



## TEACHER & PARENT CURRICULUM GUIDE

### About This Guide

The activities within this teacher's guide are designed to accompany the Feeding San Diego comic book, *Hunger Action Heroes Unite!* Each activity is a stand-alone lesson, aligned to nationally-recognized standards. These activities are designed for upper elementary or early middle school students, but teachers should feel free to adapt them for other grade levels as needed. There are four essential **Big Idea** activities that include the necessary background teaching for the culminating **Be A Hunger Action Hero** project-based learning experience. All other activities are supplemental lessons that will help students maximize learning across disciplines.

### Background Information for Teachers

#### The Problem With Hunger

While it may be hard to recognize, many Americans face the problem of hunger daily. According to Feeding America, **food insecurity** is a problem that faces 44 million people in the United States, with the United States Department of Agriculture (USDA) reporting that 1 in 5 children live with food insecurity. Every single county in the United States is impacted, but some factors may make a community more vulnerable to food insecurity, including the degree of poverty, unemployment rate, and cost of living. Hunger truly affects people from all walks of life, including children, families, seniors, post-secondary students, and veterans and military families. Unfortunately, while there are resources to help families combat food insecurity, there can be a stigma attached to seeking out help. Many people who qualify for food assistance do not seek it out because of misplaced embarrassment or shame.

Hunger impacts people in a variety of ways:

- Students from food insecure homes may experience an academic achievement gap and are more likely to repeat a grade than their food secure peers.
- In children, hunger can impact physical and cognitive development, limiting intelligence and emotional development.
- Children who are hungry are more likely to require mental health interventions.
- Children who are hungry are not as prepared for the workplace as adults.
- People who face food insecurity may be forced to choose inexpensive foods that lack the necessary nutritional values to nourish. A poor diet can lead to chronic health concerns including Type 2 diabetes, high blood pressure, heart disease, and obesity.
- People with food insecurity may be faced with difficult choices between food and other necessities. These choices may include food versus medical care, utilities, transportation, and/or housing.

## Food Waste Facts

Food waste has an enormous impact on both hunger and the environment, and yet the food system in the United States is inefficient and wasteful:

- **Surplus food** results in waste. In 2021, 241 million tons of food was available in the U.S., but 38% of that food was unsold or uneaten.
- ReFed estimates that 80 million tons of food or 33% of what is produced in the United States becomes food waste.
- Only a small fraction of surplus food is donated to people who are hungry.

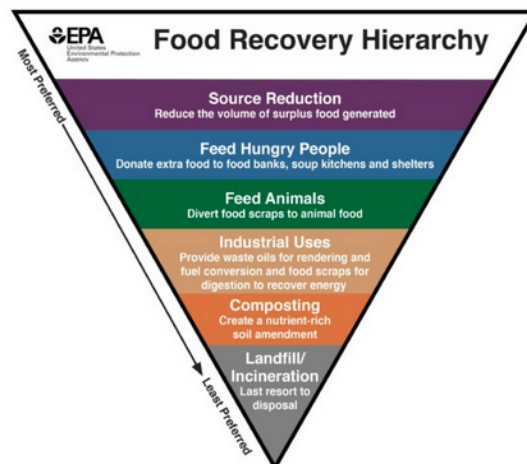
## Impacts on Climate

Food waste has more than an impact on the problem of hunger. It also drastically affects the environment.

- When surplus food goes uneaten it results in **greenhouse gas** emissions—4% of total emissions can be attributed to rotting food in landfills.
- 58% of methane emissions come from city landfills. This powerful greenhouse gas impacts climate change by trapping heat into the atmosphere.
- The Environmental Protection Agency (EPA) estimates that 24% of material in landfills is food waste.
- Producing food that ends up as a food waste uses precious resources. 18% of United States cropland produces uneaten food and uses 14% of all fresh water.

## Solutions

Finding solutions for hunger and reducing the environmental impact of food waste requires looking at how the food system in the United States can be more efficient and less wasteful. The EPA has created a hierarchy of food recovery to demonstrate the best ways to prevent and use surplus food without letting it go to waste. One of the biggest ways that surplus food should be used is to feed hungry people.



Source: Environmental Protection Agency,

[https://19january2021snapshot.epa.gov/sites/static/files/2019-11/food\\_recovery\\_hierarchy\\_-\\_eng\\_high\\_res\\_v2.jpg](https://19january2021snapshot.epa.gov/sites/static/files/2019-11/food_recovery_hierarchy_-_eng_high_res_v2.jpg)

## Community Resources

Getting food to food banks, soup kitchens, and shelters requires flexibility and ingenuity. Traditional food banks bring food to a central location for distribution. Many food assistance organizations are now developing innovative models that determine the best way to get food to those that are hungry. Sometimes a local partner will rescue local food and get it to those in need. Organizations like Feeding San Diego use data to determine the best way to serve those in need. Once determined, they find the food needed through food rescue and purchase. Finally, they distribute food in a variety of ways to get it to those who need it most. Food assistance programs come in many forms:

- Backpack programs that provide food to students so they are fed over the weekend.
- Partner programs that create networks within the local nonprofit, faith community, college, and health care providers to provide food.
- Emergency food boxes that provide food kits to families with immediate needs.
- Community marketplaces where people can come and shop for free food.
- Mobile pantries that support food deserts and communities where there are not local partners to help with food distribution.
- Produce pantries that mimic farmers' markets and allow people to shop for free fresh produce.
- School pantries that allow students and their families access to food.
- Summer meal programs that provide children with meals and snacks during the summer months.

By teaching students about hunger relief programs and emphasizing how common hunger is, it is possible to reduce the stigma of seeking food assistance. Resources like the *Hunger Action Heroes Unite!* comic book is a way to help students understand how to help the environment, help others, and even help their own families and friends.

**Classroom Sensitivity Note:** Hunger is a problem that affects many in the community and it can be hard to recognize. It affects people from all walks of life. When talking about food assistance, it is particularly important to remember that there may be students in the classroom who are facing hunger themselves. Before every lesson, please stress the importance of asking for help if facing hunger and food insecurity. Explain ways that your school can help provide food during the school day or through backpack programs. Be aware of your students' situations and keep a watchful eye for students who may be uncomfortable. Make sure that classroom discussions are empathetic and nonjudgmental. By teaching with empathy and kindness, students who face hunger may feel more confident seeking out needed assistance for themselves and their families.

