IO2 – Climate Change Challenge WebQuests

Envirohacks

SOLUTION NOT POLLUTION

Building Problem-solving Skills of Youth to Address Environmental and Climate Change Issues

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WebQuest Theme: Envirohacks

TIME ALLOCATED:	6-hours
TITLE OF **THE WEBQUEST:**	Developing a #Envirohackathon Pitch

INTRODUCTION

When we think about the road ahead of us to fight against climate change, the task seems unsurmountable. Saving the planet seems impossible, and too much for one person to accomplish. Many of us become despondent, because we can't imagine how small changes to our habits and behaviours will have any sort of an impact on a global scale; but don't despair! If everyone makes small changes to their habits – walking or cycling instead of always driving their car, shopping for local and seasonal food instead of buying food with a lot of carbon miles, repairing clothes instead of throwing them in the trash when they are torn or frayed, buying second-hand clothes instead of always buying new, bringing reusable cups and shopping bags with them, and not using single-use plastics – then all of these small changes can add up to have a big impact on the environment. There are many different ways and means that we can reduce our carbon footprint. The Internet is full of 'top tips' and 'list of 10 changes' we can make to how we live our lives, so that we are kinder to the planet. These remedies, or 'hacks', can be effective in helping to protect our climate, ecosystems and planet, if they are adopted *en masse*. By changing our habits and behaviours and becoming more conscious of the impact that our actions have on the environment and on the climate, we are taking our first step on a long road to saving the planet. And we can do it if we all work together.

TASK

You have been following the Fridays for Future and Extinction Rebellion movements online. You are aware of the impact that our modern-day behaviours and habits are having on the environment, and how climate change is being accelerated as a result of our actions. You are researching what Irish activists are doing to address this issue on a national level, when you find a notice that some tech firms in Dublin are hosting an 'Enviro-Hackathon'. The aim of this event is to encourage young people, youth groups and communities to get involved

in finding innovative solutions to the climate issues that are affecting Ireland. Your interest is peaked! In order to enter the competition, you will need to find three other team-mates. Working as a team of 4, you will research and design your own 'enviro-hack'. Your 'enviro-hack' should address a national or local environmental issue. At the end of this task, you and your team will develop a 5-minute pitch that you will deliver to the selection panel for the Enviro-Hackathon. The team with the best idea will be supported to bring their 'enviro-hack' to the market.

PROCESS

Step 1: Blended Brainstorming

Great start, you have formed your team. Now the first step that you and your team should complete is to do some brainstorming. What are you brainstorming? You need to identify the national or local environmental issue that your enviro-hack will address. The first step to finding a solution, is to define the problem! In your team, conduct a short group brainstorming activity, where you each think of national or local environmental issues that are affecting Ireland. All you need for this is some pens and paper, and a space where you can think freely. Issues you could target may include food waste, water quality, inadequate recycling facilities, increased risk of flooding, threats to local biodiversity – the list is endless. The key with brainstorming is that there are no bad ideas, so when you think of 'climate change in Ireland' or 'pollution in Ireland', jot down all of the problems that come to mind. You can decide to discard some of these issues and problems in the next step. For some advice on good techniques for a group brainstorming session, check out the following links, or conduct your own research online about different ways to brainstorm – why not try and see if some music will help to enhance your brainstorming!

- How to Brainstorm Effectively: https://www.mindmeister.com/blog/brainstorm-in-a-professional-environment/
- 7 Techniques for More Effective Brainstorming: https://www.wrike.com/blog/techniques-effective-brainstorming/
- How Music Can Amplify Your Next Brainstorming Session: https://barefootbrainstorming.com/blog/how-music-can-amplify-your-next-brainstorming-session/
- [VIDEO] Music for Brainstorming, Productivity, Idea Generation (Stimulating Background Instrumental): https://youtu.be/B5ddj0pnfJU

Now that you have completed the first part of your brainstorming activity, you may find that there are some issues you are very familiar with, and others which you need some more information on to fully understand. This is why it is now important that you and your teammates conduct some 'online brainstorming'. By this we mean, that you each take a topic from the list of issue you have compiled, and spend the next 15 minutes researching online, and finding as much information as you can about that topic. After 15 minutes, your whole group should get back together and share with one another what you have found. For tips on how to conduct accurate and specific Google searches, the following links are a god starting point:

- Use These 33 Google Search Tricks to Find Exactly What You're Looking For: https://zapier.com/blog/advanced-google-search-tricks/
- [VIDEO] Google Search Tips: https://www.perkinselearning.org/technology/posts/google-search-tips
- [VIDEO] Google Tricks That Will Change the Way You Search: https://time.com/4116259/google-search/

