

**Lesson 5 Special needs in the community and our school**

**Essential Question:** Are their members of our community and school who do not have equal access to equipment and or services?

**Standards**

**NGSS HS. Engineering Design**

Students who demonstrate understanding can:

**HS-ETS1-1.** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

**ETS1.b: Developing Possible Solutions** When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.

**Common Core State Standards Connections:**

**ELA/Literacy – RST.11-12.7** -Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

**RST.11-12.9** -Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

**Materials**

- Multimedia presentation
- Video- Hilary's Straw
- Student Sheet
- Student notebooks
- Student debrief slips

Activities			
Activity	Name of the Activity	Photocopies	Materials
1	Preparation for Class - 1.3 and 1.8- Teacher Toolbox. Assigning Team rolls- 1.13 Teacher Toolbox- Roles and Responsibilities.		Student page Video- Hilary's Straw
2	Standards Statement (Option: Unpacking the standards Teacher toolbox 1.12- Unpacking the standards)	5 Student Sheet	PowerPoint Presentation Video- Hilary's Straw 5 Student Sheet
3	Video- Hilary's Straw	↓	PowerPoint 5 Student Sheet
4	Investigation of Underserved members of the community.		PowerPoint Presentation 5 Student Sheet 5 Community observation sheet
5	Reflection and Formative Assessment		Student debrief slips

**Overview** There are many members of any community that do not have equal access to technology, materials or services. These could be divisions based on culture, race, disability, education or lack of technology. Through this activity, the students will be exploring different underrepresented members of the community and determine if it would be

possible to design a project that would meet their needs. The students will utilize observation skills of taking field notes and will use this information to identify gaps between current situations for underserved groups and potential solutions that would improve the lives of these citizens through service-learning projects.

## Major Concepts

- Identifying underserved members of the population.
- Observations of possible needs in the underserved members of the community.
- Building Self-Efficacy through cooperative learning strategies.
- Notebook and team building.

## Objectives

Students will:

- Identification of possible needs in the community based on underserved members of the population
- Identify situations that impact the standard of living of underserved members of the population.
- Identify underrepresented members of the community who have needs.
- Continue to build notebooking reflection and teaming skills.

## Lesson Preparation

### Preparation

- **Lesson Preparation:** For specific directions on preparing lesson materials, see 1.3 and 1.8 documents in the Teacher Toolbox.
- **Instructional Resource:** Make sure that you have the **PowerPoint presentation** and the Video- *Haley's Straw* ready for class viewing.

## Procedure

### Activity 1: Preparation for the Class

**Multimedia Presentation:** This lesson will have a multimedia presentation that will help to get the students thinking about the lesson and walking them through the information. Download the presentation in the folder.

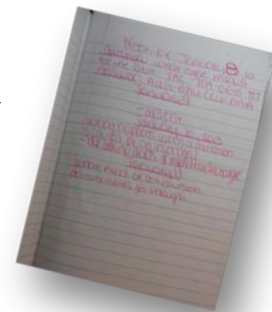


**Preparing the notebooks-** see document 1.3 in the Teacher Toolbox for specific instructions concerning notebooking.

**Line of Learning.** Have the students reflect on the following question.

#### **5 Reflecting on special needs in the community**

**Question:** *How will observing underserved members of the community help me gather information that will help determine potential service-learning projects? Be sure to date your entry.*



**Team Roles and Responsibilities-** For more detailed information about team roles; use 1.13 Teacher Toolbox Team Roles and Responsibilities.

### Activity 2: Unpacking the Standards

**Class Explanation:** The students will be compiling indicators of needs for a specific faction within the community and identify sections of the populations that are under served. Because identifying needs in a community are based on exemplary listening skills, the standards that are used in this lesson revolve around the Common Core ELA Speaking and Listening along with analyzing local challenges and identifying societal needs and wants. .

**Note to Teacher:** Look above to see the standards that will be addressed through this lesson. The students need to understand the focus of the lesson, so an examination of the standards is a way of addressing this lesson essential.

**Here is a possible Standard Statement which incorporates the standards used in this lesson:**

*Students will use a wide variety of qualitative and quantitative criteria and synthesize that information into a document that examines special needs within the community and identify sectors of the population that are underserved.*

**Optional Lesson Component:** As an additional component for this lesson, you may use Teacher toolbox 1.12- *Unpacking the standards in a Student Centered Classroom*. This gives procedures to help your students create their own standards statement.

- Pass out the student sheets

### Activity 3: Field Notes and observation, developing skills

**Note to teachers:** In this activity, the students will be continuing to practice creating field notes by observing underserved citizens in the community. To practice these skills, the students will be watching on of the GE Forward Focus videos entitled “*Hilary’s Straw*”. This video highlights a young woman named Hilary Lister, a paraplegic from the UK who with her friends decided to design a straw that could be used to give her the freedom to sail. .

Remind students that the point of this exercise is to determine underserved or underrepresented members of the community who have needs that might be addressed through a service-learning project through the class. The focus of this lesson is to develop observation skills that will help give another layer of information about the needs of the members of the community and potential needs.

Students will watch the video and with the observation sheet will record important information about projects that improve accessibility.

Does our community have an underserved or underrepresented population?

Example of possible underserved groups:

- Elderly
- Digitally unconnected
- Disabled veterans
- Homeless
- Disabled students
- Early education

Make sure that all of the students have their notebooks open and ready to write notes along with the student sheet.

#### 1. Introduction:

**Engaging prior knowledge-** Discuss what we have learned about our community through the initial observation of community members. What are important characteristics that we have seen to this point?

In this next phase we are going to be continuing to investigate members of our community who are underserved through observations to create field notes of potential service-learning.

#### Watch the video *Haley’s Straw*

Write down observations that you see as you watch the video.

**Discussion:** How much better were you about observations from the first time that you were observing?

Remind students about observation skills and how when in the field, it is essential to write down everything and be open to first impressions.

### **Pass out *Lesson 5 Identification of special needs within the community***

Discuss the different sections and get students interpretation of how they will be able to use this guide during their field experience.

**Subjects-** Describe the way people are dressed, their mannerisms, their demeanor, way of speaking and way of acting. Start with an in-depth description initially in the field. Focus on things that set people apart with others or identify them.

**Describe the Setting-** take a picture or draw the setting so you can give a more complete description later. This might help you determine a service-project later when you reexamine the potential needs within the setting.

**Activities-** What is happening in the setting, who is interacting with who? What are the roles of the various subjects?

**Observer behavior-** What is your behavior and what are you thinking while you are taking the field notes. Be sure to note any biases while observing. This might taint your judgment and might affect the information that you are presenting.

**Analyze your notes-** These are personal accounts in the field. You will need to speculate on what you are learning about your community and about the subjects and their needs. Be sure to note patterns of behaviors and connections that you can see between the environment and the subjects that might be important when determining community needs and needs of stakeholders. Include thoughts that come to you while you are observing in the field.

**Clarification-** Note when you need additional clarification in the field that you may find confusing. This will give you questions that may need to be answered by a professional in the field.

**Additional Questions:** Be sure to write down additional questions. If you wonder about a situation, part of the environment, some behavior, this can be great information that will lead to quality reflection toward a well-defined project.

**Look back at the Essential Question:** Are their members of our community and school who do not have equal access to equipment and or services?

#### **Discussion in small groups:**

- Now that you have additional skills and understand some observation techniques, what new information were you able to determine from the video?
- Discuss the detailed information that you were able to determine from the video. (Example- you may discuss how she was able to get the equipment. This equipment is not on the market so how did she get it? This really is a form of service-learning with her family and friends using their time, talents and skills to create a system of electronic devices which gives her freedom that she would not be able to have in a regular sense.
- **In groups, Discussion:** Can you think of a project that you might be able to see in this context?
  - Possibly talking to the family and friends who created this equipment to determine if it could be duplicated to serve other members of the community with this disability.
  - Discuss with your group.
- Students will record the inferences in their notebook.
- What other type of underrepresented members of the community could be served?

**Share small group discussion information with the class-** One member on the team will share out each group's information.