## Glossary:

**food desert** – regions where people have limited access to healthful and affordable food

**food insecurity** – the condition of not consistently having enough food to eat for a healthy life

**food waste** – food that goes to a landfill, incinerator, or is left to rot in fields

**surplus food** – food that goes unsold or uneaten

**greenhouse gas** – a gas that traps heat in the atmosphere (carbon dioxide, methane, nitrous oxide, fluorinated gas)

**Additional Resources:**

[Feeding San Diego – Why It Matters:](https://feedingsandiego.org/about-us/why-it-matters/)

<https://feedingsandiego.org/about-us/why-it-matters/>

[Feeding San Diego – How We Work and the Environmental Impacts of Food Waste:](https://feedingsandiego.org/about-us/how-we-work/)

<https://feedingsandiego.org/about-us/how-we-work/>

[ReFed:](https://refed.org/)

<https://refed.org/>

[Feeding America:](https://www.feedingamerica.org/hunger-in-america)

<https://www.feedingamerica.org/hunger-in-america>

[Feeding America Video: Illuminating Intersections: Hunger and Health:](https://www.feedingamerica.org/hunger-in-america/impact-of-hunger/hunger-and-nutrition)

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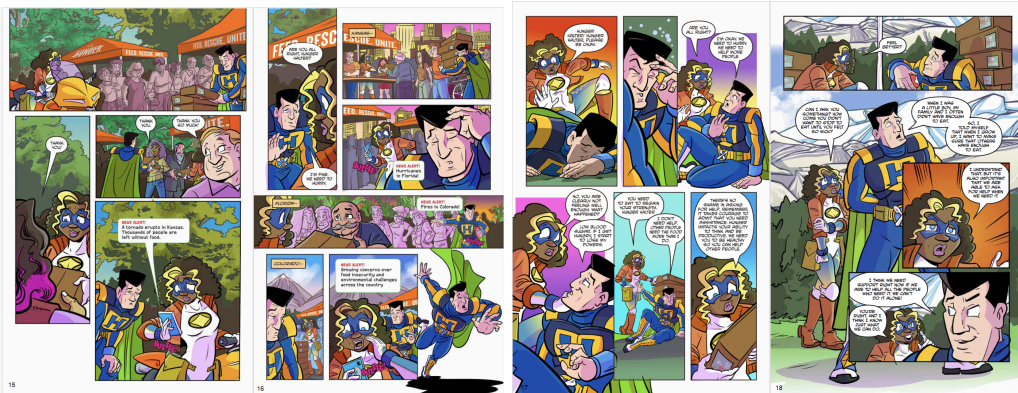
[Environmental Protection Agency | Quantifying Methane Emissions from Landfilled Food Waste:](https://www.epa.gov/land-research/quantifying-methane-emissions-landfilled-food-waste)

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## 1. Big Idea Activity: Bodies Need Fuel

Hunger has both short-term and long-term effects on the human body. Understanding how insufficient food can affect the human body will help students recognize the importance of seeking solutions to hunger in the community.

For use with *Hunger Action Heroes Unite!* pages 15-18.



**Content Area:** Health

**Standard Alignment:** National Health Education Standards:

Standard 1: **Comprehending Concepts** Students will comprehend concepts related to health promotion and disease prevention to enhance health

Standard 3: **Accessing Resources** Students will demonstrate the ability to access valid information, products, and services to enhance health.

Standard 5: **Decision Making** Students will demonstrate the ability to use decision-making skills to enhance health.

Standard 8: **Advocacy** Students will demonstrate the ability to advocate for personal, family and community health.

**Time Frame:** 120 minutes (may be divided over several days)

**Objective:** Students will understand the impacts of hunger on the human body.

**Procedure:**

**Session 1:**

1. Have students read *Hunger Action Heroes Unite!* After reading the comic book, say: *Throughout this comic book, Demeter and Hunger Halter work to prevent food waste and take action against hunger. Why do you think it is important to take action to help prevent hunger?* Allow students to respond in pairs or small groups before starting a whole class discussion. Remind students one of the most important reasons is because not having enough food to eat consistently can harm the human body. Introduce the term **food insecurity** [the condition of not consistently having enough food to eat for a healthy life].
2. Have students watch a short video about nutrition (e.g., PBS Science Trek: Nutrition, <https://sciencetrek.org/topics/nutrition>) or read a fact sheet about why nutrition is important for the body (e.g., National Agriculture in the Classroom: Food Gives Us, <https://agclassroom.org/matrix/lesson/388/>).

3. Have a students discuss the ways each of the types of nutrients help the body. Create an anchor chart like the one below to summarize what students have learned:

4. Nutrition: What the Body Needs
<b>Proteins:</b> <i>build muscle, blood, skin, bones, and other tissue/organs</i>
<b>Carbohydrates:</b> <i>provide energy for the body</i>
<b>Fats:</b> <i>help the body store vitamins and minerals</i>
<b>Vitamins and minerals:</b> <i>keep the body working properly and stay healthy</i>
<b>Fiber:</b> <i>cleans out bad chemicals and excess material from the body</i>
<b>Clean Water:</b> <i>helps keep nutrients moving through the body for digestion</i>

5. Have students write down what they ate at their last school lunch. Have them identify which nutrients they recognize from what they ate. Remind students that when they are eating they should try to balance what is on their plate so they are getting all of the nutrients needed.

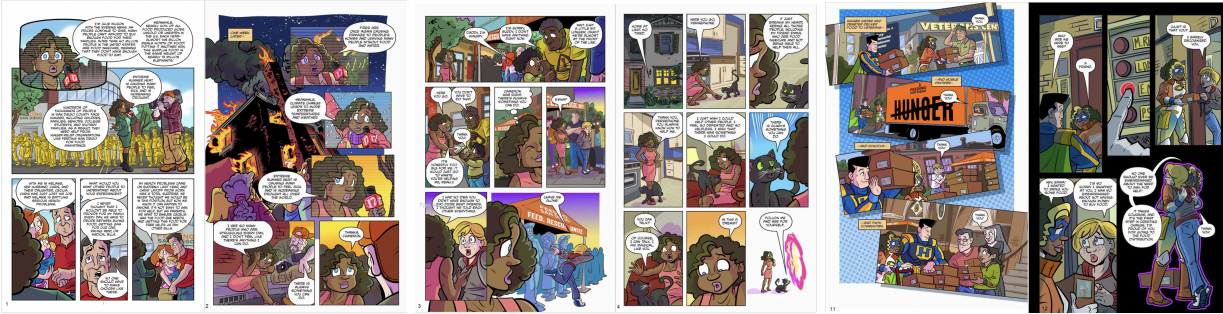
#### Procedure: Session 2:

1. Have students review the anchor chart from the previous session. Say: *Yesterday we talked a lot about nutrition and how it helps the body work well. What do you think might happen if your body did not get enough protein for a day? For a week? For a year?* Allow students to share answers in pairs or small groups before facilitating a whole class discussion. Help students arrive at the conclusion that occasionally being short protein or another nutrient might not cause a long-term problem, but **food insecurity** leads to people not having the nutrients they need over the long term.
2. Reread pages 16-17 from *Hunger Action Heroes Unite!* Ask: *Why do you think Hunger Halter feels so weak? How does this relate to nutrition?* Facilitate a whole class discussion about how it feels when your body needs food.
3. Have students work in small groups. Assign each group one of the following: brain, muscles, eyes, blood, skeleton, lungs. Provide each group with a poster board or piece of cardstock and a way to take notes. Allow students to use classroom or digital research resources to safely research the short-term and long-term effects of food insecurity on each of those parts of the body. Once students have 4-5 effects determined, have students create a poster that can educate others. Allows students to do a gallery walk around the classroom to learn more about how other parts of the body are affected.
4. After concluding the gallery walk, ask students to share something that surprised them about the effects of hunger on the body. Facilitate an empathetic discussion about why it is important for a community to help alleviate hunger. Share some local resources at your school or food bank for providing food to families in need.

