	In-Person	Charges Fee	https://boardgamegeek.com/boardgame/120444/project-pandora-grim-cargo https://www.play-board-games.com/project-pandora-grim-cargo-review/	Mantic Games
62	Second Life	Second Life is a 3D online virtual world which allows players to create virtual representation of themselves and customise their avatars, explore and create a host of different environments and locations. The players can at the same time interact with others and participate in different activities.	N/A	Multiplayer (Small Groups 2-10 players)	Youth	Digital	Online	For Free	www.secondlife.com/	Linden Lab

CCE L7WSC: GAME REVIEW SHEET

13 CLIMATE ACTION

USE THE TABLE TO GATHER INFORMATION ABOUT THE VARIOUS GAMES YOU ARE FINDING

GAME'S NAME	GAME TYPE	# PLAYERS	GAME AIM.	COMMENTS / OPINION

CCE L12WS ACTIVE LISTENING TASK

A. Read through the questions and underline the key words.
B. Watch the video 'Climate change and the Built Environment' - https://youtu.be/VzXFfKXzJ18 and answer the questions

1. What three sectors produce most of Ireland's Greenhouse Gases?

I._____
II._____
III._____

(Note: The Data in the presentation come from the Irish Environmental Protection Agency, EPA update these figures with new data as it becomes available – check out the Latest EPA Greenhouse Gas Emissions Data here)

2. Why are many Irish suburban developments bad for the environment and contributing to Greenhouse Gas Emissions?

_____ _____
_____ _____
_____ _____

3. What is meant by the term 'urban sprawl? Use your own words to define it.

_____
_____

4. What are the disadvantages of urban sprawl?

i._____
II._____
III._____
iv._____

5. What is meant by the term 'compact development'? Use your own words to define it.

_____
_____

CCE L12WS ACTIVE LISTENING TASK

6. What three things about settlement planning do we need to consider and change in order to bring about a greener future?

I._____
II._____
III._____

7. Describe two things that can be done that would increase the density of development.

I._____
II._____

8. Name two environmental advantages of reusing older buildings in towns and cities.

I._____
II._____

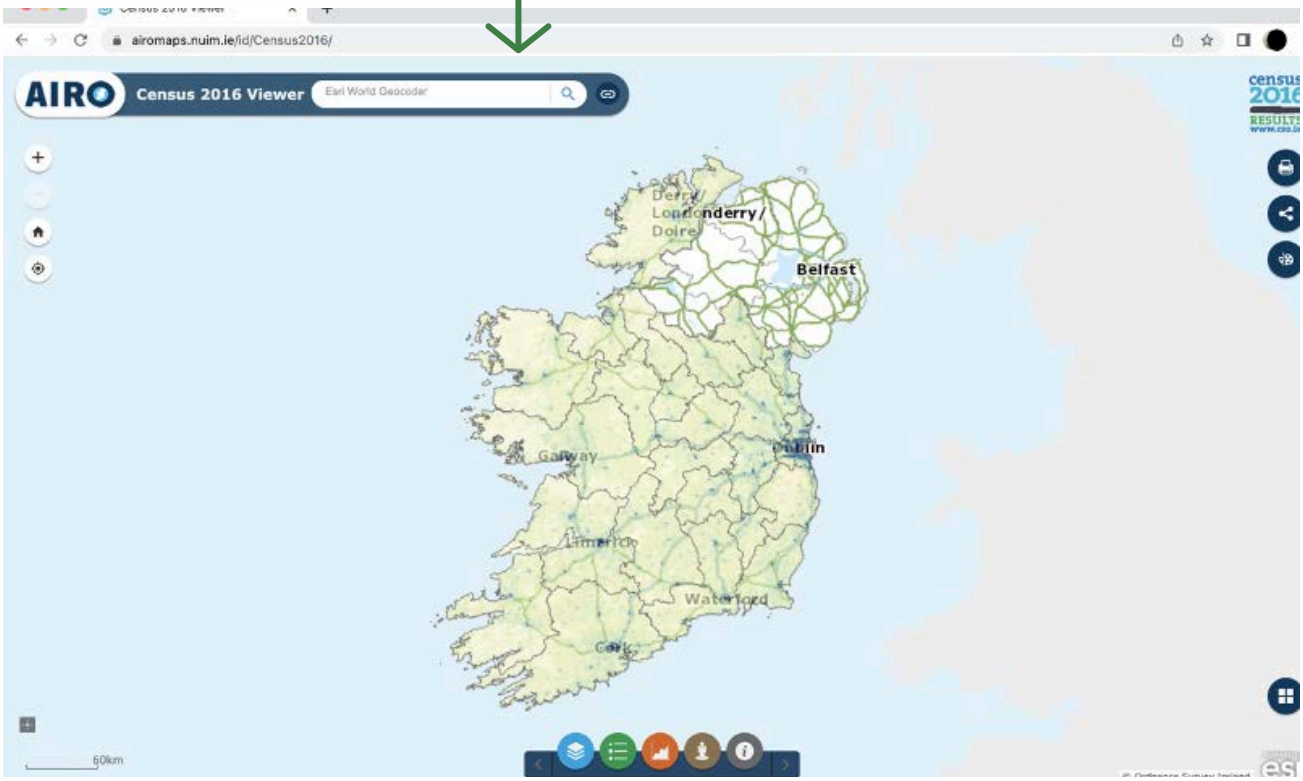
CCE L12WS: AIRO INTERACTIVE TASK

Use this instruction sheet to explore AIRO Census mapping and complete the worksheet on page 7.