If you need a little guidance on where to start with researching the environmental issues that are currently facing Ireland, and those which we will face in the future, the following links serve as a good starting point for your research:

- How does climate change affect Ireland?: https://spunout.ie/life/article/how-does-climate-change-affect-ireland
- 5 ways climate change will affect Ireland: https://www.irelandbeforeyoudie.com/5-ways-climate-change-will-affect-ireland/
- The Environment: https://ec.europa.eu/ireland/news/key-eu-policy-areas/environment_en
- Effects in Ireland: https://www.gsi.ie/en-ie/geoscience-topics/climate-change/Pages/Effect-in-Ireland.aspx

Step 2: Assigning Roles

Well done, you have completed some blended brainstorming and now you are ready to develop your idea a little further. In this step, you will first choose the issue that you will address. For this, you and your teammates will need to evaluate the quality of your ideas, and to decipher which ideas are going to be most realistic for you to develop a 'hack' or solution, to address. In this step, you and your team also need to decide whether you will design your hack to have a local or a national focus? And to determine why you have chosen

this focus for your hack – this will all be useful information to have in mind when you go to develop your pitch later on! For now, you need to narrow down your list of issues, to just one. For this task, you might consider using an idea evaluation matrix or you and your group can complete a short idea validation exercise. These are simple tables that you can complete to screen the quality, relevance and creativity of your ideas. This could be a difficult task – to pick just one idea - but the following links will help you to complete some guided idea evaluation and validation activities:

- Idea Evaluation Matrix: Step-by-Step Guide: https://ideadrop.co/idea-evaluation-matrix-step-by-step-guide/
- [VIDEO] How to Use the Validation Board to Test Your Start-up Idea: https://youtu.be/HhoducyStMw
- [IMAGE] 4 Steps for Idea Validation: https://images.app.goo.gl/Spv3TniQgNLcShUXA

Great job, now that you have selected which issue your enviro-hack is going to address, your next step is to unpack this issue further, and for this you need to assign some roles in your group. In order to find a workable solution that will address this issue, you need to understand it fully, and this requires more research! In your team, try to identify four different aspects of the issue you have uncovered, that may yield ideas for possible solutions you can develop. Then, assign one topic to each member of your team, and take 45-60 minutes working independently to examine this aspect of the issue. Identify the factors that contribute to this issue, and research for solutions that others have already tried and tested to address the issue. At the end of this solo research, don't be surprised if you and your team will have a lot of data to sift through!

Step 3: Developing your Hack

Your team are doing great, you are ready to start the exciting step: designing a hack or solution that you can use to address the issue you have chosen to focus on! This is one of the longer steps in the process. Here, you need to discuss with your teammates the outcomes of everyone's solo research. For this, we recommend that each team member get 5-10 minutes to present and discuss what they have uncovered in their research, this will help to bring the rest of the group up to speed. When each of you have finished with your presentations to each other, hold a short debrief of 3-5 minutes after each presentation to think of what could be done to address the issues that your research has uncovered. What solutions can you find? Write down some bullet points from each of the four de-briefing sessions.

If you find that you need some inspiration on the types of 'enviro-hacks' that will help you to reduce your carbon footprint, and tackle the local or national environmental issue at hand, the following links might provide you with some inspiration:

- 19 Environmental Hacks That Will Make You Say, "That's Actually Genius": https://www.buzzfeed.com/stephenlaconte/ways-to-help-earth-clever
- 10 Simple Eco-friendly Hacks that Make a Huge Difference: https://www.rte.ie/create/2017/0202/849674-behold-10-simple-eco-friendly-hacks-that-make-a-huge-difference/
- Four Eco-Hacks you Need to Know: https://www.dw.com/en/four-eco-hacks-you-need-to-know/a-18396136
- 20 Easy Sustainable Swaps to Reduce Waste: https://www.theedgyveg.com/2018/04/21/20-easy-sustainable-swaps-reduce-waste/

After you have all had the opportunity to present and discuss your findings, you need to repeat the activities from steps 1 and 2. Take the bullet points as your starting point; brainstorm solutions that could address the different aspects of the issue at hand, and then evaluate the solutions that you have generated to see which would be most effective, realistic and also achieve the greatest impact in addressing your environmental issue.

For your idea evaluation activity this time, you may wish to use some alternative evaluation techniques. The following links will present you with some alternative activities that work well with a small group:

- [VIDEO] What Is Six Thinking Hats?: https://youtu.be/UZ8vF8HRWE4
- [VIDEO] Devil's Advocacy: https://youtu.be/mACl0IYkg-8?t=54
- [INFOGRAPHIC] Six Thinking Hats: https://images.app.goo.gl/WpJVcbLKHFNskGVE8

When you have completed this lengthy step and evaluated all ideas you have come up with, you and your team should finally have selected the solution that you and your team will present in your pitch to the Enviro-hackathon. This step might take a lot of time, but it is key to having the winning pitch at the Hackathon!