## 2. Big Idea Activity: Lend Me An Empathetic Ear!

Hunger affects people across the community and can sometimes be hard to recognize. Understanding how to help people with empathy is important to help de-stigmatize hunger assistance.

For use with *Hunger Action Heroes Unite!* pages 1-4 and 11-12.



**Content Area:** Socio-Emotional Education

**Standard Alignment:** Collaborative for Academic, Social, and Emotional Learning (CASEL) Framework:

**Social Awareness:**

- Demonstrating empathy and compassion
- Showing concern for the feelings of others
- Identifying diverse social norms, including unjust ones
- Recognizing situational demands and opportunities
- Understanding the influences of organizations/systems on behavior

**Relationship Skills:**

- Showing leadership in groups
- Seeking or offering support and help when needed
- Standing up for the rights of others

**Time Frame:** 60 minutes

**Objective:** Students will understand the stigma associated with food insecurity and think about how to support those who face hunger with empathy and compassion.

**Procedure:**

1. Display the word **empathy** for students. Have students share what they think the word empathy means. Have students watch a short video about empathy (e.g., Brené Brown on Empathy, <https://www.edutopia.org/article/blog-3-videos-importance-empathy/>). Stress that empathy is the ability to understand and share the feelings of another person, or the act of “putting themselves in someone else's shoes.” Ask for volunteers to share a time when someone showed them empathy and how it made them feel.
2. Have students read *Hunger Action Heroes Unite!* Explain to students that in this lesson you are going to focus on the relationship between Julie Wilson/Demeter and Emma. Have students read pages 1-3 of the comic book.

3. Ask for a volunteer to retell what happens between the two characters (*Possible response: Julie is reporting on her community's hunger crisis. She passes a food rescue center and sees her friend Emma. She is surprised to see that Emma needs assistance. Julie confronts Emma about not telling her. Emma is embarrassed and runs away.*) Ask: *Why do you think Emma felt embarrassed?* Ask for volunteers to share their answers. Talk about how sometimes people feel ashamed or embarrassed about needing help. Ask: *Did Julie act with empathy towards Emma? Why or why not?* Allow students to share in pairs or small groups their responses. Once students have had a chance to discuss, host a whole class discussion. Through the discussion stress that Julie probably meant well, but by accusing Emma of keeping a secret she was not putting herself in Emma's shoes.
  
4. Have students consider whether they are empathetic or not. Have students self-evaluate using an empathy tool (e.g., Teaching Tolerance, Are You Empathetic?, <https://www.learningforjustice.org/sites/default/files/2017-08/teaching-tolerance-are-you-empathetic.pdf> ). After taking the quiz, ask students to brainstorm a list of empathetic actions. Record them in an anchor chart, like the one below.

Acting With Empathy
<ul style="list-style-type: none"> <li>● <i>Put yourself in another person's shoes and imagine how they might feel.</i></li> <li>● <i>Listen without interrupting.</i></li> <li>● <i>Make eye-contact while listening.</i></li> <li>● <i>Ask questions to better understand how others are feeling.</i></li> <li>● <i>Avoid making judgments or jumping to making suggestions.</i></li> <li>● <i>Ask how you can help.</i></li> </ul>

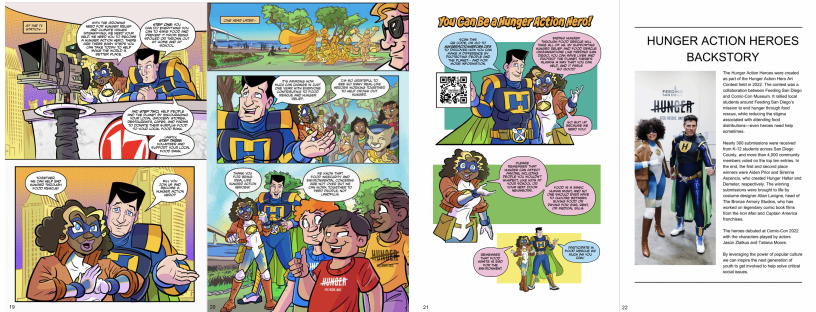
5. Ask students to think about how Julie could have responded differently to Emma. Have students work in pairs to develop scripts that show Julie having an empathetic response to Emma. Ask for volunteers to share their scripts. Have students evaluate the responses and make suggestions for how interactions can be the most empathetic response possible.
  
6. Have students read pages 11-12 of *Hunger Action Heroes Unite!* Ask: *Do you think Julie/Demeter asks with more empathy here? Why or why not? Would you change anything about the way she responds to Emma when she brings her food?* Have students discuss in pairs or small groups before discussing as a group. Have students brainstorm alternate ways to change or improve the way Julie/Demeter and Emma communicate. As a class, brainstorm ways to respond if someone notices a sign of food insecurity in a friend or classmate. Make sure to stress the importance of being an empathetic, non-judgmental listener in these situations.



### 3. Big Idea Activity: Empowered For Action

Making change in any community requires feeling empowered to take action. Understanding what empowerment is and how it can fuel change is essential in taking action around hunger and food rescue.

For use with *Hunger Action Heroes Unite!* pages 19-22.



**Content Area:** English/Language Arts

**Standard Alignment:** Common Core State Standards:

**CCSS.ELA-Literacy.CCRA.R.1** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**CCSS.ELA-Literacy.CCRA.R.2** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**CCSS.ELA-Literacy.CCRA.R.3** Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

**CCSS.ELA-Literacy.CCRA.W.4** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

**CCSS.ELA-Literacy.CCRA.L.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

**CCSS.ELA-Literacy.CCRA.L.5** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

**CCSS.ELA-Literacy.CCRA.L.6** Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

**Time Frame:** 45 minutes

**Objective:** Students will understand the meaning of the word “empowerment” and think about how they might be empowered to make changes in their community.

