



EECCOA Challenge

Ocean Acidification Outreach

Project Builder Workbook

January 2021

About the EECCOA Challenge: This challenge provides students with the opportunity to research, design and implement project proposals to increase awareness and inform their communities about ocean acidification and how to mitigate it. This document was created to help students or teams develop and potentially implement projects focusing on reducing the waste production of their homes. We hope you are up for the challenge!

The MERITO Foundation, sponsors, and partners will award cash or in kind prizes to the students authors of the best 3 projects for each tier (energy efficiency, water conservation, waste reduction, or outreach regarding ocean acidification) in the Spring of 2021, and might include funds, gifts, or additional support to help with the implementation costs of the most cost-effective project proposals.

This project builder workbook is for the *OCEAN ACIDIFICATION OUTREACH tier*: *To design and propose an education or outreach campaign that informs a specific audience about causes, impacts, and ways to mitigate ocean acidification.*

The deadline to deliver your project proposal is on April 9, 2021

Selected teams will present during the EECCOA Challenge Award Ceremony on April 30, 2021

Below are the challenge guidelines to help you develop your project proposals in **6 STEPS** and worksheets to help you outline your project idea and methods. The key to a successful outreach or education campaign is to understand the issue addressed and your audience, then follow the 6 steps explained in this workbook to help you define the 'Who', 'What', 'How' and 'When'. The more your project proposal becomes an executed project, the more points you will receive, and you will have a better chance to win.

If you have not learned about Ocean Acidification with your teacher. We recommend you complete this interactive lesson from NOAA's Data in the Classroom to make sure you have the knowledge you need to complete this project proposal. To complete it, go to:

<https://dataintheclassroom.noaa.gov/content/ocean-acidification>

You will find additional links to information and resources in the last page of this document.

STEP 1. Project Name and Team Members (5 Points): For the EECCOA Virtual Challenge 2021, you will be working on project proposals for water conservation in your home, and you will be allowed to submit a project as an individual. If you wish to work as a team, you can create a team with 3-5 members. Fill in the box below to start your project proposal.



Before you get started, check out this introductory video on the EECCOA Challenge and the resources available to you online:

<https://www.youtube.com/watch?v=Lh2e4T4LX2M&list=PLY8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS>

Student/ team name:	
Project proposal name:	
Tier (Project Goal)	Design of a public education or awareness campaign about Ocean Acidification that increases the understanding of this issue among a community, and promotes actions to mitigate it.
Team members names:	
School name:	
Grade:	
Teacher's name	

STEP 2. Conduct a COMMUNITY ASSESSMENT of your selected audience (20 possible points).

This step is designed to help you learn how much they know about Ocean Acidification. There are many methods to conduct a community assessment, but the easiest is through surveys. Basically you write down clear and specific questions, and ask your audience (the community of people you choose to educate) questions to gauge how much they know about ocean acidification, and how much they care. Your audience can be your school campus, your neighborhood, your city, an organized community group, or why not, an audience abroad!

If you choose to work with students from your school campus remotely, you probably don't want to include the students who have been learning about Ocean acidification (OA) through your teacher. If you were to include them, your results will be skewed or biased, since they already know more about the topic than most students in your school. You can also choose a community such as a club or a church. In this case, you may want to ask support to conduct the survey and carry out your campaign from someone who participates or has a leadership role in that group. Let them know the questions are for a science project. Whoever your audience is, their responses should show you their level of understanding of the issue and how much they care. This information will help you set your Objectives and design your Methods for the project.

Tips for conducting a community assessment:

- Develop a survey with 5-8 questions that can help you gauge how much your audience knows about Ocean Acidification (OA). Think about your audience's age when you develop the questions.
- Make questions that are easy to grade. Make them specific and clear to understand. Poorly developed questions get poor responses that won't give you the information you need. Do not include open-ended questions.
- Calculate the % of correct and incorrect answers per question. Use this data to identify which topics your community knows less about. This is where the need for education or awareness is and you can design your project proposal to address it (Step 3). The survey results will help you strategize your outreach campaign and will give you the baseline to measure the effectiveness of your project later on (Step 5).
- How many people to ask? Survey 40-50% of the people in the audience you have chosen if it has < 200 individuals (i.e. a church). Survey 20-39% if it has >200<1000 individuals (i.e. a school).



