

SDG 2: Zero Hunger

This module focuses on SDG 2 which aims to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.” It includes a story of food insecurity and action in Uganda. Activities include class discussions and local engagement with civil society organizations. In this module, you will learn about the pillars of food insecurity, the types and impacts of global malnutrition and assess food insecurity at a local level and how you can take action.

Link to Subjects	Biology, Civics, Economics, Government, History		
Link to Indiana High School Core	Biology (HS-LS2-7); Economics (E.1.8, E.4.2); Employability (9-10.SE.4);	Link to International Baccalaureate	TBD
Story	Story #1: Esther's Story Part 1 Story #2: Esther's Story Part 2		
Activities	Activity #1: The faces of malnutrition	Activity #2: Food vs Planet: Can we really feed the population without devouring the planet?	Activity #3: Let's start at home: Soup kitchen 2.0
Type of Activity	Discussion	Lecture and Discussion	Invited Speaker & Local Engagement
Time of Activity	1 class	1 class	1 class

Key Questions & Terms

Key Questions	Key Terms
<p>How prevalent is hunger and malnutrition?</p> <p>What is the relationship between wealth and food consumption?</p> <p>How is the food system interconnected globally?</p> <p>What impacts do food consumption patterns and farming practices have on the environment?</p>	<p>Malnutrition</p> <p>Obesity</p> <p>Wasting</p> <p>Stunting</p> <p>Protein</p> <p>Dietary diversity</p> <p>Global food system</p>

Story Summaries

Story #1: Esther's Story Part 1

Esther was born into a modest family in rural Uganda. She thrived amidst the vibrant village life. Despite a loving family, her family struggled with poverty and food insecurity. This food insecurity was affecting her development during the critical first years of life.

[Story #1: Esther's Story Part 1](#)

Story #2: Esther's Story Part 2

Esther's family sought advice from health workers on how to improve the nutrition of the young Esther. Through changes in their diet, they were able to improve her nutritional status during the crucial first 1000 days. Their efforts were reflected in the increased activity, curiosity, and development of Esther.

[Story #2: Esther's Story Part 2](#)

Opening discussion

1. Have students read the first part of Esther's story (see [Story #1](#)) individually, in pairs, or in groups.
 - a. If you prefer to use news stories you might consider stories about "food deserts" (for example, <https://bit.ly/4c6T6C2>) or about different preferences for food spending (for example, <https://bit.ly/45yhc6a>).
2. By drawing on the story and their own knowledge and experiences, ask students to list aspects of food (in)security under each of the following four categories (drawing on research of Raven and Stewart-Withers (2019) retrieved from <https://bit.ly/3KRQBao>).
 - a. Availability of (healthy) food
 - b. Access to (healthy) food
 - c. Consumption of (healthy) food
 - d. Stability of (healthy) food sources
3. Ask students to share their discussions and how food relates to "well-being" more broadly
4. End the discussion by linking what students discussed to the elements of Sustainable Development Goal #2 to "End hunger, achieve food security and improved nutrition and promote sustainable agriculture." <https://bit.ly/3xoJVh1>

Activity #1: The faces of malnutrition

This activity focuses on the importance of proper nutrition during the first years of life. Students explore the importance of good nutrition during the first “1000 days” and learn key terms related to poor nutrition. We also present a potential lab activity for teachers with lab resources/funding.

Activity Learning Objectives

1. Understand the importance of hunger and nutrition during the early years of life.
2. Identify how hunger manifests in different parts of the world
3. Able to compare nutritional concerns in their context to those in other contexts

Teacher preparation

1. If you are not able to give students access to the internet during class, you should prepare print-outs from the resources below to facilitate students’ ability to retrieve and report back on information independently.
2. If you intend to use the lab activity (under possible enrichment), ensure that you have the funds or the materials to do so. This would require more forward planning.