**Procedure:**

1. Display the word **empowerment** for students. Have students break the word into its root, *power* and its affixes, *em-* and *-ment*. Have students look up the meaning of the word “power” in the dictionary. Discuss the various meanings. Emphasize that today you will be focusing on the meaning, “the ability to

direct or influence”. Ask: *What does it mean when a person has power? Who are some people who have power? What is an example of a person using power for good? (Answers may vary.)*

2. Ask students to share what each of those affixes means (*em-* means “put in or into, bring to a certain state”; *-ment* means “state of being”). Display the following:

*em-* + *power* + *ment*  
bring to + power + a state of being

The class was empowered to teach other classrooms about food waste.

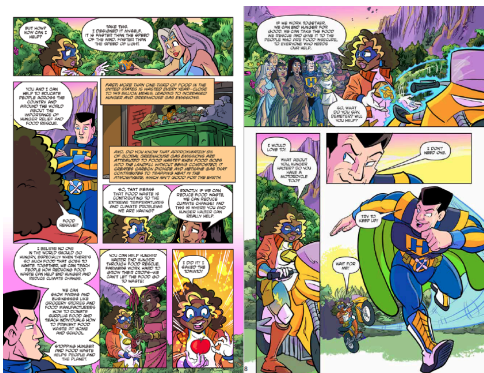
Using the affixes and their affect on the root “power” and the context of the sentence, have students think about what a good definition of the word empowerment is. Ask for volunteers to share definitions of the word empowerment (*Possible response: the state of being brought to power*).

3. Provide students with or have them create a word map for the word empowerment (e.g., Reading Rockets Word Map Template 2, <https://www.readingrockets.org/sites/default/files/migrated/content/pdfs/wordmap.pdf>). Ask for volunteers to share their illustrations and sentences.
4. Have students read pages 19-21 of *Hunger Action Heroes Unite!* Ask: *How did Demeter become empowered in the story? (Possible response: She and Hunger Halter rescued food and distributed it). How do Demeter and Hunger Halter challenge you as the reader to become empowered? (Possible responses: They want people to save food from being wasted. They want people to encourage stores and restaurants to donate surplus food. They want people to support local food banks).*
5. Have students write a journal entry in response to the prompt: *Think of a time when you felt empowered to make a positive difference? What was the difference you made? Why did you feel empowered?*

#### 4. Big Idea Activity: It Goes Straight To The Atmosphere

Every year surplus food makes its way to landfills as food waste leading to climate change through greenhouse gas emissions. Understanding the impact of an inefficient and wasteful food system on the atmosphere is crucial for combating negative environmental impacts.

For use with *Hunger Action Heroes Unite!* pages 7-8.



**Content Area:** Science

**Standard Alignment:** Next Generation Science Standards

**MS-PS1-6.** Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.

**MS-LS2-3.** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

**MS-LS2-4.** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

**MS-ESS3-5.** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

**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.

**Time Frame:** 2 weeks of 5 minutes per day observation followed by 50 minutes

**Objective:** Students will understand the process of decomposition and how food waste emits greenhouse gasses into the atmosphere.

**Procedure:**

**Session 1: 2 Week Decomposition Observation** (optional\*):

1. Get a cup of soil from outside to ensure that it has decomposing bacteria and microorganisms. Before the lesson, prepare raw organic materials (vegetables/fruits) that are showing signs of spoiling (e.g., strawberries, red peppers, cucumbers) and two mason jars. Place a half cup of soil from outside in a mason jar and add a half cup of the organic materials to the jar. In the other jar, add only the raw organic materials. Make sure both jars have the same organic material. Spray the inside of each jar with a little water to make the interior damp, but do not soak. Cover the jar with a square of breathable fabric and secure with a rubber band or string.

2. Show the class each mason jar and explain how you prepared them. Say: *We are going to observe how raw organic materials **decompose** or break down. In your science journal, write down a **hypothesis** or prediction about which jar's contents will break down faster.* Then have students draw a sketch of each jar and write down several observations about what they see in the jar. Take the temperature of each jar's content and tell students the reading for them to record in their science journal.
3. Each day for two weeks, or until the matter is decomposed, repeat Step 2. Keep the insides damp but not soaking wet. Have students record their observations and note the temperature.
4. After the material has decomposed, have students discuss their observations in pairs or small groups. Graph the temperature observations for each jar and ask: *What do you notice about the temperature of each jar over time? Is the temperature of the contents different? Why do you think one jar might be hotter than another?* Ask for volunteers to share their overall observations and ask students why they think a jar with soil and decomposers may have been more successful at breaking down material than a jar without soil. Make sure to safely dispose of rotting materials, preferably into a compost pile.

*\*If there is not time to have students participate in the decomposition observation, provide students with some background information on decomposition (e.g., PBS NatureWorks, Decomposers and Scavengers, <https://www.pbs.org/video/natureworks-decomposers-and-savengers/>).*

## **Session 2:**

1. Have students read *Hunger Action Heroes Unite!* page 7. Have students pay close attention to the call-out box with the climate change fact (Fact: More than one third of the food...). Say: *I want you to think about your own household. You do not need to share with anyone else, but think about whether your family wastes a lot of food. Does your family ever use composting to dispose of your food?* After students have thought about their own family, have them read about landfills (e.g., National Geographic Landfills Encyclopedic Entry, <https://education.nationalgeographic.org/resource/landfills/>).
2. Show students a graphic about organic materials that end up in landfills (e.g., EPA: Composting for Community Initiative at the Institute for Local Self-Reliance, <https://www.epa.gov/snep/composting-food-waste-keeping-good-thing-going>). Stress that approximately 80 million tons (a third) of all food available goes to waste and about one fifth of what ends up in the landfill is food waste. Ask: *Why is food waste in a landfill a big problem? What happens to food waste when it goes into landfills? How does it decompose? (Possible responses: There is no soil with bacteria to help decompose the food and incorporate the nutrients back into the soil.)*
3. Share the image from the the Environmental Protection Agency (EPA):

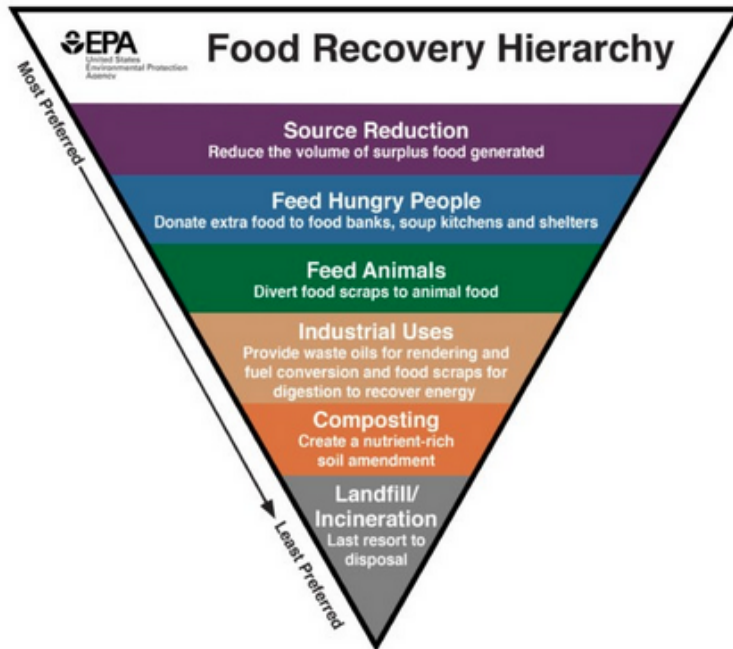


Source:

<https://www.epa.gov/land-research/quantifying-methane-emissions-landfilled-food-waste>

Remind students that many landfills do not have ways to **compost** food that is mixed in with inorganic waste (e.g., plastics) so the food does not decompose into soil. When food breaks down quickly it generates a greenhouse gas called methane. Have students watch a video about greenhouse gases (e.g., NASA What is the Greenhouse Effect?, <https://www.youtube.com/watch?v=SN5-DnOHQmE>). Ask: *If landfills produce too much methane gas, what will happen to our atmosphere? (Methane gas along with other greenhouse gasses will trap too much heat in our atmosphere and will lead to a warmer Earth).* Take students outside or to large indoor space and play the Purdue University Extension Methane Action Game (Food Waste and the Environment, p. 12, <https://www.extension.purdue.edu/extmedia/fnr/FNR-576-w.PDF>).

4. After playing the game, ask: *How do you think we can prevent methane gas from entering the environment? (Possible responses: Buy only food you need. Compost food waste.)* Share the EPA Food Recovery Hierarchy. Have students work in pairs or small groups to discuss each of the steps of the hierarchy. Say: *Look at each step in the Food Recovery Hierarchy. Think about 2-3 action items that could be taken for each of these steps. For example, for Source Reduction, one action item might be for farmers to work together to coordinate what it planted.*

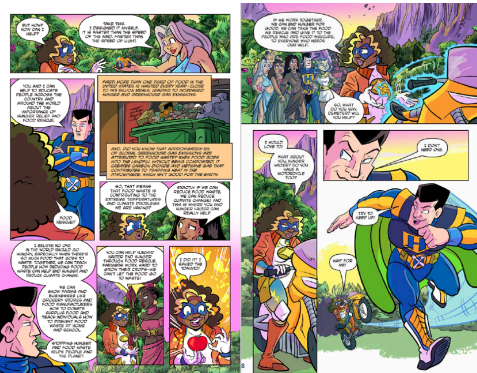


After students come up with their action items, discuss each of the steps in the hierarchy and produce a list of action items. Have students star action items that they could help take to help with food recovery and to combat food waste.

## 5. Activity: Break It Down Again

Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. Composting is one way that households can address their food waste.

For use with *Hunger Action Heroes Unite!* pages 7-8.



**Content Area:** Science

**Standard Alignment:** Next Generation Science Standards

**MS-LS2-3.** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem (LS2.B)

**Time Frame:** 60 minutes

**Objective:** Students will understand how composting works and why it is a way to address the problem of food waste for households.

*Note: This activity should occur after **Big Idea Activity: Food Waste and Its Atmospheric Impact.***

**Procedure:**

1. Display the words landfill, waste, bacteria, and organic. Have students share their prior knowledge of what these words mean. Help students understand the definition of each by sharing the following definitions:
  - landfill (*n.*): a place to dispose of waste material
  - waste (*n.*): unwanted or extra material
  - bacteria (*n.*): single-celled organisms
  - organic (*adj.*): coming from living things

Ask: *Where does your trash go?* (landfill/recycling center)

2. Begin the lesson with a pair/share discussion around the prompt. Say: *What happens to different kinds of waste when it enters the landfill? A tv? A banana peel? A plastic bag?* Have students discuss for 5 minutes and then elicit responses from volunteers. Record student ideas on whiteboard/chart paper. Ask: *Which of these things are organic?* (banana peel).
3. Remind students that organic or food waste can decompose and be used to replenish soil through a process called composting.

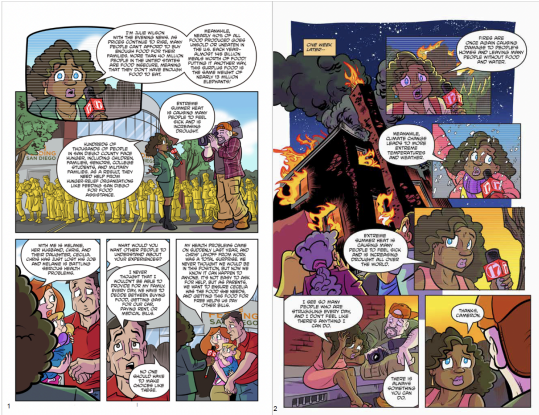
4. Have students watch a short film about composting (e.g., PBS Science Trek: Composting; <https://www.pbs.org/video/composting-how-it-works-96aqor/>) or read a fact sheet with students from a Composting source (e.g., University of Georgia Composting for Kids, <https://extension.uga.edu/content/dam/extension-county-offices/jeff-davis-county/4h/Composting%20with%20Kids.pdf>)
5. Have students do research with classroom or digital resources to learn about ways composting is used in the local community. Have students share these different ways in a whole class discussion.
6. Have students work in small groups to create posters that will teach others in the school about composting. Each poster should include: how to compost, what compost is used for, how composting helps the environment, how our community supports composting.
7. Extension: Students who are motivated may wish to educate other classrooms about composting or even create a compost heap at the school for use in a community garden.



## 6. Activity: Prices Soaring

Food insecurity is impacted by rising food prices along with other cost of living increases. By learning about rising cost of living, students will better understand some of the reasons people may find themselves making difficult decisions that result in hunger.

For use with *Hunger Action Heroes Unite!* pages 1-2.



**Content Area:** Social Studies

**Standard Alignment:** National Council for the Social Studies Curriculum Standards

- 7.a. Give and explain examples of ways that economic systems structure choices about how goods and services are to be produced and distributed.
- 7.b describe the role that supply and demand, prices, incentives, and profits play in determining what is produced and distributed in a competitive market system.
- 7.f explain and illustrate how values and beliefs influence different economic decisions.
- 7.i use economic concepts to help explain historical and current developments and issues in local, national, or global contexts.