TASK 1: EXPLORING THE AIRO MAP

1. Go To AIRO Census 2016 Mapping:
   https://airomaps.nuim.ie/id/Census2016/

   It will bring you to this screen

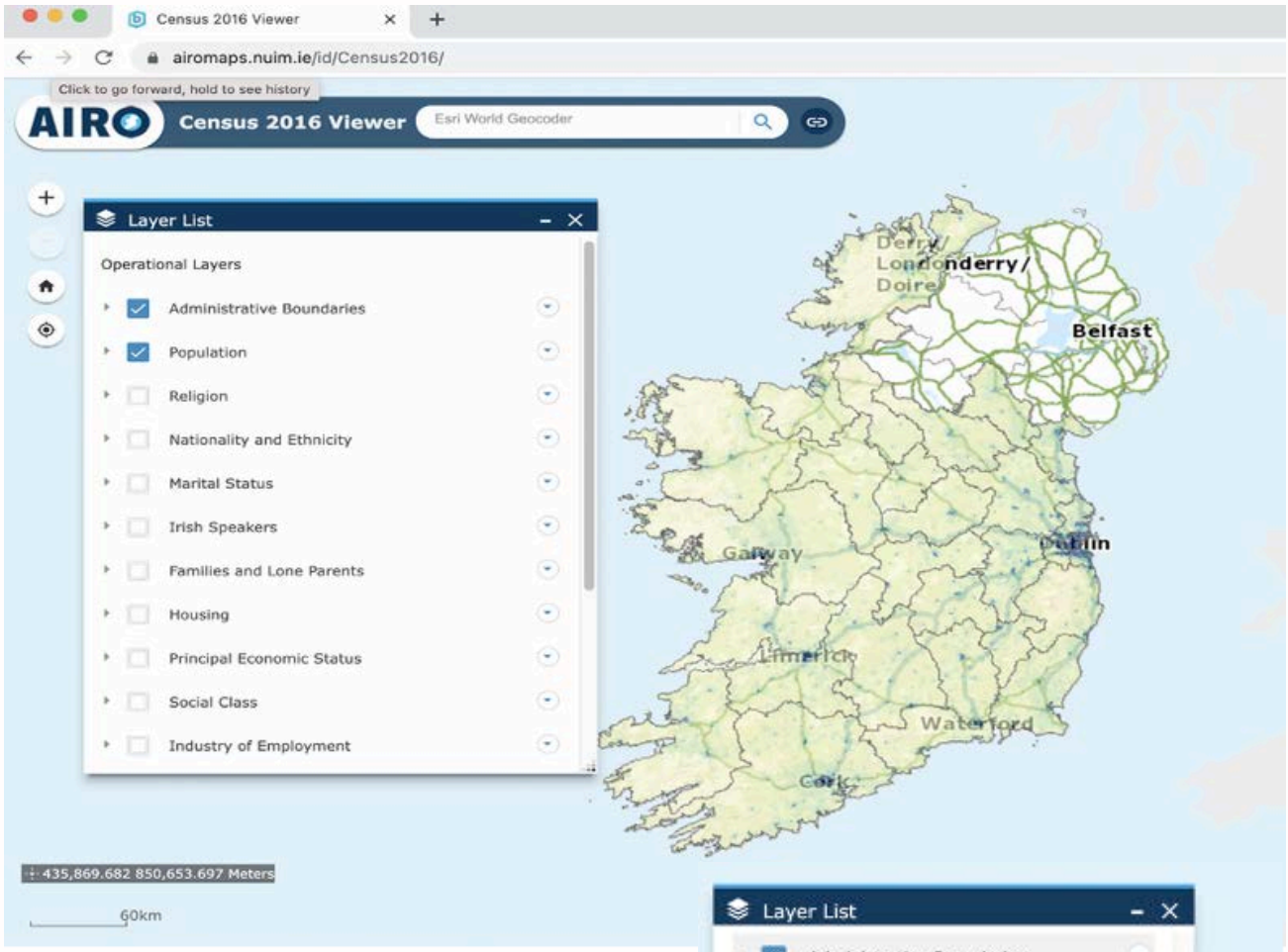


2. To get the population view in a format that is easy to search,
   - go to the layers button, the blue stack button on the bottom menu.

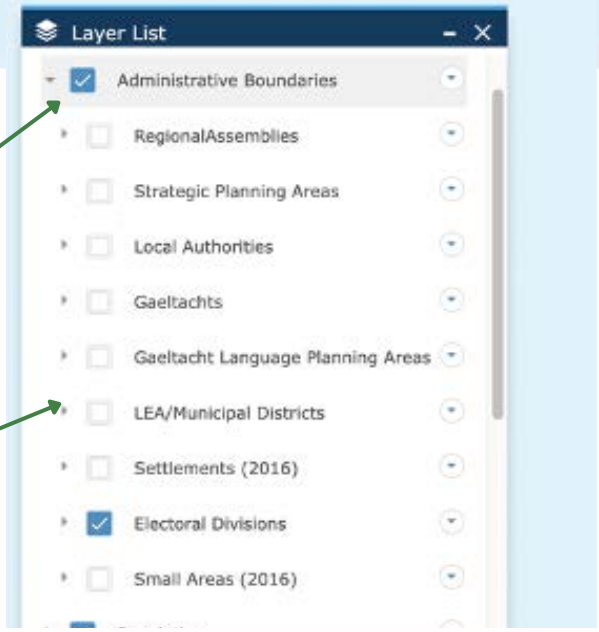
CCE L12WS: AIRO INTERACTIVE TASK

3. By clicking this you will open the layers menu (see screen shot below), here you can select lots of different data from the 2016 census for display.

4. For this exercise you need to select the first two items listed:
   Administrative Boundaries
   Population
   To select them, click the relevant left-hand boxes.



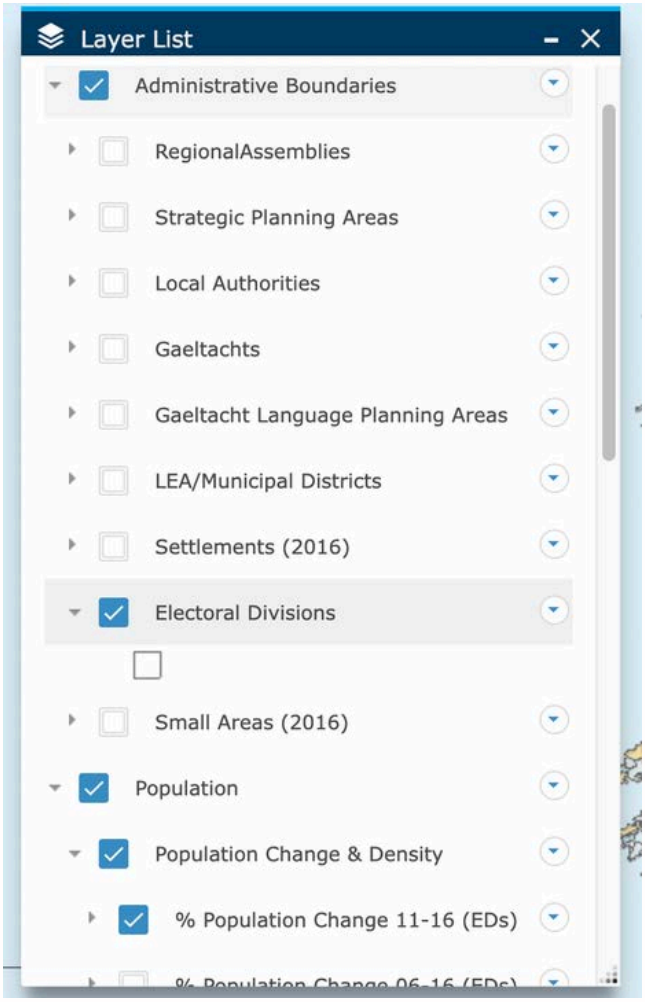
To see the different types of administrative boundaries and the different population data available, you will need to double click on both of these topics in turn to see the drop-down submenus.



5. Double click on the administrative boundaries, this will give you access to lots of potential administrative units with different boundaries.

You can view the local authority boundaries, regional assemblies, etc. but if you want to select the Electoral Divisions (see the layer list), this will allow you to view population change in smaller areas.