Step 4: Planning your 5-minute Pitch

Congratulations for making it this far! The next step is for you and your team is to prepare your pitch for the Hackathon! The first decision you need to make is who will deliver your

pitch? Will it be one or two people form your group, or do you each want to share the allocated 5-minutes you have been given so everyone can contribute? Discuss it now in your group and make a decision together. Remember that you only have 5 minutes to deliver your pitch! You should aim to deliver your pitch as close to 5-minutes as possible, but make sure that you are not 1 second over the time limit, as you will be cut off by the judges and you may fail to land your crucial closing points.

When developing your pitch, you and your team will need to cover the following elements:

1. The environmental issue in question.
2. The scope of the issue – local or national?
3. Your motivation and rationale for choosing to address this issue.
4. The solution you propose to address this issue.
5. The environmental and societal impact that you expect your solution will have.
6. What evidence you have found to support this intended impact.
7. The approximate costs associated with implementing this solution.
8. A timeline for developing a pilot project to adopt and test this solution.

This is a lot of content to cover in just a 5-minute pitch, so you will need to work as a team to write a pitch that is concise and succinct. For this, ensure that you do not include any unnecessary information that will distract from the key points you want to raise. You may decide to create a set of presentation slides, called a pitch deck, to accompany your pitch, if so, the following links can help you to develop attractive and engaging slides:

- [VIDEO] Google Slides Tips and Tricks: https://gsuitetips.com/tips/slides/
- 25 Things You Didn't Know Google Slides Could Do: https://shakeuplearning.com/blog/25-things-you-didnt-know-google-slides-could-do/
- Pitch deck templates for start-ups: https://slidebean.com/pitch-deck-design

Remember, this is a competitive pitch and you want to win, so make your pitch as strong and motivational as possible. For some tips on how to develop a winning pitch, the following links will be a good starting point for some research:

- Pitching 101: How to write a compelling pitch: https://leighshulman.com/how-to-pitch/
- How to Write a Pitch in 8 Essential Steps: https://www.writersstore.com/the-8-steps-to-a-powerful-pitch/

- [VIDEO] The Airbnb Pitch Deck that raised $500K in 2009: https://youtu.be/uuxnzuH3XiM

You may even decide to take a more creative approach with your pitch and to produce a short video that will present your pitch to the panel of judges. This will work particularly well if you are proposing a solution to a local environmental problem, and you can show footage of the impact that the problem is having in your community. If you decide to choose this format for your pitch, the following links will help you to produce and edit a high-quality video on your phone:

- [VIDEO] How To Shoot CINEMATIC VIDEO with Smartphone: https://youtu.be/qhmtkfO8aAk
- [VIDEO] How to Film Like a PRO with your Phone ONLY | Budget-Friendly Professional Quality Video: https://youtu.be/qBThlPmmtUc
- 10 tips for shooting better video on your smartphone: https://www.techradar.com/how-to/phone-and-communications/mobile-phones/10-tips-for-shooting-better-video-on-your-smartphone-1316097
- 10 best video editing apps for phones and tablets: https://www.tomsguide.com/us/pictures-story/511-best-video-editing-apps.html

Whichever format you decide, the key to a good pitch is to practice the delivery. Once you have developed your pitch, make sure you write it out in full, practice giving the speech and remember to time yourself!

Step 5: Deliver your Pitch to the Panel

Congratulations to you and your team, you have reached pitch day at the Hackathon! Now all that's left is for your team to deliver your pitch. However you decide to deliver your pitch, we wish you the best of luck with it! To ensure that you deliver the pitch as best you can, the following links will help you to practice your public speaking:

- [VIDEO] Be a More Confident Public Speaker: https://youtu.be/tShavGuo0_E

- [VIDEO] Become a Better Speaker: 9 Essential Public Speaking Tips - College Info Geek: https://youtu.be/zZBJZ-dBVbE

- [COURSE] Speaking in public: https://learndigital.withgoogle.com/digitalgarage-ie/course/public-speaking

