



## Green Career Awareness Module



### Electrification ▾

Solutionary Phase	Design Challenge
Lesson # and Title	Lessons 11-15: Design Challenge
Duration	5 lessons

#### Lesson Overview

Background: Social media has become a powerful tool for influencers to share their ideas and promote products. However, it's important to use this platform responsibly and promote messages that benefit society as a whole. Methane gas, a potent greenhouse gas, is commonly used in many industries but poses a significant risk to the environment. Electrification, on the other hand, can provide sustainable solutions that reduce our reliance on fossil fuels and promote a cleaner future.

Challenge: Students act as interns working for Peninsula Clean Energy's marketing department tasked with creating a marketing campaign that promotes the benefits of electrification and convinces people to switch from gas to induction stovetops. This campaign should combat the existing propaganda produced by fossil fuel companies to promote cooking with methane gas.

#### Learning Objectives

Students will:

1. Develop an understanding of the benefits of electrification: Students will learn about the advantages of electrification as a sustainable solution for reducing reliance on fossil fuels. They will explore the environmental, health, and economic benefits of switching from gas to induction stovetops and other electric appliances.

2. Analyze propaganda and its impact: Students will develop critical thinking skills by examining the propaganda produced by fossil fuel companies to promote cooking with methane gas. They will analyze the tactics used in these campaigns and evaluate their impact on public perception and behavior.
3. Develop effective communication and persuasion skills: Students will learn how to craft persuasive messages that effectively promote the benefits of electrification and induction stovetops. They will develop skills in presenting evidence-based arguments, addressing counter arguments, and using compelling storytelling techniques to engage and convince the target audience.
4. Perform research and data analysis: Students will conduct research to gather information and data on the benefits of electrification and induction stovetops. They will learn how to analyze and interpret data, statistics, and scientific research to support their campaign's key messages and provide evidence for their claims.
5. Design creative marketing strategies: Students will explore creative marketing strategies to develop a compelling campaign that grabs the attention of the target audience. They will learn how to use visual content, social media platforms, and other marketing tools effectively to raise awareness about the benefits of electrification and induce behavior change.
6. Collaborative and develop teamwork skills: Students will work collaboratively as interns in Peninsula Clean Energy's marketing department. They will learn how to work effectively as a team, delegate tasks, and coordinate efforts to create a cohesive marketing campaign. They will also develop skills in receiving and incorporating feedback from team members and stakeholders.
7. Develop ethical considerations in marketing: Students will explore ethical considerations related to marketing campaigns and the responsible use of persuasive techniques. They will learn about the importance of transparency, accuracy, and avoiding misleading information in their campaign, while upholding ethical standards.

#### Content Standard(s)

##### 1. Next Generation Science Standards

- Grades 6-8 Earth and Human Activity:
  - MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
  - MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

##### 2. History-Social Science Content Standards

- Grade 8.11 Students analyze the role of propaganda and its impact.

##### 3. California Common Core State Standards: English Language Arts & Literacy

- Grades 6–8 Writing:
  - W.8.1. Write arguments to support claims with clear reasons and relevant evidence.
  - W.8.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- W.8.8. Gather relevant information from multiple print and digital sources; assess the credibility and accuracy of each source; integrate the information while avoiding plagiarism.

#### 4. California Common Core State Standards: Mathematics

- Grade 7 Statistics & Probability:
  - 7.SP.A.2: Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.

#### 5. Visual and Performing Arts

- Grades 7-8 Visual Arts:
  - 2.3 Create original artworks, using film, photography, computer graphics, or video.
  - 2.4 Demonstrate in their own artworks the use of images to communicate personal and cultural meanings.

#### 6. California Career Technical Education Model Curriculum Standards

- Marketing, Sales, and Service (Sector)
  - Marketing (Pathway) Standards
    - 2.0 Communications: Students understand the concepts, strategies, and systems used in business communications.
    - 4.0 Marketing: Students understand the concepts, strategies, and structures of marketing and can apply them to real-world situations.

### Equipment, Instructional Resources, and Materials

- 1:1 computers for students
- Access to the internet
- Materials/props for media campaign as needed

### Key Vocabulary and Terms

- **PilotCity** - The company name of the project-based learning and work-based learning programs you're utilizing
- **Project** - A "Project" is a temporary and unique endeavor with a defined beginning and end, undertaken to create a specific product, service, or result. It is typically carried out to achieve a set of objectives within specific constraints, such as time, budget, and resources.
- **Internship** - An "Internship" is a temporary work opportunity provided by an organization or company to students or recent graduates, allowing them to gain practical work experience in a specific field or industry. It is a structured and supervised

learning experience that typically lasts for a fixed period, such as a few weeks to several months.