CCE L12WS: AIRO INTERACTIVE TASK

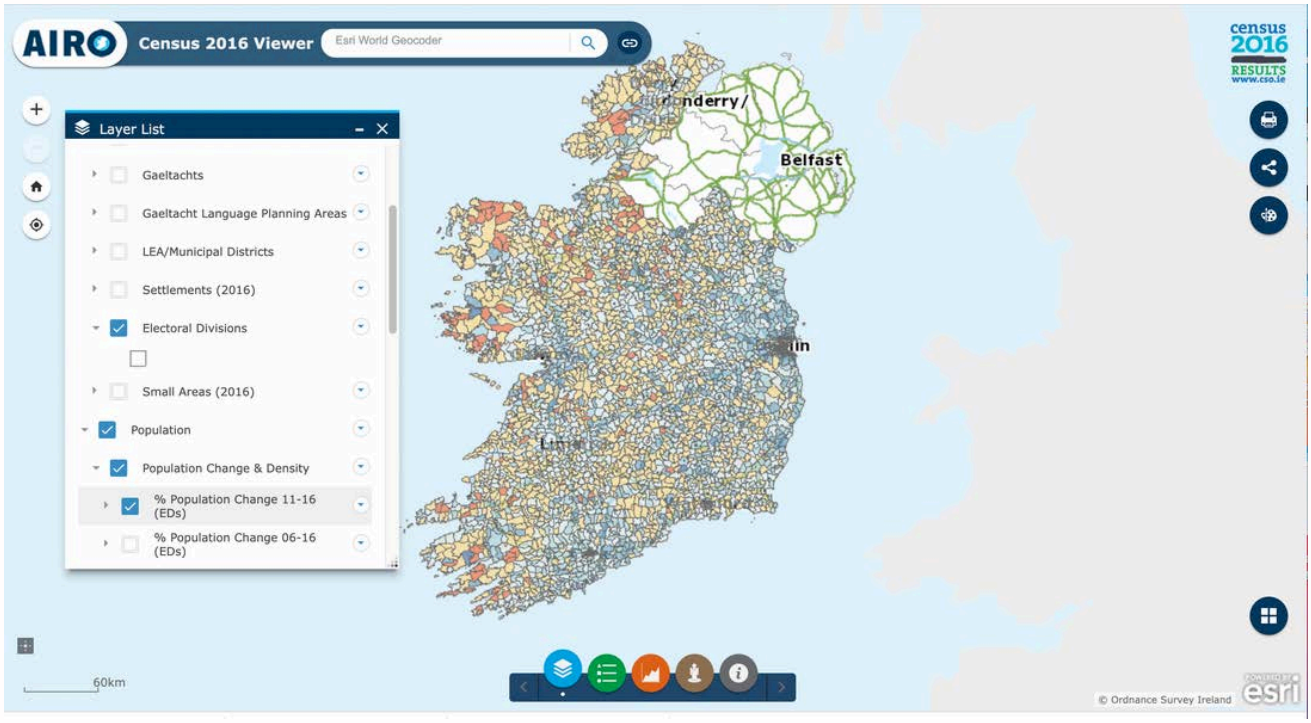


6. You will also need to double click on population so that you see the drop-down menu.

7. Double click on Population Change and Density, then from the second drop-down menu select % Population Change 11-16 (EDs).

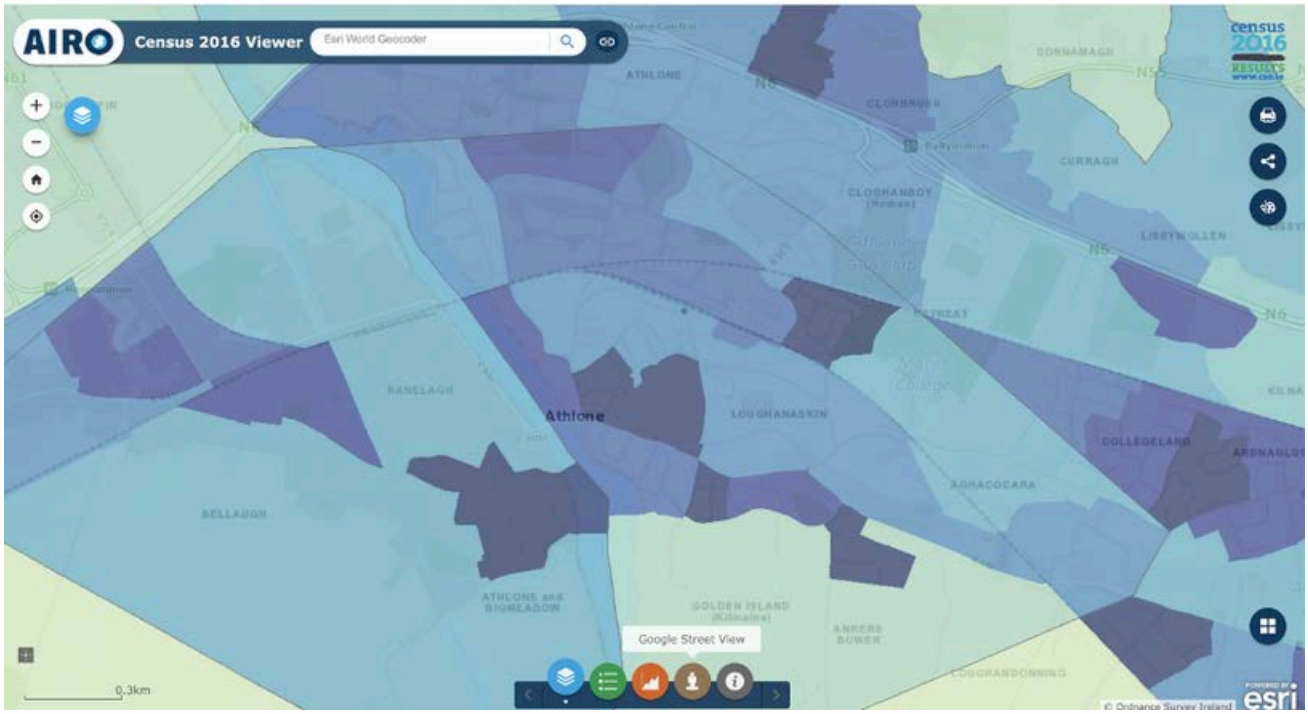
   The map (see below) will now show the electoral divisions across the country and you can zoom in using the + symbol to look at a specific area.

The example below is zoomed in to look at the town of Athlone.



CCE L12WS: AIRO INTERACTIVE TASK

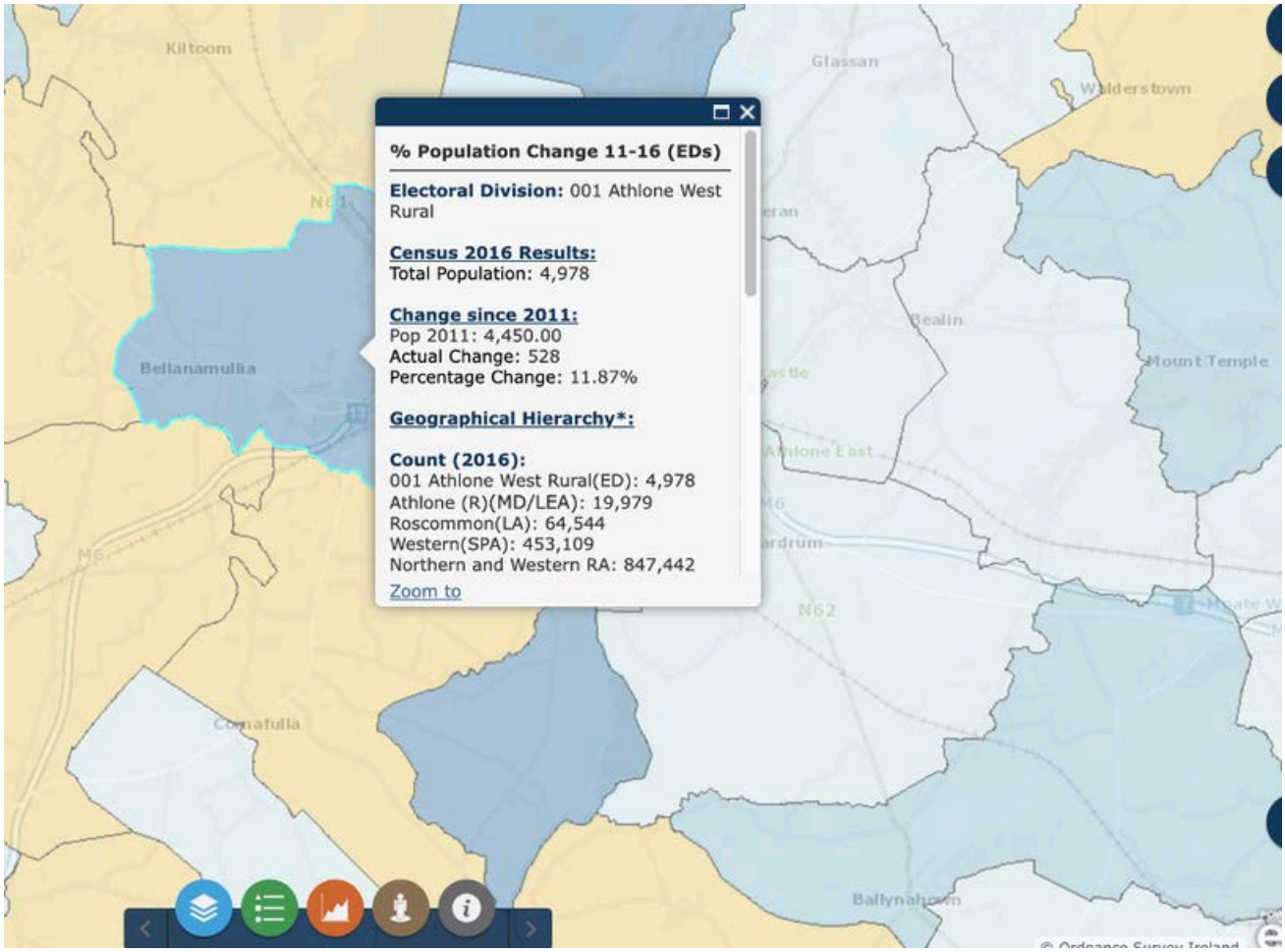
8. You can now click on each highlighted electoral division and view the population change that has occurred between the 2011 Census and the 2016 Census of Population.