EVALUATION

As part of the assessment of this WebQuest, young people will be expected to work in teams to develop an idea, and then to pitch the idea for their 'enviro-hack' to a panel of judges from the Enviro-Hackathon – in this instance, this role will be taken on by the facilitator or youth worker. The aim of completing this short role-play activity is firstly, that young people will have a defined deadline for completing the task. In a typical Hackathon, creative teams collaborate on the spot to develop their new ideas and present their pitch within a given timeframe. These events foster a creative energy among the teams of individuals collaborating to develop an innovative idea or hack, and the aim of this WebQuest is to simulate this creative and collaborative energy; motivating young people to get involved and be engaged in developing innovative ideas to respond to the climate crisis we are facing. Delivering this pitch, however, will also give young people the opportunity to practice and develop their presentation and public-speaking skills; critical skills that they will need when they enter further education or employment. As such, this WebQuest gives young people the opportunity to practice delivering a pitch; heightened by the fact that this will be a competitive environment, with all teams in the group completing to win the top prize. The youth worker facilitating this session can choose a winning team, based on the quality of the pitch and the idea being pitched.

As a self- assessment exercise for this WebQuest, young people will then be asked complete a short self-reflection exercise and write 350-400 words on how they rated their performance in the task, what elements they enjoyed or didn't enjoy, etc. If the young people in the group are reluctant to write this self-assessment, the youth worker can accept the answers to the self-assessment in the form of a short vlog entry. The following questions will guide this self-assessment:

- This is a team-work task. Did you enjoy working as part of a team? How did you think you performed as part of a team? What role did you take on within the team? Would you have preferred to complete this activity on your own, rather than as part of a team? Explain your answer.
- What elements of this activity did I enjoy best?
- What aspect did I find most challenging and why?
- What skills did I acquire through this activity? Is there something you were good at that you did not think you would be good at?
- Did you enjoy researching about climate change in Ireland and coming up with a solution to address one of the issues we face?

- Do you think you would like to further develop your innovative solution? Would you consider furthering this idea and developing your own social or online business with it? Explain your answer.

CONCLUSION

Through this WebQuest you have seen the number of creative and innovative solutions that some teams of four people can come up with, to address local and national environmental challenges that our country faces. All we need is some time and space to research the issues affecting our nation and its citizens, and to have the time to collaborate with others to think of what can be done to ensure that we, as Irish people, are more kind to the environment and that we show respect for the natural world around us. We began this challenge by taking about how the task ahead of us seems impossible, but when we work together and think creatively about what we can do, it doesn't seem so impossible after all.

If you are inspired by the solutions you have come up with in your group, why stop there? Why not consider if you can fund your solution through local fundraising, or crowdfunding through GoFundMe. Why not raise awareness among your friends, family, and members of your community? Create a group online, share information, discuss and debate the issues, inspire others to take the climate change challenge, just as you have!

If you take one thing with you from this lesson, remember:

"Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has." — Margaret Mead

Photo by Mert Guller on Unsplash

TUTOR SECTION

On completion of this WebQuest, young people will have achieved the following learning outcomes:

Knowledge	Skills	Attitudes
- Factual knowledge about environmental issues affecting Ireland on a local and national level - Factual knowledge of solutions that are currently being tested to address these issues - Factual knowledge of how to complete	- Identify local environmental problems in Ireland - Identify national environmental issues for Ireland - Conduct research to identify what is being done to address these issues - Examine motivations for addressing these issues	- Awareness of environmental issues affecting local communities in Ireland - Awareness of national climate problems affecting Ireland - Willingness to think of innovative solutions to these problems

idea generation techniques • Factual knowledge of how to evaluate ideas • Factual knowledge of how to take part in a group work activity • Factual knowledge of how to develop and deliver a pitch • Factual knowledge of online research techniques	• Participate in group work activities to generate new ideas • Engage in innovative thinking in a group • Complete group activities to evaluate ideas • Conduct research into innovative solutions • Develop a pitch for the innovative solution proposed • Deliver a pitch in front of peers • Complete a self-assessment to evaluate performance in a pitch	• Willingness to engage in collaborative team work to solve a problem • Openness to taking action to address an aspect of climate change in Ireland • Appreciation of what can be done by a small group to address climate change on a local or national level • Willingness to think of other solutions that can be proposed for other climate-related problems we face today.

Questions that a youth worker or teacher might use in a whole class discussion to debrief this WebQuest:

- How would you rate the over-all experience? Did you enjoy learning through completing a WebQuest challenge?
- How did you find working in a group to complete a challenge?
- Who was the leader in your group? What role did you take on?
- Did you enjoy the scenario? Would you have preferred to use this time to work on another topic? Why?
- Where you happy with the solution you came up with?
- Where you happy with the pitch and how you delivered it?
- What is the one most important thing that have you learned through this challenge?
- Do you feel like you have gained new skills? If so, what are they?

- Do you have a sense of accomplishment on completing this challenge?

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