Lesson Flow

1. Ask the students what they think the “First 1000 days” refers to in the context of SDG 2 and ending global hunger.
2. Invite students to explore content at www.thousanddays.org and adapt their answers from the first discussion (this can be done individual, in pairs, or in groups) <https://bit.ly/3xfDc9k>.
3. Invite students to share back with the class what they learned from the website resource
4. Divide students into three groups and have each group investigate and create a definition for one of the following terms and imagine how it manifests in the story of Esther and their community (i.e., one term per group then shared back): stunting, wasting, and obesity.
5. Share back with the class.
6. As a class, generate a list of required Macronutrients and Micronutrients; use USDA’s MyPlate resources to help: <https://bit.ly/3VynNJ8>.
7. Then discuss what is the physiological effect of macro/micronutrient deficiencies?

Possible Enrichment

If you have access to lab resources, you can add a laboratory exercise where students test the protein levels in foods. Note that the company instructions for this particular lab may need to be adapted for your class. <https://bit.ly/45yrLWH>

References

- Jones, S.M. (2018). Food deserts not to blame for growing nutritional gap between rich and poor, study finds. University of Chicago News. Retrieved from <https://bit.ly/45yhc6a>
- Morrison, N. & Paine, G. (2023). Are you living in a food desert? These maps suggest it can really affect your health. UNSW Sydney. Retrieved from <https://bit.ly/4c6T6C2>.
- Raven, B., & Stewart-Withers, R. (2019). Using critical discourse analysis and the concept of food security to understand pregnant women's nutrition in Aotearoa/New Zealand. *New Zealand College of Midwives Journal*, (55). Retrieved from <https://bit.ly/3KRQBao>
- Thurow, R. (2014). 1,000 Days: The Period That Decides the Health and Wealth of the World. *Atlantic*, 12, 21-36. Retrieved from <https://bit.ly/4bq1P17>

Activity #2: Food vs Planet: Can we really feed the population without devouring the planet?

In this activity, students will learn about the relationship between agriculture and land degradation and the scale of human food production and consumption. The activity will focus on protein consumption, its importance for the human diet but also its environmental impact.

Activity Learning Objectives

1. Understand the importance of protein to the human diet and to our environment
2. Identify the various sources of protein and implications for land use and sustainable development
3. Practice note taking using a graphic organizer

Teacher preparation

1. Review the materials, especially the TED Talk by Manbiot to determine how you want to tailor the lesson.
2. Identify innovative protein sources in your community/region.

Lesson Flow

1. Ask students what sort of protein each and where it comes from. Encourage them to consider non-animal sources of protein.
2. Encourage students to practice their note taking while watching a video on the topic of agriculture, hunger, and sustainable development.
 - a. You might consider having students practice the use of graphic organizers for note taking (see for example, <https://bit.ly/4eFsLg6>)
3. Have students watch the TED Talk by George Manbiot on the impact of agriculture on the planet and the need for a more sustainable/scalable mode of protein production. Alternatively, you can generate a transcript to be read.
 - a. TED Talk here: <https://bit.ly/3XvTTb8>
4. Ask students what they think the relationship is between wealth and protein consumption.
5. You can use this graph (<https://bit.ly/3KQ0HZD>) to generate discussion around the following questions:
 - a. What patterns do you notice in the graph?
 - b. Why would wealthier countries consume more protein?
 - c. Revisit the types of protein, which ones do you most often consume and why? Your family? Your extended family?
 - d. What implications does protein consumption have on the health of the planet?
6. As an additional activity ask students to answer the following question by drawing on knowledge about malnutrition, the relationship between wealth and food consumption, and the relationship between agriculture and planetary health:

- a. How do we continue to feed the world appropriate nutrients and maintain the health of the land, seas, and skies?

References

- Manbiot, G. (2022). Can we feed ourselves without devouring the planet? *TED Countdown London Session 2022*. Retrieved from <https://bit.ly/3XvTTb8>
- Ranganathan, J. (2016). People are eating more protein than they need—Especially in wealthy regions. *World Resources Institute*. Retrieved from <https://bit.ly/3KQ0HZD>

Activity #3: Let's start at home: Soup kitchen 2.0

Using the location of a soup kitchen as a focal point for this activity, students will discuss food insecurity, how it looks in their community, and what they can do to address it.

Activity Learning Objectives

1. Understand ways that food insecurity manifests in their community.
2. Identify ways to address food insecurity in their community.