The yellow and orange colours show declining population, while the blue colours show increases, the darker the blue the greater the population increases. See the legend below.

CCE L12WS: AIRO INTERACTIVE TASK

When you click on an Electoral Division, a table appears with the detailed information on the change in % population between 2011 and 2016. This includes the exact % change in population and the actual increase in numbers.



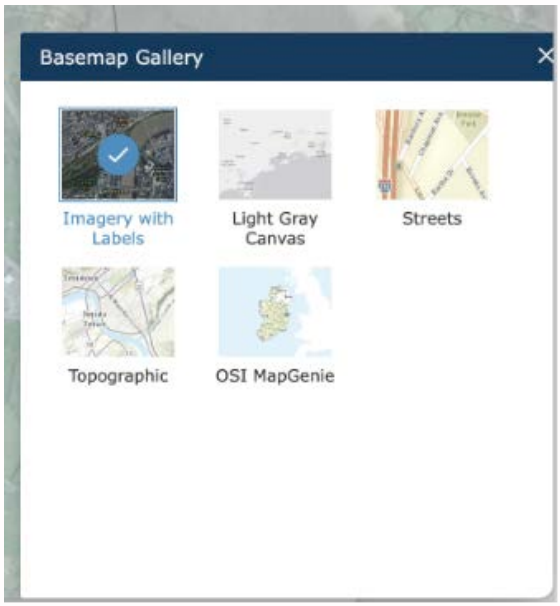
This is very useful for getting detailed information about population change.

For example in the Electoral District on the edge of Athlone that is highlighted, you can see that there has been a growth in the population of this area of 11.87% between 2011 and 2016, and this was an increase of 528 people.

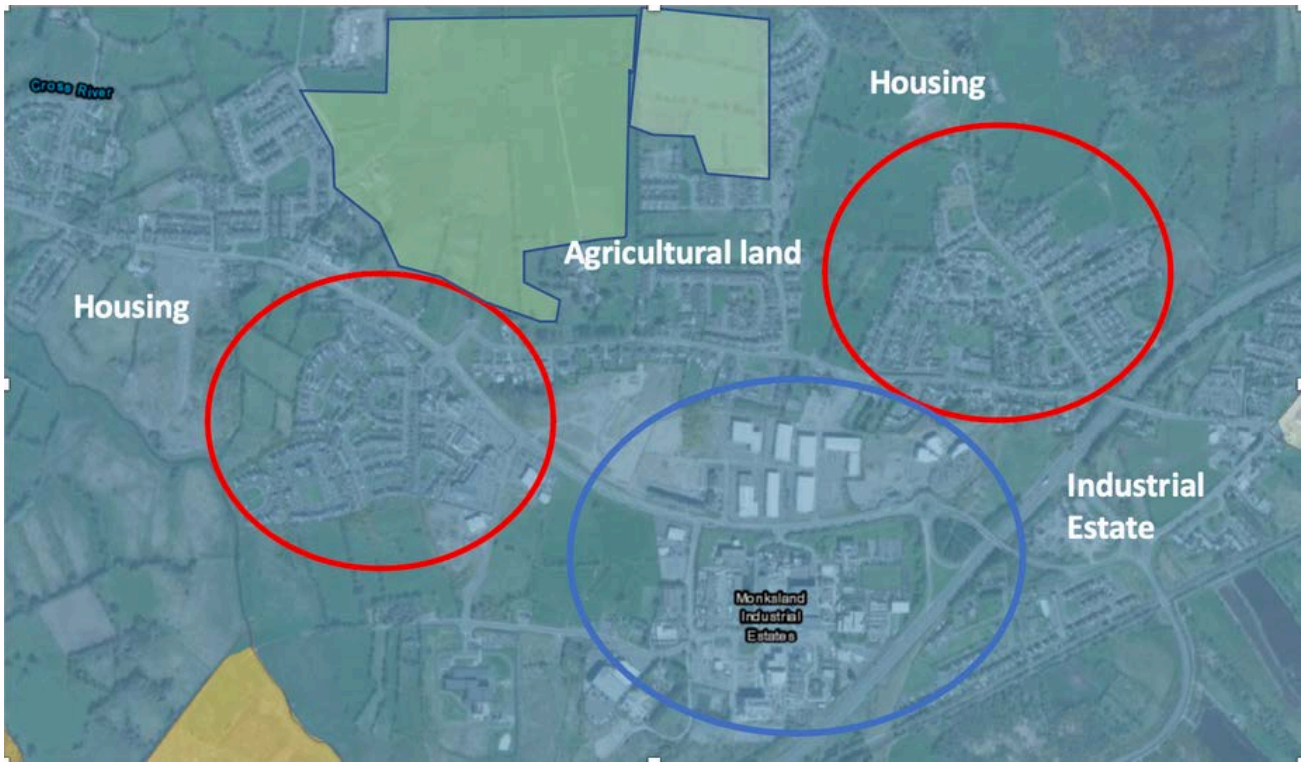
To see the nature of development in the area you can change the base map to an aerial photo. To do this click the Base Map viewer and change to the ‘imagery with labels’ option.

CCE L12WS: AIRO INTERACTIVE TASK

This allows you to see that this Electoral Division is largely an edge of town area (see map below) as it shows a mix of rural agricultural land, an industrial estate and a number of housing estates.



Notice the layout of the housing estates are relatively low density.



You can explore other aspects of population growth and other census information. You can see the amount of growth in areas over a longer period from 2006 -2016 by going back and ticking this layer in the layer options. Using this tool and the attached task sheet explore population change and where this population change is occurring in different towns and cities in Ireland.

CCE L12WS: AIRO INTERACTIVE TASK

TASK 2: EXPLORING IRISH TOWNS AND CITIES

In your group pick an Irish town or city to explore.

1.Name of Town or City: _____

Using the AIRO Census mapping tool provide the following information:

2. In your chosen town or city, identify the location where the most growth has occurred. Name the Electoral Division or number of Electoral Divisions where this growth has occurred.