- **Simulated Internship** - A “Simulated Internship” is a temporary work experience opportunity provided by PilotCity.com either inspired by or in partnership with an organization or company to students to gain practical work experience in a specific field or industry. PilotCity becomes the host organization if a student were to receive an offer for a simulated internship.
- **Activities** - Activities under the PilotCity.com platform are the sequence of tasks, deliverables and items (ie: Scope, Train, Ideate, etc) to complete in a program such as our “build projects for simulated internships” or “build projects to win internships”
- **Enter Code** - Method in which a student would utilize for program checkout of a program on PilotCity.com. This would require a sponsor (ie: teacher) to provide their sponsorship link & code to their student participants to enter upon checkout of a program.
- **Sponsorship Link & Code** - An automatically or manually generated link & code for a user of PilotCity.com to provide to participants to join a program of their checkout upon program checkout. This link & code can be found at <https://www.pilotcity.com/wallet>
- **“Scope”** - An activity that defines the project scope of the organization or company for student to review & acknowledge
- **“Team”** - An activity that allows participants to “Create or Join” a team with a password. Team members then will complete certain activities together. Particularly the Ideate, Pitch, and Demo activities.
- **“Train”** - An activity that includes employer recorded video content for students to watch to gain knowledge, understanding and information about the employer’s project requests, problems, parameters, specifications and other important context to factor into participant’s project solutions
- **“Research”** - An activity that includes provided links by the employer that are or could be of resource to the participants to gain context, inspiration, access and/or other resources to succeed in their project solutions
- **“Ideate”** - An activity that structures the project idea. It is inspired by the “lean business model” canvas that asks the participants to state their Problem, Solution, Innovation / Unique Value Proposition, and User / Customer.
- **“Pitch”** - An activity that requires participant to summarize their solution in one sentence or less for a variety of communication purposes, and to describe their solution as a script as-if they were to verbally present it to their user or customer
- **“Demo”** - An activity that requires participants to make a final presentation video or video demonstration of their solution that would be uploaded on YouTube as an unlisted or public video.
- **“Interview”** - An activity where the employer asks video interview questions and the student participant record their video answers. This serves as the interview for the simulated internships.
- **“Offer”** - An activity that displays whether student participant has received an offer for simulated internship or are rejected

## Teacher Preparation

- **Lesson Plan** - Review the lesson plan
  - **Make a copy of the Slide Deck and revise as needed**
- Review [Public and Operations Agreement](#)
  - Decide if you will make digital copies or paper copies for each student.
- **Account Creation** -
  - Create a PilotCity.com account by joining San Mateo County Office of Ed organization with tokens included: <https://pilotcity.com/join/643da8152ee0770008e0f0f4>. **Using this link is required to get access.**
  - When signing up, logging in & setting up your portfolio, choose the “Teacher” user type option.
  - When you’ve finished account setup, go to your token balance (<https://pilotcity.com/wallet>) and click on “Copy Sponsor Link” to get your sponsorship link & code to provide to your students to “Enter Code” upon program checkout.
  - **Mobile Phone Number Scenario** - TBD
  - **Add the class code to the slide deck.** Copy & paste this sponsorship link & code into the 24th slide (as of Aug 1, 2023) of your duplicated [slide deck](#) where it says “Our Class Code” next to the text that says “Copy & paste link & code provided by your teacher”
- **Program and Project Monitoring**
  - Want to monitor your student’s progress? Go to: <https://www.pilotcity.com/monitor> or also found in the “[My Portfolio](#)” page when you’re logged into PilotCity.com.
- **For “Demo” activity**
  - [Make YouTube Playlist](#) for students’ videos to be uploaded to it and then provide to students the “Unlisted” YouTube Link to insert into their “Demo” activity to verify the link.
- **For “Offer” activity**
  - There is a high chance your students will receive a “Simulated Internship” under the PilotCity.com programs most likely to occur during the Summer. *These are not simulated internships with any committed employer unless shared otherwise and will be directly under the Summer work experience program delivered by PilotCity.com*

**If you would like additional support or a class presentation from PilotCity, please schedule a 15 minute meeting with their CEO, Derick Lee using this link: <https://www.calendly.com/dericklee/15min>.**

## Lesson Procedure

Slide deck:  Electrification Lesson 11-15: Simulated Internship with Peninsula Clean Energy (Design Challenge)