Survey 10-19% of the audience if it has >1000 people (i.e. a town). If you are working as a team, divide and conquer!

Table 1. Sample questions for assessing knowledge and understanding of OA in a community

Sample questions (you can develop your own)	Possible answers
1. Do you know what ocean acidification is?	(Yes/ No)
2. Do you know what are the impacts of ocean acidification on marine animals with shells?	(Yes/ No)
3. Do you know which greenhouse gas is the main cause of the increased acidification of the ocean? Mark the answer with an X	Methane__ Carbon Dioxide__ Nitrous Oxide__
4. Do you think the increased acidification of our ocean can have biological and economical repercussions in nation's fisheries?	Agree__ Disagree__
5. Do you care about this issue?	Yes__ No__
6. Who do you think needs to address the problem of ocean acidification?	Individuals__ Governments__ Both__ No one__
7. Can you tell me an example of what actions individuals or governments can take to mitigate ocean acidification? (<i>depending on the answer chosen for the previous question</i>)	

Examples of how to develop a community assessment (survey):

The document in the link below has examples of student-authored surveys. The questions are not about ocean acidification, but the paper can help you to design your survey.

http://www.whatkidscando.org/specialcollections/student_as_allies/pdfs/saa_samplesurveys_final.pdf

If you need help organizing and visualizing your data, watch this short tutorial on the topic (*move ahead to 0:58 second to skip the intro*):

<https://www.youtube.com/watch?v=2DTt5bhvnTw&list=PLy8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS&index=5>

STEP 3. Choose your project's SMART objective(s) 'THE WHAT': (20 possible points)

Now that you have an idea of how much your chosen audience knows about OA through the community assessment, now ask yourself: **What do you want your audience to know that they do not know yet regarding OA?; How can you help them learn more? or be more aware? Then, ask yourself, is it doable? By when? The answers to these questions in one or a few sentences are your SMART objectives.** Your project proposal can have one or multiple objectives, it just needs to be specific and realistic.

This tutorial walks you through writing a SMART objective (*move ahead to 0:58 second to skip the intro*):

<https://www.youtube.com/watch?v=8yS3yUM4or4&list=PLy8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS&index=2>

Examples of objectives:

- To increase the understanding of how the oceans are becoming more acidic by 35% among the students in my school campus through a 6 week social media outreach campaign by 03/15/21.



- To increase by 50% the understanding of OA of the members of my soccer club by giving a presentation and flyers on the issue and the solutions to reduce their personal or household carbon footprint by March 30, 2021.
- To increase by 75% the knowledge of the members of the 'X' Club in 'Y town' of causes and impacts of ocean acidification through an outreach campaign that includes presentations during 'X' Club meetings, social media, and a website by March 30, 2021.

Write below your objectives to be specific on what you want to change, how much and by when. These are called SMART Objectives!

SMART Objectives:	In one or two sentences, describe what you want to modify (Knowledge? Behaviors? Attitudes towards OA?); They should be Specific (i.e. will educate 4 th grades, school faculty, or your church members about OA); It should also be Measurable (How much do you want to modify that could be measured through a 2 nd community assessment of your chosen audience), Attainable (Is it doable? Can it be done?), Relevant to the goal of improving understanding of ocean acidification? And is it Time bound ? That is, if the proposal is to be implemented, by when?
#1	
#2	

NOTE: Your project can have one or multiple SMART objectives.

STEP 4. Design your project's METHODS. This is 'THE HOW' (25 possible points)

The methods are how your team proposes to increase the knowledge or awareness of OA assessed in STEP 2, to make the specific change of what, how much and by when (as described in your objectives in STEP 3). In this step you will describe HOW (step-by-step) you propose to make the change(s) happen. Choose your methods based on the information collected during the community assessment (survey). The products, services, or tools you propose to create as part of the campaign are your **Outputs**.

Project A example:

Sample Goal: Design of a public awareness campaign about OA that increases the understanding of this issue among a community

Sample Objective: To increase by 75% the knowledge of the members of the 'X' Club in 'Y town' of causes and impacts of ocean acidification through an outreach campaign that includes presentations during 'X' Club meetings, social media, and a website by March 30, 2021

Sample Methods:



- Our team will develop an outreach campaign tailored for 'X' Club based on pre-campaign survey results, which will make emphasis in the 'A', 'B' and 'C' concepts which were misunderstood by most surveyed persons.
- The campaign will include 'Z' **outputs**. These outputs include: 'W' presentations to 'X Club' during XX month of 2021. The presentations to club members will include project proposals that can reduce the personal and household carbon footprint that do not require much investment and are easy habits to create.
- The second output is a website we will develop focused on OA, and ways youth and adults can mitigate OA and climate change.
- The 3rd output is an instagram account created for the campaign with 'N' postings per week
- The 4th output is an article published in our school's paper

Note: The above is an example, not a real proposal for energy savings at home. Your proposal should be more specific and include more details.

For help and more examples for this step, go to (*move ahead to 0:58 second to skip the intro*):
<https://www.youtube.com/watch?v=05IUoYpcoA0&list=PLy8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS&index=3>

Write below the methods you propose to reach your project proposal goal and objective(s):

Methods:	Outputs (products you will develop as part of your campaign)	Timeline (when will you develop or launch the outputs)

STEP 5. Figure out how to measure your project's effectiveness. This is called project EVALUATION (15 possible points)

This is where you describe how to determine the successful impact of your project proposal after it is carried out. Imagine it happens, that all you propose is conducted. How would you measure the changes that result from your proposed actions (the methods in STEP 4).

In the first part of this video, you can learn more about ways you can evaluate the success of your methods (*move ahead to 0:58 second to skip the intro*):
<https://www.youtube.com/watch?v=5RO5xcvfWk8&list=PLy8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS&index=4>

	Write here how would you be able to see or measure increased knowledge or interest in changing behaviors after implementing your campaign
Example of evaluation measure for the sample in step 4	We will know that we reached our objective if we see an increase of 75% in the knowledge of OA of 'X Club' members through the application of a post campaign survey. The survey will ask the same questions as the pre-campaign community survey which will allow us to compare the pre and post-campaign scores.
Write here your evaluation Measures	

You can have more than one evaluation measure. Having more than one measurement of your results is more reliable and convincing which adds value to your proposal.

STEP 6. Outline a COMMUNICATION plan for your proposal to let others know of your project, actions, or to persuade your audience to change certain behaviors (15 possible points maximum). During the campaign make sure it includes clear and compelling messages focused on the areas more unknown or misunderstood by your assessed audience.

Examples:

- o Present your proposal remotely at a meeting of a club you belong to or to a group of students from your school (10 points)
- o Only create the outputs as described in STEP 4 but you do not present to your chosen audience (5 points)
- o Presents to the selected audience remotely and provides outputs described in Step 4 (15 points)

Check out this video tutorial for more details and examples (this section start at minute 2:00):
<https://www.youtube.com/watch?v=5RO5xcvfWk8&list=PLy8PMsb7nt-tvQbUjp2iMfuMu8cSha2KS&index=4>

	Write here how and when would you educate, inform or engage your audience about ocean acidification and ways to mitigate it
Phase 1:	
Phase 2:	

You do not need to reinvent the wheel! Below are on-line resources with examples or for inspiration.

- Green School Alliance: <http://www.greenschoolsalliance.org/toolkit/educate-your-community>
- Examples of how multimedia is utilized to reach our community:



<http://pbskids.org/plumlanding/video/index.html>

- Check our other EECCOA students' projects winners of prizes at <https://www.youtube.com/user/MERITOAcademy/playlists>

PROJECT PROPOSAL FORMAT: The project proposals should be submitted by using PowerPoint, Sway, or Google Drive to create a presentation that includes all the steps from this project builder as well as images to enhance your proposal. Submit the ppt or pdf to your teacher on the date provided by her/him/them. Students are encouraged to produce their own videos explaining their proposals. This is an opportunity to explain to judges what you are proposing and use visuals to help them understand. You can get up to 5 extra points for recording your own video. TIP: embed the slides into the video.

A successful project proposal needs to include all 6 steps above described. This how much each step is worth:

1. Project summary with name of team, project title, authors (students names), school name, and teacher's name: 5 points
2. Assessment/audit results: 20 points
3. Objective(s): 20 points
4. Methods (including any costs and budgets): 25 points
5. Evaluation method(s): 15 points
6. Communication plan: 15 points

For guidance on the use of the energy audit materials, please contact info@meritofoundation.org