_____

From the data and map, provide the following information:

3. In the Electoral Division or number of Electoral Divisions with the greatest growth, what was the population in the Electoral Division(s) in 2011?

_____

4. What was the population in the Electoral Division(s) in 2016?

_____

5. What was, the overall change in population numbers in the Electoral Division(s) between 2011 and 2016?

_____

6. What was the percentage change in population between 2011 and 2016?

_____

7. Describe spatially where most growth is occurring (e.g in the city centre, suburbs, edge of the built-up area).

_____

_____

_____

CCE L13WS: APPENDIX 1

Developing Planning Policies

A planning policy can be described is a set of ideas that is used as a basis for determining how development and various changes to the built environment will be managed. A policy could, for example, set out details of how older buildings are to be conserved. A transport policy could set out ideas for reducing car traffic and increasing cycling and walking.

Example of a General Policy for Mixed-Use Development:

It is a policy of some councils to develop more sustainable villages and towns by encouraging a better mix of uses in village and town centres.

To develop your own policy, think about a specific objective that you think needs to be changed in the area you have looked at, maybe it is housing, transport or green space.

An objective is a measurable or defined action or set of actions that can bring about some element of your overall policy. If your policy is to encourage a better mix of uses in the town centre, village or neighbourhood centre, your policy objectives might give a list of actions to achieve this i.e.

- All new developments in the village/town centre area will incorporate a mix of uses.
- The ground floor of all new apartment developments in the village/town centre will include non-residential use.

Here is an example of a transport policy objective from the Dun Laoghaire Rathdown County Council Development Plan for 2022 -2028. The policy objective relates to the overall planning policy of ensuring that the towns and villages in the county act as multifunctional centres, which in addition to providing important retail uses (shopping facilities), also provide a range of other uses including leisure and recreation, employment and tourism, civic, community, cultural, health and education for the communities they serve.

The policy below is focused on accessibility to centres by sustainable transport.

7.2.3.2 Policy Objective MFC2: Accessible and Inclusive Multifunctional Centres

It is a Policy Objective of the Council to promote accessibility to Major Town Centres, District Centres and Neighbourhood Centres by sustainable modes of transportation in order to encourage multi-purpose shopping, business and leisure trips as part of the same journey. Dun Laoghaire Rathdown County Council Development Plan 2022-2028 p 143

Try to write your own policy in the same way -

It is a Policy Objective of the [insert name] County Council to...

13 CLIMATE ACTION

Appendix 2 Sustainable Activity and Mobility Framework, Interventions to Achieve Net Zero Transport

Table 2.1. Interventions, grouped according to the SAM framework

Substitute trips
Active travel infrastructure
Cycling infrastructure - genuine connected network
Walking infrastructure - genuine connected network
Logistics infrastructure
Micro-consolidation - cargo bike / electric vehicle last mile delivery
Flexible pick up / drop off points for home deliveries
Land use planning
Co-working spaces (local, in new developments / disused shops)
Mixed use developments meeting a greater range of local needs
Recreation space embedded in neighbourhoods
Local amenities within short walk and cycle (15-minute neighbourhood)
IT infrastructure
Home working (superfast broadband and house design to allow for work space)
Remote study and 'blended learning' for further and higher education
Digital public services (e.g. GP online)

Shift modes
Shared mobility
Bike share
eBike share
Car share (club)
Electric vehicle car share (club)
Mobility hubs - integrated network
Modern public transport
Demand Responsive Transport & Rideshare
Bus Rapid Transport
Bus priority traffic lights
Automated vehicle shuttles - last mile connectivity
Mobility as a Service - integrated public transport, on-demand and shared mobility services
Street design & access restrictions
Low Traffic Neighbourhoods - active travel priority
Car free zones
Street space reallocation from car to active and public transport
20mph zones
Controlled parking zones
Congestion charging zones
Fiscal measures
Workplace Parking Levy
Fuel tax

Switch fuels
Electric vehicle (EV) charging infrastructure
EV charging (residential) + vehicle to grid technology
EV charging (stations / shops / work / mobility hubs)
Hydrogen fuel cell charging (stations / shops / work)
Conversion of fleets
Convert commercial delivery and servicing fleets to EVs
Convert municipal delivery and servicing fleets to EVs
Convert public transport fleets to EVs
Fiscal measures
Grants to trade in petrol / diesel for EVs
Access restrictions
Low emission zones - Clean Air Zones

These are just some spatial planning policy interventions which could be adopted to achieve Net Zero emissions from Transport. The ideas here might help you think about the type of policies that you could suggest for your local area.

Source: RTPI (2021) **Net Zero Transport: The Role of Spatial Planning and Place Based Solutions**, London, RTPI, p 14.
https://www.rtpi.org.uk/netzerotransport

CCE L13: EXPLORING SETTLEMENT PATTERNS

Think about the area / neighbourhood / town surrounding your school. You can use Google Maps or Google Earth to look at the area to help you.

1 Name of the area and a description of where it is in the local area / neighbourhood.

_____

_____

2. Looking at the wider neighbourhood, identify three elements of the layout of the area that are negative from a climate perspective e.g. low density, lots of parking, lots of roads. Identify the area and write down the negative elements.

_____

_____

_____

3. Using the same area, identify elements that are positive from a climate perspective, e.g. an illustration of compact land use (apartment development), areas with small amounts of parking, good communal open space, cycle lanes, combining different uses. Identify the area and write down 3 positive elements.

   You can use some of the prompt material included in Appendix 1 as an aid, this lists some positive elements that can deliver more climate-positive places.

_____

_____

_____

4. Imagine that you are the planning team for the area and have been asked to produce one new policy in relation to the layout of either the existing settlement or a new undeveloped site (it could be a derelict site or an institutional site) in your neighbourhood / village / town which you think will have the best climate impact.

   For ideas on types of policies and how policies are phrased see the information contained in appendix 1 and 2.

CCE L13: EXPLORING SETTLEMENT PATTERNS

Start by thinking about the negatives and positives you have identified, then think about addressing the negatives and enhancing the positives by describing a policy that would reduce climate impacts. This can be a written policy included below or alternatively you can use a diagram, or a sketch map showing an actual policy implementation. You could do a quick sketch map and show a new cycle lane for example or the location of an electric vehicle charging station.

Policy: It is a policy of the County Council to

_____

_____

_____

_____

_____

_____

_____

_____

_____

Alternatively, create a diagram or sketch map showing policy implementation

5. Present back – appoint a speaker from your group to present your policy in 2 minutes to the rest of the class.

CCE L13WS: REVIEWING VOCABULARY

Working in pairs you will work with your partner to find definitions of the following terms, by using online dictionaries or searching using Google. Rewrite the definitions in your own words:

Compact Development

_____
_____
_____
_____
_____

High-Density Development

_____
_____
_____
_____
_____

Low-Density Development

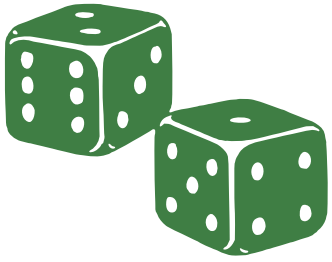
_____
_____
_____
_____
_____

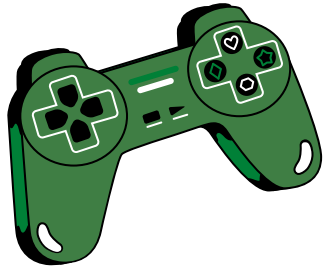
In class compare your definitions with those of other groups. Create a glossary of terms.