Segment Title	Activity/Task, Student Grouping, Special Accommodation, Related Career(s), and Assessment	Time (min)
Lesson 11		
Introduction to Challenge	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Tell the students that they will be working to develop solutions to the issues they learned about in the previous lessons.</li> <li>• Introduce the idea of an internship and discuss the benefits of participating in an internship prior to starting a career or choosing a major in college.</li> <li>• Tell the students that they will be participating in a simulated internship as they develop their solution.</li> <li>• Discuss the simulated internship scenario, the details about the employer, and the problem/issue the employer is facing.</li> <li>• Describe the challenge and let the students know that they will be getting more information about the challenge directly from the employer later.</li> </ul> <p>Student Grouping: Whole Group ▾</p>	10 minutes
Creation of Teams	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Tell students that they will be working on this project in groups of three.</li> <li>• Discuss the different roles that the students will be taking in their group. <ul style="list-style-type: none"> <li>◦ Tell students that these roles are guidelines, but that they can work flexibly on their project as needed.</li> </ul> </li> <li>• Give students the time to determine which roles they will play in their group. <ul style="list-style-type: none"> <li>◦ Make sure that the student who is playing the Media Personality Role has photo permissions.</li> </ul> </li> </ul> <p>Student Grouping: Small Group ▾</p> <p>Special Accommodation(s): Depending on your class's context, you may decide to either assign the groups and roles or allow students to self group and determine their own roles.</p>	5 minutes
Public Operations	Activity/Task: - Skip if low on time	10 minutes

Agreement	<ul style="list-style-type: none"> <li>• Tell students that they will be working on a <a href="#">Public and Operations Agreement</a> to help support their teamwork.</li> <li>• Students should each have their own copy of the <a href="#">Public and Operations Agreement</a></li> <li>• Students will read each question and individually fill out the “Thoughts to Share” column.</li> <li>• Students will then quickly discuss their thoughts and determine their group agreements</li> </ul> <p>Student Grouping: Individual ▾ Small Group ▾</p>	
Introduction to Pilot City	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Make sure your class code has been entered into your copy of the slide deck.</li> <li>• Walk students through the login process using the slide deck.</li> <li>• Acknowledgments - For items your students will “check” under the “Do you know, can learn or have access to following items?” question, have your student acknowledge each point by checking the checkboxes</li> <li>• Mobile Phone Number Verification - Allow your student to utilize your mobile phone number to “Verify” and start their program. PilotCity is actively working on a solution as of July 31st, 2023 to remove the necessity for your students to need a mobile phone number.</li> <li>• Program Checkout - When your student clicks “Start Program” as opens up the Program Checkout dialog, have them click on “Enter Code” and copy &amp; paste the entire sponsorship link &amp; code found in your token balance (<a href="https://pilotcity.com/wallet">https://pilotcity.com/wallet</a>) when you click on “Copy Sponsor.”</li> </ul> <p>Student Grouping: Individual ▾</p>	10 minutes
<p>Scope</p> <p><i>This is an individual activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Tell students that the scope of work will give them a brief overview of the task that their “employer” has set for their “internship.”</li> <li>• Give students time to read the scope individually</li> <li>• Have students discuss the scope with their group.</li> <li>• Check in with groups to ensure that they understand the basic project parameters.</li> </ul>	5 minutes

	<ul style="list-style-type: none"> <li>Tell students that they will be getting more specific information directly from their “employer” during the next lesson.</li> </ul> <p>Student Grouping: Small Group ▾</p>	
<p>Team</p> <p><i>This is a team activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>Tell students that PilotCity allows them to work on projects both individually and collaboratively</li> <li>Have 1 student “Create Team” with a password and provide the password to the rest of team members to “Join Team.” <ul style="list-style-type: none"> <li>Ideally, the student who creates the team serves as team lead.</li> </ul> </li> <li>Check in to make sure that all students have successfully joined the team.</li> <li>If there is more time, students can move on to Lesson 12. The timings are estimates and can be changed as needed.</li> </ul> <p>Student Grouping: Small Group ▾</p>	5 minutes
Lesson 12		
<p>Train</p> <p><i>This is an individual activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>Tell students that their “supervisor” has recorded videos to give them more information about the project and help train their team.</li> <li>Have students watch the training videos and discuss. <ul style="list-style-type: none"> <li>This can be done individually with headphones followed by a small group discussion.</li> <li>Alternatively, you can play the videos on a projector and have a whole group or small group discussions after.</li> </ul> </li> </ul> <p>Student Grouping: Individual ▾ , Small Group ▾ , or Whole Group ▾</p> <p>Special Accommodation(s): If short on time, students can Jigsaw the training videos.</p>	30 minutes
<p>Research</p> <p><i>This is an individual activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>Tell students that they will be doing some additional research to help them come up with the best solution.</li> <li>Let students know that there is some required research and some optional</li> </ul>	15 minutes