Teacher preparation

1. Review the TED Talk by Kane (2020) and the story by Alexander (2024) and determine which story (or section) you want to focus on in this activity.
2. Identify the type(s) of graphic organizer notes you would like your students to use (see for example, <https://bit.ly/4eFsLg6>)
3. Invite someone from your local food bank to come speak to your class (or to join via a video call to speak with students remotely)

Lesson Flow

1. Explain to students how they will use a graphic organizer method to take notes while watching a video on food insecurity
2. Have students watch either the video by Kane (<https://bit.ly/4b9s0IX>) or Alexander (<https://on.today.com/4b8WHy7>)
3. As a class (or in groups) have students discuss what food insecurity looks like in their community, county, state, and country.
4. Introduce the speaker from the local soup kitchen, have them give their presentation, and invite students to ask questions.

Possible Enrichment

- Encourage students to be an anti-hunger advocate by writing a letter asking their elected officials how they are addressing food (in)security in their community and encouraging them to take action.
- You could also consider hosting a “hunger banquet” <https://bit.ly/4csobjf>

References

- Alexander, B. (2024). Alabama restaurant runs on donations to feed those in need. *Today*. Retrieved from <https://on.today.com/4b8WHy7>
- Kane, M. (2020). Food for thought, choice, and dignity. TEDxCaryWomen. Retrieved from <https://bit.ly/4b9s0IX>

Full Story Texts

Story #1: Esther's Story Part 1

Original source: Thurow, R. (2014). 1,000 Days: The Period That Decides the Health and Wealth of the World. *Atlantic*, 12, 21-36. Retrieved from <https://bit.ly/4bq1P17>

In the heart of Uganda, amidst the vibrant bustle of her village, lived a young girl named Esther. Esther's story is one of resilience, hope, and the transformative power of the first 1,000 days of life.

Esther was born into a modest family, her parents working tirelessly to make ends meet. Despite their challenges, they cherished Esther, seeing in her the promise of a brighter future. From the moment she entered the world, Esther was surrounded by love and warmth, her family determined to provide her with the best possible start in life.

As Esther grew, her days were filled with simple joys and the steady rhythm of village life. She would accompany her mother to the market, her small hand clasped firmly in hers as they navigated the bustling stalls. Esther's laughter would ring out as she played with other children in the dusty streets, her spirit as bright as the African sun.

But beneath the surface, Esther's world was not without its struggles. Like many families in Uganda, hers faced the harsh realities of poverty and food insecurity. There were days when meals were meager, when hunger gnawed at their stomachs and shadows lingered in their home. Esther's experience with hunger reflects a reality faced by many families in Uganda, particularly in rural areas and urban slums. Hunger in Uganda is often attributed to a combination of factors including poverty, limited access to nutritious food, inadequate agricultural infrastructure, and environmental challenges such as drought and flooding. Esther's family likely experienced food insecurity, meaning they had limited access to enough safe and nutritious food to meet their dietary needs for an active and healthy life.

Story #2: Esther's Story Part 2

Despite these challenges, Esther's parents were determined to nourish her body and mind, recognizing the critical importance of the first 1,000 days of life. They sought out support from community health workers, who provided them with vital information on proper nutrition and caregiving practices. Armed with this knowledge, Esther's family made small but significant changes to their daily routines. They diversified their diet, incorporating nutrient-rich foods like fruits, vegetables, and protein sources. Esther's mother learned the importance of exclusive breastfeeding and ensured that Esther received the nourishment she needed to thrive.

As Esther approached her second birthday, the impact of these efforts became evident. She was vibrant and healthy, her eyes sparkling with curiosity and intelligence. She had grown into a confident and resilient young girl, eager to explore the world around her. Esther's story is a testament to the power of love, perseverance, and community support. Despite the challenges she faced, she blossomed into a bright beacon of hope, her future brimming with possibilities. And as she embarks on the next chapter of her journey, Esther carries with her the lessons learned in the first 1,000 days of life—the foundation upon which her dreams will take flight.

Overall, Esther's experience with hunger highlights the complex and multifaceted nature of food insecurity in Uganda, underscoring the urgent need for comprehensive interventions to address the root causes and ensure that all children have access to nutritious food and the opportunity to thrive.