Compact Development

High-density Development

Low-density Development





L16: Gamer Journey Map

13 CLIMATE ACTION

	EXPERIENCE	AWARENESS	ENGAGEMENT	AFTER PLAYING
think	What is your game's purpose	What makes your game idea different?	How will people play your game?	Why will people keep playing your game?
feel	How do you want your game to look or feel?	What do you want people to notice about your game?	How do you want people to feel about your game?	How do you want your user to feel after their visit ?
do	What will you need to do to make it look / feel this way?	What research will you need to do to make sure this happens?	How will you know if you have been successful?	How will you follow up with your players?

CCE L16WS: STAKEHOLDER MAPPING

13 CLIMATE ACTION

Stakeholder Mapping

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

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

As a team, create a list of all the different individuals, groups, or organisations that you can begin to identify and categorise with whom you might need to discuss or share your challenge and your game.

SERVICES / PROVIDERS

USERS / BENEFICIARIES

YOUR CHALLENGE

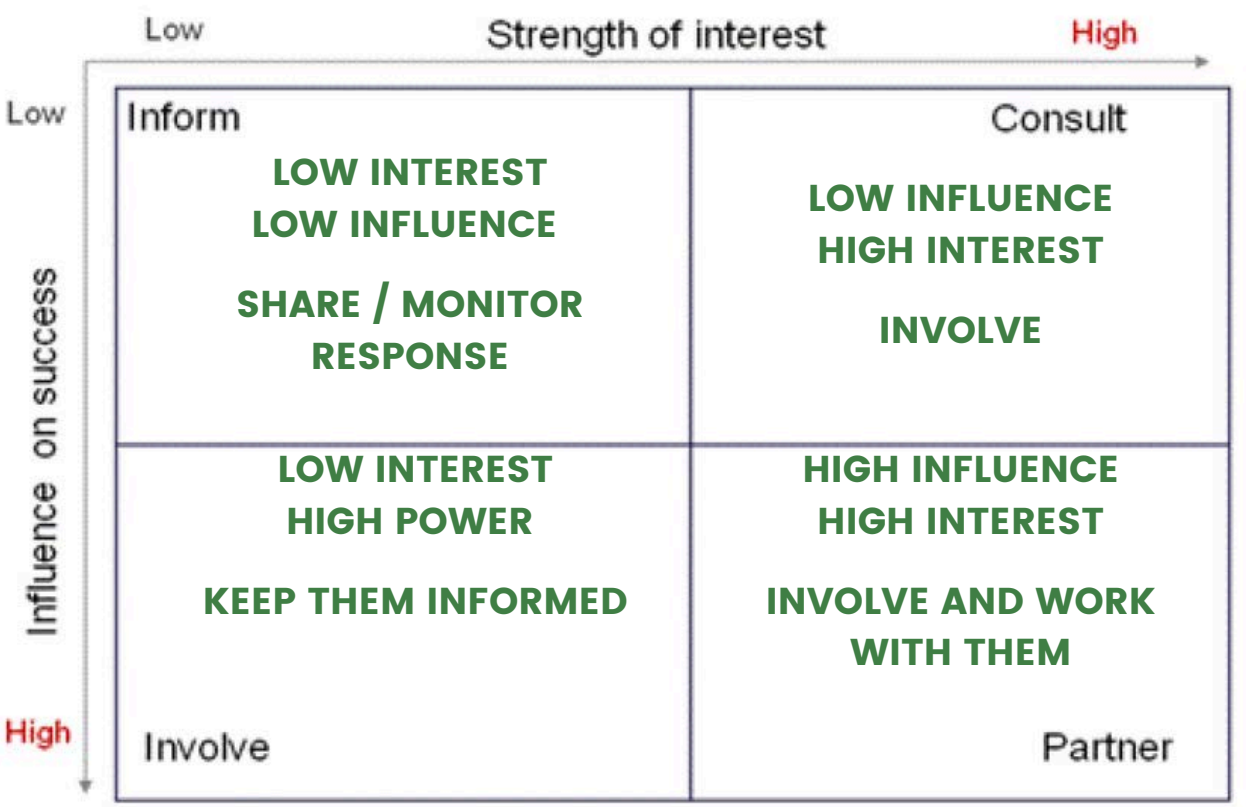
GOVERNANCE

INFLUENCERS

CCE L16WS: STAKEHOLDER MAPPING

DIFFERENT WAYS OF MAPPING

Now that you have a list you are going to practice organising them with using your challenge (the driving question) outlined below the impact square at the bottom of the page.



This is your challenge.

You are developing a game / elements of a game to teach other young people your age (15-17) about climate change, adaptation and taking action. Teachers will use your game to work with their students.

Use the grid above to organise your list of stakeholders and how you will need to communicate and engage with them.

CCE L16WS: Understanding The User

What does your gamer think and feel?

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

THINK AND FEEL

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

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

HEAR

SEE

What does your gamer see?

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

WHAT DO THEY SAY AND DO

- What other things might your user do?
- What other things are they interested in?

CCE L17WS IDEATE RAPID REMIX

Team Name _____

Date _____

13 CLIMATE ACTION

Developing a Game

This worksheet will help you play with game fundamentals. Fill in the boxes - we will then work with the whole group to develop a number of possible game ideas using the Rapid Remix process.

HOW MANY PLAYERS?	HOW DO PLAYERS MOVE AROUND IN THE GAME?	WHAT ARE THE GAME'S CORE COMPONENTS?	WHAT ARE THE GOALS / OBJECTIVES OF THE GAME?

#PLAYERS	PLAYER MOVES	COMPONENTS	GOALS

#PLAYERS	PLAYER MOVES	COMPONENTS	GOALS

#PLAYERS	PLAYER MOVES	COMPONENTS	GOALS

CCE L17WS: RAPID REMIX SWOT

This worksheet will help you play with your game ideas using an adapted Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. Fill in the boxes with the variables for three different game ideas generated using the Rapid Remix activity.

PURPOSE	STRENGTHS	WEAKNESSES	USERS

PURPOSE	STRENGTHS	WEAKNESSES	USERS

PURPOSE	STRENGTHS	WEAKNESSES	USERS

CCE L18WS: CREATING A CONCEPT STATEMENT

13 CLIMATE ACTION

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 your game and its users.

1. Define the need in two sentences

You are developing a game for... Who? (tell us about your gamer). To do what? (This is the purpose of the game, include your specific theme / game focus).

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

3. Gamer's needs - tell us about your gamer and their needs from a game

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

CCE L18 – 20: RAPID RESPONSE PROTOTYPING

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.

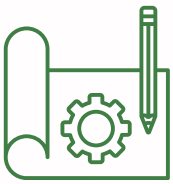
_____

g) What are the five stages of design thinking?

