



## Lesson Plan: **Effectively and Creatively Communicating Science**

How can we communicate our science?

### Alignment with STEM Framework

Altruist  Designer  Investigator  Inventor 

### Overview

In this activity youth will be introduced to successful advocacy campaigns, and what makes them so recognizable and effective at persuading and captivating their audiences. In addition to real world examples, youth will also be given specific information about advocacy and persuasion. They will use the information and skills gained in these two activities to prepare a presentation, exploring technology that they may be unfamiliar with, in order to most effectively communicate what they have learned throughout the program to their communities.

### Practice Goals

- Asking questions and defining problems
- Analyzing and Interpreting Data
- Constructing Explanations and Designing Solutions
- Obtaining, Evaluating, and Communicating Information

### Content Goals

#### Part 1

- What makes an advocacy campaign successful?
- What elements are necessary to include in an advocacy campaign?

## Part 2

- How can we communicate knowledge to others with logic?
- How can we communicate knowledge to others using emotions?
- How can I use persuasion techniques to advocate for my science?
- How can I organize a presentation in a way that will make my audience more receptive to my ideas?

## Part 3

- What have I learned throughout the program?
- How can I express what I have learned to other people?
- How can I use technology to express my ideas?

## Purpose

This activity is intended to enhance previous activities the youth have participated in, and encourage them to explore different kinds of techniques to advocate for their science and persuade their audiences . Youth will have the opportunity to flex their communication skills, and figure out ways to creatively express knowledge they have gained. These communication skills are essential for any scientist, and are especially important to the overall goals of the Saturday Academy and Summer Institute, as they give youth the ability to express their ideas to others who might not have the same amount of background knowledge.

## Teacher Background Information

Facilitators should familiarize themselves with the different technology options being used in the activity, so that they can assist students should they encounter any difficulties while creating their projects. It may also be helpful to look over the handouts, as well as research additional successful advocacy campaigns or other technologies that youth may be interested in using for their projects aside from those suggested here.



## Affinity Goals



I can act like an **Altruist** by using methods of advocacy to help those in my community through the expression of my knowledge.



I can act like a **Designer** by creatively expressing information through presentation techniques in a way that can be understood by others.



I can act like an **Investigator** by understanding and analyzing the processes of persuasion to influence my audience.



I can act like an **Inventor** by using the tools available to create interesting and effective ways of presenting and expressing ideas.

## Materials

### Materials Part 1

- Computers/Laptops
- Headphones

### Materials Part 2:

- Speaking center pamphlet

### Materials Part 3:

- Computer/Laptops
- Projector
- Scrap Materials (for physical projects)
- Green Screen
- Account for youth to log into each tech tool
- Space to share photos (e.g. Twitter, Instagram, Yogile)
- Headphones

## Time Needed

45 Minutes



# Instructional Sequence

## Lesson Plan Part 1 : Successful Advocacy Campaign

- Discussion and Exploration of Advocacy Campaigns
  - Encourage youth to have a conversation about advocacy campaigns that they have heard about in the past - through social media, from friends, etc. - that made them more aware of an issue, and what they think made these campaigns so successful.
  - After discussing campaigns they have already heard of, youth will be presented with information about the ALS Ice Bucket Challenge, the Safe to Sleep campaign, and the National Breast Cancer Foundation. It may be beneficial to have youth discuss each campaign as they are introduced to them - what they notice about each campaign, why they think it is effective, etc..
- Independent Research on Climate Change Advocacy
  - Now that students have a good understanding of what successful campaigns look like, they should split up into pairs or small groups to independently research and compile resources on campaigns that educate the public about climate change, and evaluate their effectiveness. They should feel free to find campaigns that they feel aren't very effective, so long as they can critically evaluate why these campaigns are less effective.
  - Once they have gathered these resources, youth should share their findings either via a shared Google Doc or as a group and explain their reasoning behind their evaluation of the campaign's effectiveness.
- Stormwater Runoff Awareness Campaign
  - Alternatively, if time permits, youth can also discuss what elements they would incorporate into an awareness campaign about stormwater runoff, using the knowledge they have gained from previous activities. The ideas they develop here can be incorporated into the overall project they will be completing in Parts II & III.

## Part 2: Persuasion, Advocacy, and Organizing Presentations

- Discuss Persuasion with Youth
  - Using the provided Persuasion portion of the Persuasion and Advocacy pamphlet, have a discussion with the youth about different persuasive techniques, drawing connections between what they are learning with what they noticed in the successful advocacy campaigns that they discussed.
  - Include in the discussion why certain techniques might be used in different circumstances - when is it most effective to use facts and statistics, and when is it most effective to make an emotional connection with your audience via a narrative, or personal experience?
- Introduce Youth to the Project and Discuss Advocacy
  - Explain the project they are going to be working on (using technology to develop a presentation of what they have learned in other activities) and what they are advocating for in the project.
  - Using the provided Advocacy portion of the Persuasion and Advocacy pamphlet, have a discussion about what they are advocating for. Brainstorm some of the techniques they could use to achieve that goal.

- Discuss Organization and Structure of Presentations
  - Once they have some ideas about what the goal of their presentation is going to be, use the Organizing the Problem portion of the Persuasion and Advocacy pamphlet to introduce the structure of the presentation.
  - It is important to emphasize that while the structure that is presented in the handout is a very effective way of organizing a presentation, it is not the only way! Youth should be encouraged to play around with the project, and create something that is uniquely their own.

### **Part 3: Toying with Tech and Presenting**

- Explore technology options
  - Show the youth the different technologies available to them to create their projects, using the table below as a reference point.
  - Once they have some familiarity with the resources available to them, have them pick which ones they would like to use and have them spend some time learning the ins and outs of their chosen technology. They can also take this time to begin planning out their presentation.
- Prepare Project Presentation
  - When youth feel confident about using their tech choice, have them start outlining their workflow, if they haven't already.
  - Once they have a good idea of what they need to do, let them create their projects using the data and information they have gathered throughout the other activities. Help them troubleshoot their chosen tech if they encounter any problems.
- Discuss Project Products
  - Have a discussion about what they were able to accomplish with their chosen technologies, and what they would like to change or do differently in the future. Getting feedback from their peers can be a useful way of examining how effective their projects are at communicating what they have learned, so long as criticism is constructive and positive.
- Presenting Project Products
  - Once they are satisfied with their projects, they have the opportunity to share their presentations with their communities - parents, peers, or other members of their community who they would like to share with.