**Time Frame:** 60 minutes

**Objective:** Students will understand the concept of inflation and cost of living increases and their impact on household economics.

**Procedure:**

8. Have students read pages 1-2 in *Hunger Action Heroes Unite!* Point out that Julie Wilson is reporting about the rise in prices. Ask: *According to Julie Wilson's reporting, what are some of the effects of rising prices? (People struggle to afford food for their families.)*
9. Display a weekly grocery store ad from a local grocery store. Then, display an grocery store advertisement from 1974 (e.g., Pittsburgh Post-Gazette, January 16, 1974, p.7, [https://news.google.com/newspapers?nid=gL9scSG3K\\_gC&dat=19740116&printsec=frontpage&hl=en](https://news.google.com/newspapers?nid=gL9scSG3K_gC&dat=19740116&printsec=frontpage&hl=en)). Point out some of the prices. If possible, compare the cost of similar items. Say: *What do you notice about the prices of groceries in 1974 compared to today? (Groceries are more expensive.)*
10. Display these terms with the class: inflation, cost of living, purchasing power

- inflation (n.): rise in prices measured over time
- cost of living (n.): amount of money needed to cover basic expenses like housing, food, taxes and healthcare at a certain place and point in time.
- purchasing power (n.): the value of money in terms of the amount of goods and services it can buy.

11. Say: *Looking at the grocery ads, do you think that \$1 has the same buying power as it did in 1974?* Have students discuss what they think in pairs or small groups. Have students volunteer to share their responses. Explain that the U.S. government tracks information about spending and the Bureau of Labor Statistics has a calculator that helps people translate the buying power from 1974 to today's statistics. For example, \$1 in January 1974 has the same buying power as \$6.62 fifty years later in January 2024. Or, another way to think about it is \$1 in January 2024 is only worth about \$.15 in January 1974. Use this calculator to show how much the buying power of \$1 in 1974 would be worth today (CPI Inflation Calculator, <https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=1&year1=197401&year2=202401>).
12. Ask students to think about the following prompt: Why would a dollar change in its buying power over time? Have students watch a video that explains inflation (e.g., PBS Learning Media, Understanding Inflation, <https://ca.pbslearningmedia.org/resource/mkqed-math-rp-inflation/understanding-inflation-stop-motion-explainer/>). Tell students that in order to compare prices over time, using an inflation calculator is necessary.
13. Display the following chart:

Year	Average Household income	Median Home Sale Price	Average Food Cost per Household
1974	\$11,100	\$38,900	\$1,680
1974 adjusted for inflation			
2023	\$59,540	\$416,100	\$5,703

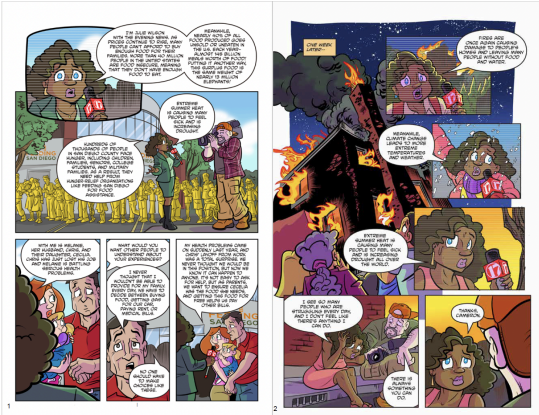
Tell students they will use the CPI inflation calculator to determine what the average household income, median home sale price and average food cost per household in 1974 would be in 2023 dollars. Have students calculate the prices and share their results. (*Average Household Income: \$71,261.52, Median Home Sale Price: \$249,736.33, Average Food Cost per Household: \$10,785.53*). Ask: *What do you notice about the average household income in 1974 versus 2023? (Income had more buying power in 1974). What do you notice about the cost of homes in 1974 versus 2023? (It was less expensive to buy a house in 1974). What do you notice about the cost of food per household in 1974 versus 2023? (It was more expensive to buy food in the 1970s.)*. Explain to students that the 1970s was a period of great inflation and many people struggled with the rising cost of food.

14. Have students research average household income, median home sale price, and average food cost per household in 2010 and 2015. Have students compare that to the 2023 figures above. Have students respond to the following journal prompt: *What do you think happens when the buying power of the average household income decreases, but the costs of housing and food increases? What happens when people also have to buy health care, clothing, and transportation? What problems might arise for families if prices increase, but the buying power of money earned does not rise as fast?*

## 7. Activity: It's Part of the Whole Surplus Food Problem

Enormous amounts of surplus food is wasted each year. In order to better understand how much food is wasted, students will use their understanding of percentages, parts, and the whole to calculate total food produced.

For use with *Hunger Action Heroes Unite!* pages 1-2.



**Content Area:** Mathematics

**Standard Alignment:** Common Core State Standards for Mathematics

**CCSS.Math.Content.6.RP.A.3** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

**CCSS.Math.Content.6.RP.A.3.C** Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

**Time Frame:** 45 minutes

**Objective:** Students will understand how to solve problems involving finding the whole, given a part and the percent.

**Procedure:**

1. Have students read pages 1-2 in *Hunger Action Heroes Unite!* Display the quote from the comic book to the class:

MEANWHILE NEARLY 40% OF ALL FOOD PRODUCED GOES UNSOLD OR UNEATEN IN THE U.S. EACH YEAR-ALMOST 145 BILLION MEALS WORTH OF FOOD.

Say: *We are going to think about how to find missing information based on the data we know. Today we are going to think about the following question: If nearly 145 billion meals is worth nearly 40% of all food produced, how many meals are produced?*

- Ask students to review what they know about percentages. Ask: *What does the percentage 40% mean? (Possible response: 40% means 40 out of 100). If 40% of students prefer chocolate ice cream, what does that really mean? (Possible response: If there were 100 students, 40 of them like chocolate ice cream best). Does 40% always mean that there are only 100 things in the whole? (Possible response: No, but it means that there is a ratio of 40 to 100, regardless of what the whole is).*
- Display the following:

*Emir wants to save 75% of his babysitting money. He earns \$24. How much will Emir save?*

Ask: *What percentage does Emir want to save? (75%). How could that be shown as a proportion? (75/100). What is the whole amount Emir earns? (\$24). Have students write down 75/100 as a fraction and show them how to reduce the fraction:*

$$\frac{75}{100} = \frac{3}{4}$$

Ask: *What part of the fraction represents the whole? (The denominator). In each of these fractions, what number represents the whole (100; 4). Say: How could we set up the amount Emir will save versus how much he earned as a fraction. Show students how to set up the part versus the whole:*

$$\frac{x}{24}$$

- Say: *Now we need to relate the fraction that represents the 75% to the amount Emir will save versus how much he earned (the part vs. the whole). We know that 75% is the same as what Emir will save and we also know that 100% is the same as the \$24 that Emir earned.*

$$\frac{75}{100} = \frac{x}{24}$$

Say: We also know that the fraction 75 out of 100 is equivalent to 3 out of 4, which are easier numbers to use. Ask: How would you set up that equivalence? Have a student help construct the equivalence below:

$$\frac{3}{4} = \frac{x}{24}$$

Students should be able to use their prior knowledge of fractions to calculate that 18 is  $\frac{3}{4}$  or 75% of 24.

- Repeat this process to help students understand proportional relationships and to calculate both the missing parts and missing whole based on percentages. Once students solidly understand the concept, remind students that this process can be used for larger numbers as well.
- Show the original problem again: *If nearly 145 billion meals is worth nearly 40% of all food produced, how many meals are produced?* Have students fill out the following table:

	Number we know	Percentage
<b>part</b>	145 billion meals	40
<b>whole</b>	?	100

Say: 145 billion meals represents 40% of the total. First let's estimate what a reasonable answer might be. We know that 40% is not that far from 50% or  $\frac{1}{2}$ . If 145 billion meals was half of the total meals produced, what would that mean? (290 billion meals). So will the total number of meals be more or less than 290 billion meals (More, because 40% is less than 50%, so there will need to be more meals.). Have students work in partners to calculate the missing whole using the formula:  $percentage * whole = part * 100$ . (362.50 billion meals). Have students share their answers as a class.

## 8. Activity: Weather in the Extreme

Surplus food and food waste have impacted greenhouse gasses and climate change. As the climate changes, extreme weather and temperatures have become more common.

For use with *Hunger Action Heroes Unite!* pages 1-2 and 15-16.



**Content Area:** Science

**Standard Alignment:** Next Generation Science Standards

**MS-ESS3-5 Earth and Human Activity:** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

**MS-ESS3-5.C Earth and Human Activity:** Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things. (MS-ESS3-3)

**MS-ESS3-5.D Earth and Human Activity:** Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities. (MS-ESS3-5)

**Time Frame:** 180 minutes (may be divided into several session)

**Objective:** Students will understand the causes of extreme weather and how climate change is causing their frequency and intensity to rise.

**Procedure:**

1. Have students read pages 1-2 and 15-16 of *Hunger Action Heroes Unite!* Remind students that in addition to contributing to hunger, food waste results in climate change. Climate change is a major factor in the rise in extreme weather events, which also can also lead to people losing homes and resources like food. Put the words, **weather** and **climate** on the board. Have students think about how these words are similar and different. Have students read an article in pairs or small groups about the differences between weather or climate (e.g., *Weather or Climate...What's the Difference*, <https://education.nationalgeographic.org/resource/weather-or-climate-whats-difference/>) Ask

each group to create a definition of weather versus climate. Have students share their responses. Then create a classroom definition to display:

- weather (n.): short-term conditions in the lower atmosphere such as, rain, fog, clouds, snow, storms, etc.
- climate (n.) changes in the atmosphere over a long period, usually 30 years or more.

Say: *When you are thinking about climate change, you can't think about one year by itself. Sometimes there are unusual years with unusual weather. However, climate change can impact patterns of weather over the long term.* Stress that climate change has happened throughout the history of the earth, but is now happening faster because of human activity. Have students brainstorm a list of causes as a whole class. (*Possible responses: Burning fossil fuels releases greenhouse gasses. Decomposing food waste releases methane gas into the atmosphere.*) Have students brainstorm a list of effects of climate change. (*Possible responses: global warming, rising sea levels, melting glaciers, more frequent and intense extreme weather events.*)

2. Share a video about extreme weather (e.g., National Geographic, Extreme Weather: Interconnections in Extreme Weather, <https://education.nationalgeographic.org/resource/extreme-weather-interconnections-in-extreme-weather/>) Have students brainstorm a list of types of extreme weather (*Possible responses: droughts, heat waves, typhoons, powerful storms, flooding*). Divide students into small groups and assign them each a type of extreme weather. Tell students that they will be creating a presentation about their type of extreme weather. Share the following checklist:

Extreme Weather Events Presentation:

Slide 1: What is the type of extreme weather (definition and description)?

Slide 2: Where does this type of extreme weather usually occur in the U.S. or around the world?

Slide 3: What is a recent example of this type of extreme weather event? Where and when did it occur? What were its effects?

Slide 4: How often did this extreme weather event occur in the past? Provide data about frequency and intensity.

Slide 5: How often do these types of extreme weather events occur in the present? Provide data about frequency and intensity?

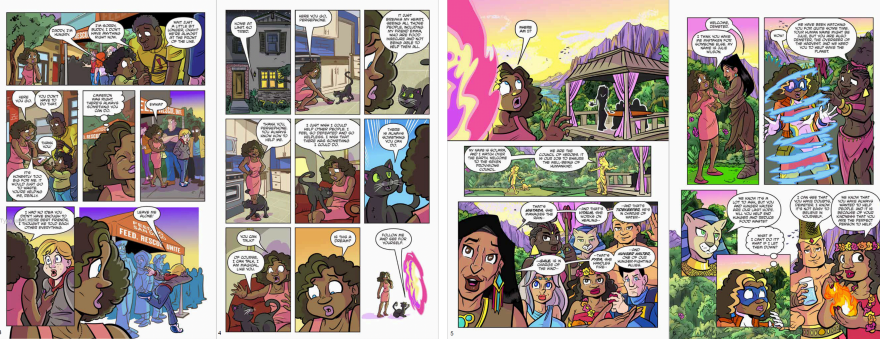
Allow students time to use classroom, digital, and library resources to research about their assigned type of extreme weather. After students complete their research and presentations, have students share their presentations with the class.



## 9. Activity: Nice to Demeter You

The Council of Heroes is quick to call Julie Wilson, Demeter. Students will explore the Greek mythology of Demeter and Persephone and explore these two characters.

For use with *Hunger Action Heroes Unite!* pages 3-6.



**Content Area:** English Language Arts

**Standard Alignment:** Common Core State Standards for English Language Arts

**CCSS.ELA-Literacy.CCRA.R.3** Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

**CCSS.ELA-Literacy.CCRA.R.7** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**CCSS.ELA-Literacy.CCRA.R.9** Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

**CCSS.ELA-Literacy.CCRA.W.3** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

**Time Frame:** 75 minutes

**Objective:** Students will understand how to analyze characters in multiple texts and think about how they relate to one another. Students will also understand how an allusion to a myth helps bring meaning to the comic book.

**Procedure:**

1. Have students read *Hunger Action Heroes Unite!* Have students pay close attention to pages 4-6. Ask students to share names of characters they encounter on these pages. Make sure that students note the name Demeter and Persephone, in addition to the other characters found in those pages.
2. Ask students to explain what a myth is. Stress that a myth is a traditional story that often explains why something happens in nature. Share that myths come from all over the world, but some very famous myths come from Greece. Have students read a version of the myth of Demeter and Persephone (e.g., *Persephone: A Greek Myth*, Retold by Karen Mockler, RAZ Kids, [https://www.corkery.cps.edu/classrooms1920/dilacova/Persephone\\_%20A%20Greek%20Myth.pdf](https://www.corkery.cps.edu/classrooms1920/dilacova/Persephone_%20A%20Greek%20Myth.pdf)) or watch a video explaining the myth (e.g., *The story of Demeter and*

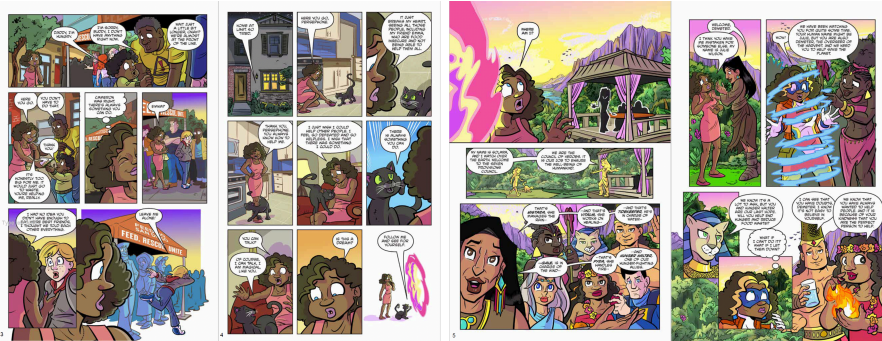
Persephone, The Fitzwilliam Museum,  
<https://www.youtube.com/watch?v=fdQZIOsCDWU>).

3. Have students work in pairs using a graphic organizer to retell the events from the story that relate to Demeter (e.g., ReadWriteThink Sequence of Events Chart, <https://www.readwritethink.org/sites/default/files/SequenceEvents.pdf>). As a class, review those events. Say: *How would you describe Demeter in the myth? (Possible responses, loyal, loving, emotional)*. Display a Venn Diagram with Demeter (myth) written on one side and Demeter/Julie Wilson written on the other side. As a whole class have students fill in the Venn Diagram. Make sure that students include ways the characters are similar and ways they are different in their traits, actions, and feelings. *(For example, students may share that Demeter (myth) and Demeter/Julie Wilson both care about the well-being of others deeply. Demeter cares about Emma and Demeter cares about Persephone)*. After filling out the Venn Diagram, have students look at the similarities. Ask: *Why do you think the Hunger Action Hero was named Demeter in the comic book? (Answers may vary, but students should be able to explain that Demeter, the goddess of harvest, helps to control food. Demeter is a superhero that helps distribute food)*.
4. After students fill out the Venn diagram, have students respond to the writing prompt: Imagine that Demeter (myth) and Demeter/Julie Wilson are volunteering at a food bank together. What do you think they might have to say to each other? Create a narrative that imagines the conversation they might have and what they might think and feel about helping provide food to those in need. Students may volunteer to share their narratives with a peer or the whole class.

## 10. Activity: Have Confidence Around Hunger Action

Being a Hunger Action Hero in the community requires a lot of self-confidence and personal agency. Understanding how to quell imposter syndrome and build self-confidence is essential for making community change.

For use with *Hunger Action Heroes Unite!* pages 3-6.



### Content Area:

**Standard Alignment:** CASEL Framework

**Self-Management:** Exhibiting self-discipline and self-motivation

**Self-Management:** Showing the courage to take initiative

**Self-Management:** Demonstrating personal and collective agency

**Time Frame:** 60 minutes

**Objective:** Students will understand some of the steps they can take to build their confidence and find the courage to tackle community issues like hunger assistance and food rescue.

### Procedure:

1. Have students read *Hunger Action Heroes Unite!* Have students read pages 3-6. Ask: *On page 4, how does Julie Wilson feel? (Possible responses: She feels really defeated. She doesn't know how to help. She doesn't feel confident in her abilities.) How would you describe Julie Wilson when she says, "What if I can't do it? What if I let them down?" (Possible responses: She is lacking confidence. She has self-doubt.) Say: It is really common to feel self-doubt or a lack of confidence when you are tackling something big and important. Have students respond to a quick writing activity in their journal: Think of a time when you felt nervous or unsure about doing something important. Why did you feel this way? Think of another time when you felt really good about how you did something? What made you feel this way?*
2. Say: *Sometimes you may feel nervous or have self-doubt, especially when you are asked to do something big and important. This is a very common feeling. Write the words **Imposter Syndrome** on the board. Say: Even the most successful people in the world feel self-doubt. Most successful people experience imposter syndrome at some point in their lives.*

**Imposter Syndrome:**

- feeling like you are unqualified or incompetent, even when you are not.
- feeling like a fraud.
- feeling like your success is due to luck rather than your own skill.

Say: *Julie Wilson feels like an imposter when she meets the Council of Heroes. She wonders if they have the wrong person. What do we know about Julie Wilson that makes her the right person to help fight hunger? (Possible responses: She knows a lot about the problem. She wants to help. She cares about people who have food insecurity.)*

3. Explain to students that the comic book *Hunger Action Heroes Unite!* wants all readers to become Hunger Action heroes themselves. Say that in order to follow through with important work in the community it is important to have self-confidence. Have students work in pairs or small groups to think of ways that Julie Wilson becomes more confident during the comic book and why she is able to overcome her self-doubt. After students have discussed, have the class participate in a whole class discussion to think about how she gained self-confidence.
4. Create an anchor chart about Self-Confidence like the one below:

**Self-Confidence**

- Learn a lot about the topic (Demeter learns a lot about hunger assistance and food rescue.)
- Pair up with a strong partner (Demeter pairs up with Hunger Halter.)
- Positive Self-Talk (Demeter tells herself she can do it.)
- Set manageable goals (Demeter and Hunger Halter tackle problems one at a time.)
- Learn from mistakes, but don't dwell on them. (Hunger Halter admits he should take time to eat, but doesn't get defeated).
- Celebrate successes. (Demeter and Hunger Halter celebrate with the Council of Heroes).

Stress to students that in order to make changes in the community they have to have self-confidence and fight against imposter syndrome. Have students write a 3-2-1 ticket about Self-Confidence: 3 times they have been more self-confident, 2 times they wish they had been more self-confident, 1 situation in which they want to be more self-confident in the future.