_____ _____ _____

_____ _____

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



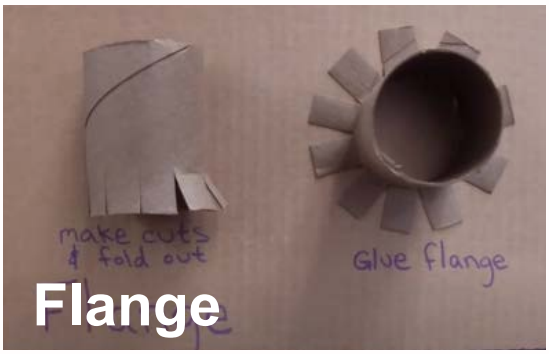
CCE L18 – 20: RAPID RESPONSE PROTOTYPING

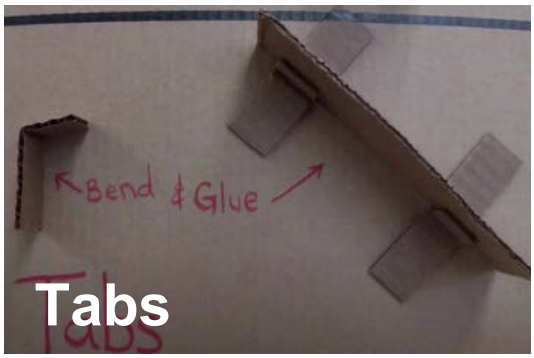
READY, STEADY, BUILD: KNOWLEDGE GATHERING

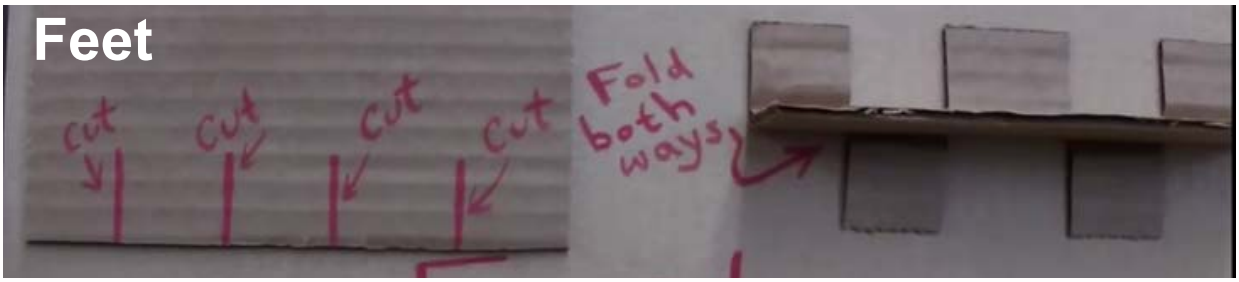
Today we are going to experiment with rapid prototyping with materials that we have to hand. You will explore three basic elements - useful for rapid prototyping:

- Structure
- Fastening / Joining
- Surface

1. Structure - 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.







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

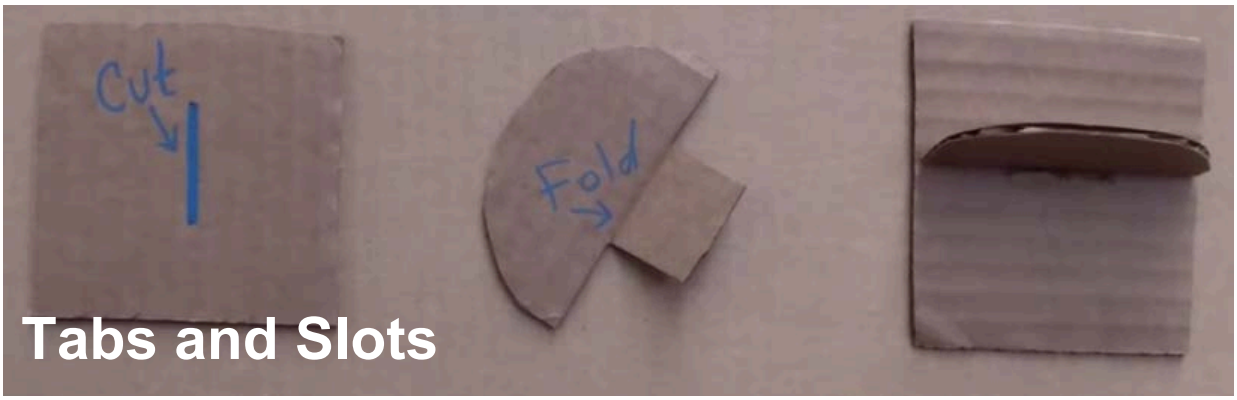
Write down the key ideas in the video. Use bullet points.

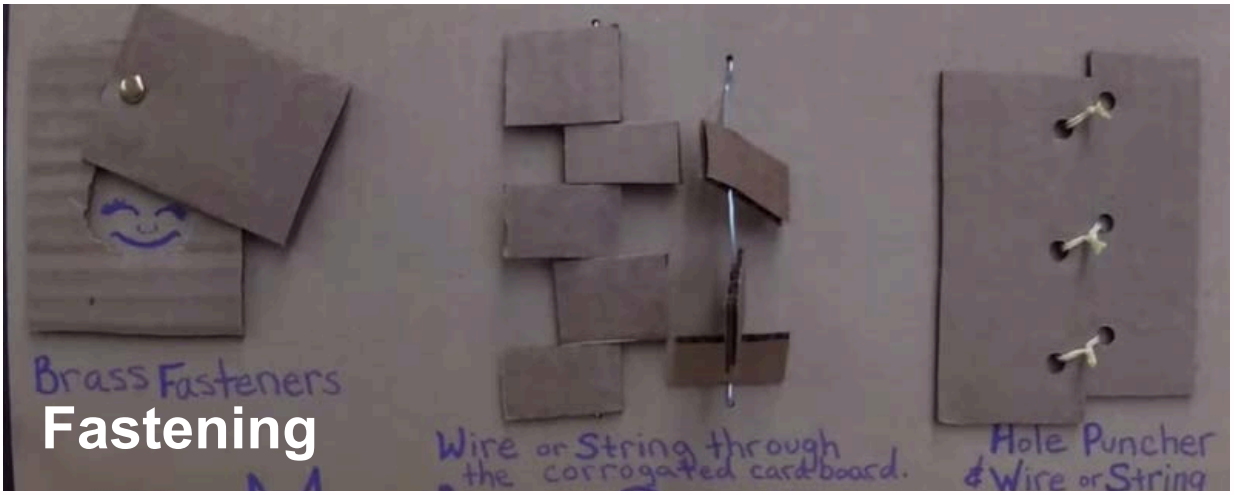
Creating 3D sculptures https://www.youtube.com/watch?v=pi6Y7yCz7Y8

CCE L18 – 20: RAPID RESPONSE PROTOTYPING

13 CLIMATE ACTION

2. Fastening / 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 https://www.animatedknots.com/complete-knot-list

CCE L18 – 20: RAPID RESPONSE PROTOTYPING

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

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 and easily cleaned and pleasurable to look at.

CCE L18 - 20: RAPID RESPONSE PROTOTYPING

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 one 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?

CCE L21 – 22WS: VISION BOARD SUPPORT

13 CLIMATE ACTION

Who are you/your team?
Does your game have a name?

What is your game about? (players, backstory, landscape/world, purpose)

Who are your characters? Why did you select them? How do they contribute to the game?

How does the game increase awareness of climate change and adaptations?

What makes your game different?
What is your unique selling point?

CCE L20WS - 21: CREATE YOUR GAME VISION BOARD

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

Keep it colourful and visual Our brains love images.

STEP 1 THE 'WHAT' OF YOUR GAME

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

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

STEP 3 THE 'WHO 'OF YOUR GAME

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

Vision board examples on Pinterest.

https://www.pinterest.ie/scrappinmichele/vision-board-samples/?lp=true

STEP 2 THE 'WHY 'OF YOUR GAME

Use pictures, texts and quotes that help you show how your game address the challenge and raise awareness of climate change and adaptation for your players.

STEP 4 THE 'HOW' OF YOUR MARKETING FOR YOUR GAME

How will you reach your players / gamers? Use pictures, texts and quotes, that help you tell the reason for your game.