	<p>research.</p> <ul style="list-style-type: none"> <li>• Students should check off the resources that they completed in order to move on.</li> <li>• Tell students that they can always go back to these resources as they work to get more information.</li> <li>• Tell students that they will have more time for research in the next lesson.</li> </ul> <p>Student Grouping: Individual ▾</p> <p>Special Accommodation(s): If short on time, students can Jigsaw the research.</p>	
Lesson 13		
<p>Research</p> <p><i>This is an individual activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Give students more time for individual research as needed.</li> <li>• Have the “Data Analyst” lead a small group discussion on what they noticed and/or wondered from the research.</li> <li>• Have the “Data Analyst” record notes of the most relevant information.</li> </ul> <p>Student Grouping: Individual ▾ Small Group ▾</p> <p>Special Accommodation(s): If short on time, students can Jigsaw the research.</p>	15 minutes
<p>Ideate</p> <p><i>This is a team activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>• Tell students that now that they have been trained and completed their research, they will begin to create their media campaign to combat the #cookingwithgas propaganda.</li> <li>• Tell students that to solve a problem, they must first define what the problem or opportunity is.</li> <li>• Have the Data Analyst lead a discussion to define the problem or opportunity.</li> <li>• Have the students enter their agreed upon definition into the correct field.</li> <li>• Have the Marketing Strategist lead a discussion around how the group will solve the problem. <ul style="list-style-type: none"> <li>○ They should include:</li> <li>○ What media platform the solution should be on</li> <li>○ What format the solution should be in</li> </ul> </li> </ul>	30 minutes

	<ul style="list-style-type: none"> <li>○ What are the data/visuals that will be included</li> <li>○ What will grab the attention of the viewers (what will be innovative or unique)</li> <li>○ Who the marketing campaign will be aimed at (audience)</li> <li>● Have the students enter their agreed upon ideas in the correct fields.</li> </ul> <p>Student Grouping: Small Group ▾</p>	
Lesson 14		
<p>Pitch</p> <p><i>This is a team activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>● Have the students discuss how they can summarize their solution in one sentence or less for a variety of communication purposes.</li> <li>● Have the Media Personality lead a discussion to describe their solution as a script as-if they were to verbally present it to their user or customer.</li> <li>● Have the students enter their one sentence pitch and elevator pitch into the Pilot City Platform</li> </ul> <p>Student Grouping: Small Group ▾</p>	15 mins
<p>Demo</p> <p><i>This is a team activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>● Have the students work with their small group to create their final media campaign video, post, etc.</li> <li>● If the students are creating a video, have the Media Personality act in the video and upload it to Pilot City under "Demo"</li> <li>● If the students have a different type of media campaign, like a series of blog posts, the Media Personality should record a screencast, etc of the posts describing the solution.</li> <li>● Tell students to make sure their "Demo" video is 3-minutes or less</li> <li>● Give students the link to the YouTube Playlist you created.</li> <li>● Tell students that they should upload their videos the YouTube Playlist.</li> <li>● Remind students that they should use the "Unlisted" YouTube Link to insert into their "Demo" activity to verify the link.</li> <li>● <b>Remind students that they should not include identifiable information in their campaign such as their name, the school's name, where they live,</b></li> </ul>	30 mins

	<p><b>etc.</b></p> <p>Student Grouping: Small Group ▾</p>	
Lesson 15		
<p>Demo</p> <p><i>This is a team activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>Give the students up to 15 minutes of extra time for their demo if needed.</li> </ul> <p>Student Grouping: Small Group ▾</p> <p>Special Accommodation(s): Consider extending the unit as needed for students to complete their solutions</p>	<p>15 mins - if needed</p>
<p>Interview</p> <p><i>This is an individual activity</i></p>	<p>Activity/Task:</p> <ul style="list-style-type: none"> <li>Tell students that they will be individually reporting out to their “supervisor” at Peninsula Clean Energy by individually interviewing.</li> <li>Tell students that they should reflect upon their project to answer the questions during the interview.</li> <li>Tell students that they can re-record their answer as needed.</li> <li>Let the students know that their interviews can be reviewed by actual members of Peninsula Clean Energy and that if their solution is selected, they may be offered a simulated internship.</li> </ul> <p>Student Grouping: Individual ▾</p> <p>Special Accommodation(s): If there are students who do not have photo permissions, they can do a written reflection for this portion of the unit.</p>	<p>30-45 mins</p>