### **Activity 4: *Field notes within under represented members of the community***

**Introduction:** In this next section the students will determine where they would like to observe and create field notes. They will need to examine the information from the community observation to determine a site where they can possibly determine a need.

**Note to teacher- Remind students that safety is paramount!**

They should never go observing and doing field notes alone. If they are observing in a park or some other place, their parents can go along and sit out of sight.

- **Identifying the gap between current situation and desired situation**
  - **What product or processes is your project partner currently using, and what are the problems with current approach that is motivating this project?**
  - **What is the preferred state that the project is attempting to achieve?**
  - **How will addressing this need be important to your project partner?**

**Planning Observation:** Have students work in the group to determine a site and fill out the information on students sheet 5- planning the observation.

- From your initial information and data, where would be a good place to observe?
- Why do you think that this observation would help you gather more information about a possible service-learning project?
- When would you be going?
- Who will be going with you?

Which of these 4 categories would your site and potential project fit? Why?

- **Education**
- **Accessibility and special needs**
- **Human Services**
- **Environment**

**In Group: Brainstorm service-learning**

**Discussion:** Determine one service-learning project that would fall under each category.

- Each member of the team can take one and write one in their notebook.
- Each member will share their project category and project idea with the group and defend it with evidence.

Continue to brainstorm potential needs within the community and begin to determine what information is still needed and who you would interview to get that information.

**After the observations:**

**In Groups: Compiling information:**

Within the groups have the students discuss some of the information that they have gathered from the observations.

- Is there one particular area that they see has potential for being a good service-learning partner?
- Why do they think that this might be a great partner?
- Who would be the contact person for this site?

**Note to Teacher:** Circulate among the teams as they are discussing the information they have gathered.

You will be able to gather information that will be helpful for you to help design the projects and you can give wisdom about how best to pursue this potential project.

**Whole group discussion:**

**Share small group discussion information with the class-** One member on the team will share out each group's information.

**Class Scribe-** Have this designated person writes down the different information from the groups so that the class has a running record of the information that has been gathered about underserved members of the community and the connection to a service-learning project.

## Activity 5: Wrap-Up: Reflection and Formative Assessment

### 1) Back to the Standards:

Go back to the original class document about the standards.

Ask the students did they:

- Examine use observation techniques to be able to get more information about the underserved members of the community?
- Did this investigation give a better picture of potential needs and stakeholders within the community?
- Use speaking and listening skills to be able to synthesize the information from the observation/field notes.



### 2) Formative Assessment and student reflection: Last 5 minutes of class

- Pass out the **student exit slips**. This will give you an idea of what they have learned in the lesson.
- Make sure that they students have their **notebooks open** with their two sheets taped in their books.

#### Notebook check:

As the students are filling out the slips, walk around the room and check to make sure that the student have the following information in their notebook:



- ✓ Completed the number 5 student sheet.
- ✓ Completed the observation sheets for the underserved members of the community.
- ✓ Have the students turn in the student debriefing slip.

**3) Teacher Reflection:** Look at the student's exit slips, the reflective document about the culture of the community and the student notebook. Have the students accomplished the objectives for the lessons?

#### Questions:

- ✓ Have the students created a complete picture through the observation of the underserved members of the community that will be used as a beginning document for the needs assessment?
- ✓ How are the students reflecting in their notebook?
- ✓ Are the students able to work effectively and efficiently in their groups?
- ✓ Are there any interventions that may need to happen to improve these skills?
- ✓ Are the students showing self-efficacy when reflecting on their own learning in the class?

#### Resources:

- GE Focus Forward- *Short Films, Big Ideas, a partnership between GE and cinelan.*
- Bogdan, R. C. Biklen., SK (2003). *Qualitative research for education: An introduction to theories and methods.*
- NGSS Lead States. (2013). *Next Generation Science Standards: For States, By States.* Washington, DC: The National Academies Press. For more information see <http://www.nap.edu/NGSS/>
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects.* Washington, DC: Authors.
- Zoltowski, C. B., (2012), *Human-Centered Design Module 2*, EPICS Program, Purdue University.