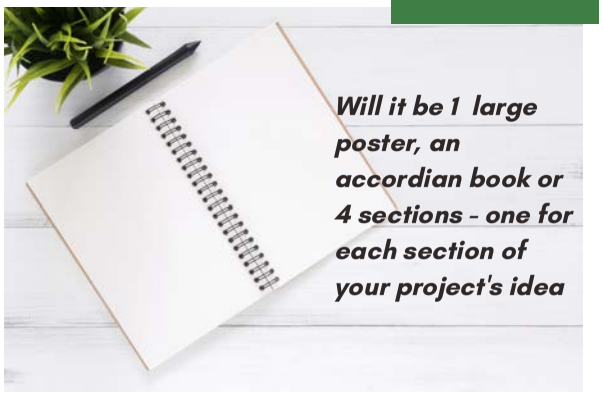
CCE L20WS - 21: CREATE YOUR GAME VISION BOARD

STEP 5 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 6 DECIDE ON WHO WILL DO WHAT

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



STEP 7 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.

STEP 8 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 9 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.

REMEMBER MESSAGE AND AUDIENCE

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

CREATIING A DIGITAL VISION BOARD USING CANVA

Step 1: Gather and share your digital Images

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

Step 2: Open an account in Canva

https://www.canva.com/

Step 3: Open a new design in Canva

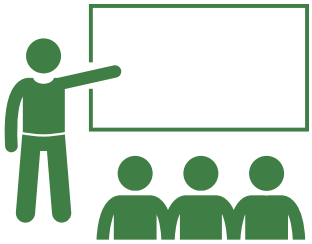
Once you're signed in, you'll want to click "Create a Design," and choose the template you like, perhaps poster or photo collage.

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

Step 4: Import your images into Canva

https://www.pinterest.ie/sunflowerways/creating-a-vision-board/

CCE L28WS: PECHA KUCHA ANALYSIS



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

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

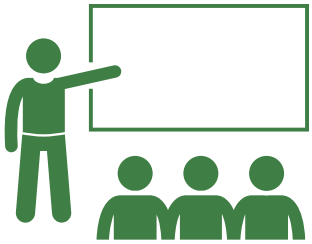
- What did you like about the format?
- Was there anything you didn't like or thought was boring?
- What stood out most for you about the presentation?
- Does this feel easier or harder as a format for a presentation?

2 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?

CCE L28WS: PECHA KUCHA ANALYSIS



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

3 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?

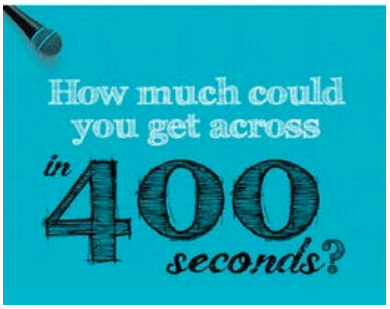
4 Think about your answers above - use them to start thinking about your presentation.

- 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?

CCE L29 – 30WS: PECHA KUCHA PLANNING

Your task: Create a basic Pecha Kucha on your game and its development

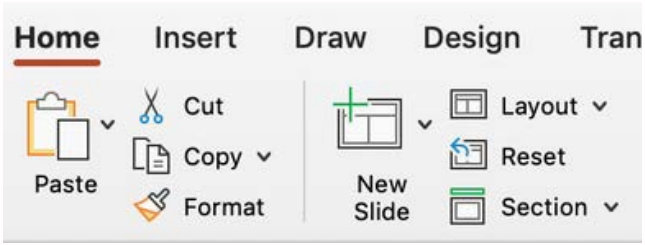
20 SLIDES X 20 SECONDS =
6 MINUTES & 40 SECONDS!



You can access Powerpoint through Office 365

- **How to make a Pecha Kucha**
  https://www.youtube.com/watch?v=32WEzM3LFhw

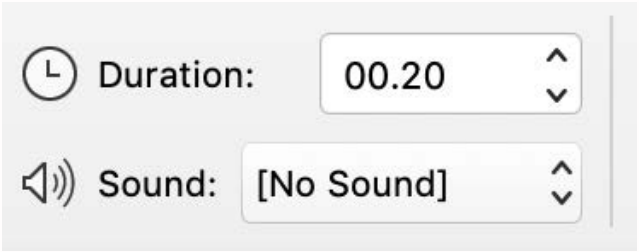
- **Using powerpoint for a pecha kucha**
  https://www.youtube.com/watch?v=q0XWIPbXmVY



1. 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.
2. 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



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.

CCE L29 – 30WS: 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

- https://prezi.com/
- https://www.canva.com/
- https://www.libreoffice.org/
- https://pc.wps.com/

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

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
- https://en.wikipedia.org/wiki/Wikipedia:Public_domain_image_resources
- https://blog.hubspot.com/marketing/free-stock-photos
- https://blog.snappa.com/free-stock-photos/

Examples of Pecha Kuchas

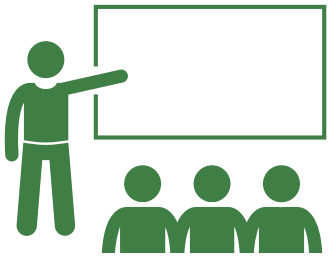
- https://www.pechakucha.com/presentations/daily-acts-of-creativity
- https://www.pechakucha.com/presentations/random-acts-of-courage
- https://www.pechakucha.org/cities/dublin/presentations/fenced-in
- https://www.pechakucha.com/presentations/changing-the-rules-of-our-reality-with-technology
- https://www.youtube.com/watch?v=FHuB4my_UT4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

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?

CCE L29 - 30: PECHA KUCHA OUTLINE

13 CLIMATE ACTION



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

Planning Your Slides

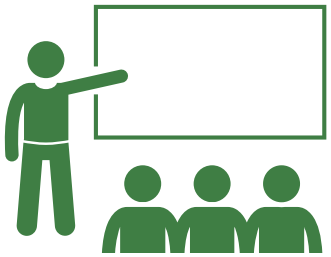
What are the most important things you want people to learn from your presentation? Use the boxes to help you plan your outline.

1 Slide 1: Greeting and introduction location

2 Slide 2: Introduce the problem or your topic

3 Slide 3 - 18 : The Core of your presentation

CCE L29 - 30: PECHA KUCHA OUTLINE



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

4 Slide 3 - 18 continued : The Core of your presentation

19 Slide 19: Conclusion - Start to talk about the main message you want to leave with your audience. End with a strong image and thank your audience for listening

20 Slide 20: References - It is important to reference all the sources you used for the Pecha Kucha. This includes all images, and websites that you used to get your information from

CCE L29 – 30WS: PECHA KUCHA CHECKLIST

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.

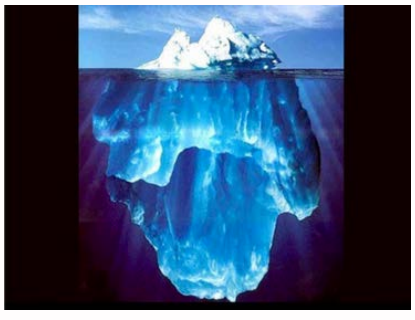
- Use the points below to help you order your outline
- Think about how many people are in your group
- Think about how many slides that is each per person
- Divide your content between your group
- You should always have an introduction slide
- You should always have an summary slide at the end
- You 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 will have to import images into your Pecha Kucha template - instructions are in the Pecha Kucha planning guide.
- 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.

CCE L29 – 30WS: PECHA KUCHA CHECKLIST

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.

LESSON 31 PEER REVIEW TABLE

Team: _____

Team:				
Team: