

students
r_build

BUCK INSTITUTE FOR EDUCATION

PBLworks

A hand is shown holding a globe of the Earth. The globe is rendered with a white dashed outline, giving it a transparent or ethereal appearance. The hand is positioned in the center of the frame, with fingers spread, supporting the globe from below. The background is a light blue gradient, and a dark blue circular shape is visible on the right side of the image.

**THE
HUNGER
PROJECT**



THE HUNGER PROJECT

PBL works best when it is guided by the strengths, interests, and needs of students. You, the teacher, know best what your students need. There are many ways that you can customize and frame this project.

A PBL UNIT

For the sake of clarity, these materials provide sample guidelines for one particular pathway through the project. Feel free to adjust, shift, and reimagine this idea and any of the provided components to facilitate the most effective learning experience for the students you serve.

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THE HUNGER PROJECT

This Project Based Learning unit is a collaboration between PBLWorks and Students Rebuild. Based on the PBLWorks model for [Gold Standard PBL](#) design, it provides a framework for educators to engage their students in deep learning on hunger.

PBLWorks services, tools, and research build the capacity of K-12 teachers to design and facilitate quality Project Based Learning.

Students Rebuild, a program of the Bezos Family Foundation, mobilizes young people to take action on the world's most critical problems.

Students Rebuild Challenge

Introducing the 2020 Students Rebuild Hunger Challenge

This year, Students Rebuild is inviting students around the world to join in learning about and responding to hunger and malnutrition. By mixing heaping portions of curiosity, compassion, and creativity, students will help put food on the table for children in the U.S. and abroad. The Challenge kicks off September 17, 2019, and ends on June 5, 2020, and participation can happen at anytime in that period.

There's much more to explore. Learn about Students Rebuild and register for the Hunger Challenge at studentsrebuild.org/hunger.



Hunger has many faces.

With 821 million people (or one in nine) suffering from hunger globally (one in five in the United States), the faces of hunger are all around us.

Through both Students Rebuild's Hunger Challenge and the Hunger Project unit, we're gathering around a global table to learn about hunger in all its guises—malnutrition, food insecurity, “food deserts,” and more—and to investigate how hunger interferes with education and development to prevent too many young people from living full, healthy lives. Students will have the opportunity to consider what can be done to end hunger, from emergency relief in places dealing with conflict like Yemen to longer-term solutions like training the next generation of urban farmers in the United States.

In this project based learning unit specifically, you will select a hunger issue for students to investigate. It can be a global or local issue. Choose one that feels meaningful and connected to students' experience, passions, or desired impact.





THE HUNGER PROJECT

What can you expect students to experience in this project? The following page traces the student journey through the six major project milestones for the English Language Arts pathway.

OVERVIEW OF THE STUDENT JOURNEY

Each milestone, grounded by a key student question, moves students closer to their answer to the project's driving question. Note that this overview does not name a specific hunger issue. That is decided by you, the teacher, or in collaboration with your students.

The Hunger Project

Students develop a photo essay and create plate art with a recipe that speaks to a hunger issue as they work to answer the driving question: How can we impact hunger in our community?





THE HUNGER PROJECT








This project is designed to be implemented over a two to four-week period. The duration of the project in your class-room will vary depending on the time available, the level of desired depth, and the needs of your students. As you plan the project, we recommend mapping out an estimated number of

GETTING STARTED: A STEP-BY-STEP GUIDE

days for each milestone (time estimates are provided in the “Suggested Instructional Activities” section of the project materials). However, be sure to make your plan flexible so that you can adjust based on what you learn via formative assessment about student needs and interests; students may need more (or less) time dependent on assessment data.

Step-by-Step Guide

Whether you are new to Project Based Learning or you are an experienced practitioner, review the suggested approach below to help you most effectively unpack and implement this PBL unit:

| | | | |
|---|---|---|--|
|  | 1 | Orient yourself to the project. | Use the Project Summary, Major Products, and Milestone Map to get the big picture of the project. |
|  | 2 | Select a pathway. | Pick a subject-matter pathway (or combination of them) best suited for your grade level or subject area(s). Note, the major instructional activities provided in this unit are for the ELA pathway only. |
|  | 3 | Identify your standards and students needs. | Determine the knowledge and skills that will be the focus of the project. Use Bringing the Project to Life to help you contextualize the unit for your students. |
|  | 4 | Plan the unit. | Using the Major Instructional Activities, create a project calendar. Be sure to build in space and time for student collaboration and work time. |
|  | 5 | Finalize student-facing materials and resources. | Modify the project rubric as needed to address your content/grade level needs and targeted success skills. |
|  | 6 | Implement the project. | Complete the project and celebrate student success! |
|  | 7 | Submit student works of art. | Remember to submit student artwork to Students Rebuild to participate in the Challenge. The Bezos Family Foundation will donate \$3 per submission up to \$700,000. |



**THE HUNGER
PROJECT**

**PROJECT SUMMARY
AND RESOURCES**

Project Summary

The Driving Question: How can we impact hunger in our community?

Grade/Subject:

K-12 / English Language Arts, Math, Science

(CCSS standards are listed for a few different grades depending on the subject area, but this project can be applied in Grades K-12.)

Project Description:

Hunger has many faces. It can be heartbreakingly obvious. Other times, it's less visible but no less destructive. In this project, students explore a hunger issue for a local or global community in a disciplinary pathway of your choice. Through research and investigation of content-specific materials, student teams will determine possible causes and review strategies that have been implemented to address this issue. Students analyze possible solutions to act on and how to best communicate these problem-solving ideas to stakeholders. The project culminates with a content-specific product and an artistic representation of a “recipe” to address hunger to a relevant and appropriate audience.



Project Resources

This unit offers a wide range of resources. To make navigation a breeze, we've provided links throughout the unit itself, and also compiled all of them into one document below. Resources are organized by milestone, tagged by grade level, and labelled by resource type.

Hunger Project Resources





THE HUNGER PROJECT

There are three subject-specific pathways presented in this unit: English Language Arts, Math, and Science. Each pathway includes the same plate art component. Choose the pathway that best suits your needs. It may also be helpful to consider the hunger issue you want to address when making your selection. A full unit, which includes the major instructional activities, is presented for the English Language Arts pathway only.

CHOOSE YOUR PATHWAY

If you are a multiple-subject teacher or you are part of an interdisciplinary team participating in the Hunger Challenge, consider making this an integrated project that brings together all three. Most of the project milestones and key student questions are the same across pathways. Many of the resources referenced in the full ELA unit can be used in any of the pathways.



English Language Arts



English Language Arts

EN

*Reading, Writing,
Speaking, and
Listening Skills*

Pathway Options

Hunger can strike any community and have a profound impact on those affected. In this English Language Arts focused project, students explore a hunger-related issue, its causes, and its impact on real people. Using the power of visual storytelling, students share their learning and offer a path to address the issue through a photo essay.

To extend their message and reach a broader audience, students will represent their learning and proposals in an artistic interpretation (such as a drawing or sculpture) in the form of a plate which symbolizes the empty plates of the hungry. Within each plate's design, students will include a "recipe" (such as a literal food recipe or a figurative recipe that is a call for action) to help address hunger in their communities. The plate will be made into a collaborative art installation, "inviting others to join the meal of empty plates."

| Team | Individual | Making It Public |
|---|--|--|
| Presentation | Plate art that is inspired by 1–2 of the photos from the team photo essay with the “recipe” depicted in some creative way on the plate | Present the photo essay to community members from the school, local organizations, or the subjects of the photos |
| Photo essay collection focused on the topic of hunger | Personal reflection explaining how the photo from the team essay inspired the creation of the plate | Display art piece in a collaborative installation |

Key Standards

Common Core State Standards—English Language Arts/Literacy

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. **(RI.1 Informational Text)**

Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. **(R.7 Informational Text)**

Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. **(SL.4 Speaking)**

Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. **(SL.5 Digital Media/Visuals)**

Draw evidence from literary or informational texts to support analysis, reflection, and research. **(W.9 Drawing Evidence)**

Key Success Skills

Critical Thinking

Use information from different sources to help answer the driving question **(CC 3-5.RI.7, CC 3-5.W.7; CC 6,11-12.RI.7)**

Use feedback from other students and adults to improve my writing or my design for a product **(CC 3-5.W.5)**

Creativity and Innovation

Asks new questions and takes different perspectives to elaborate and improve on the selected idea. **(CC 11-12.SL.1c)**

Promotes divergent and creative perspectives during discussions. **(CC 11-12.SL.1c)**

Seeks out and uses feedback and critique to revise product to better meet the needs of the intended audience. **(CC 6-12.W.5)**

Collaboration

Makes agreements on how the team will work together. **(CC 3-5.SL.1b)**

Prepared for work with the team, studied required material and use it to explore ideas in discussions. **(CC 3-5.SL.1a)**

Acknowledges and respects other perspectives; disagrees diplomatically. **(CC 3-5.SL.1b)**

Presentation

Includes everything required in the presentation.

States main idea and moves from one idea to the next in a logical order, emphasizing main points in a focused coherent manner. **(CC 6-8.SL.4)**

Keeps eye contact with the audience most of the time. **(CC 6-8.SL.4)**

Speaks clearly; not too quickly or slowly. **(CC6-8.SL.4)**

Bringing This Project to Life

Consider Your Students:

What will excite your students about this project? How can you help students connect emotionally to the hunger issue?

Do students in your class come from a variety of language and cultural backgrounds? How might you leverage this diversity as an asset in support of the hunger project, especially if the hunger issue is a local one?

What types of sample photo essays might engage students and feel relevant and authentic to their lives?

How can you use this project as a way to help your students make their unique voices and perspectives heard, and to highlight their varied communities and backgrounds?

Are any of your students experiencing hunger? How can you leverage this experience while being mindful of the trauma that is sometimes associated with these experiences?

Consider the Context:

What needs and opportunities exist in your community? How can you help students learn about these?

Are there existing community service organizations or projects that you and your students might partner with for this project?

Is there a museum or other community space that might serve as a venue for showcasing students' essays?

How will you help students identify people to interview and document in their photo essays?

Consider the Content and Skills:

What texts, activities, guest speakers, or field trips might help students build their understanding of the hunger issue and the steps that have been taken to address it?

How will you scaffold the visual literacy and photographic composition skills that students will need in order to engage effectively in this project?

What models and examples might help students understand how to craft an effective photo essay?

How will you help students identify, evaluate, and synthesize research about the issues they are exploring?



English Language Arts Milestone Map

Use this suggested project flow and the instructional activities that follow to guide you as you map out a detailed daily plan for your classroom in the Project Planner.



| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|-----------------------------|-----------------------------------|---|---|---|---|
| Milestone | Entry event | Research the hunger issue | Evaluate & analyze multiple perspectives | Stakeholder interviews | Final product review and finalization | Present final products |
| Key Student Question | What does hunger look like? | What are the causes of hunger? | What are some strategies that have been tried to address hunger, and what were their impacts? | What solutions do we want to take action on? | How do we best communicate our solutions to appropriate stakeholders? | How did our product(s) and presentation help answer our driving question? |
| Essential Formative Assessments | Need-to-know questions | Draft issue summary report (team) | Journal reflection (individual) | Journal reflection (individual), draft of presentation (team) | Feedback protocol | Audience survey |

English Language Arts Milestone 1

What is hunger?

Students explore the theme and generate need-to-know questions.

Estimated duration: 1-2 days

Launch Entry Event.

Share with students engaging images on the topic of hunger. Use either the [Zoom In](#) thinking routine to help students pay close attention to detail, make inferences, and generate questions as the image is revealed and discussed or the [See, Think, Wonder](#) thinking routine to encourage students to make careful observations and thoughtful interpretations.

Review the Project Information Sheet, the [rubric](#), and the driving question.

Grade levels K–2 will not do this. See “Considerations and Variations.”

Discuss the expectations for the final product/performance.

- **Team Presentation/Product:** Explain that students will make others aware about the problem and a possible solution to hunger using a collection of chosen photos called a photo essay that will be presented to an audience from the community.
- **Individual Product:** Explain that students will choose a photo from the photo essay that resonates/connects with them and depicts their interpretation in the creation of an empty plate. Further, describe how students will describe why the photo from the photo essay inspired them as an artist to create their plate design.

Engage in a protocol/thinking routine such as [Think, Puzzle, and Explore](#) to generate questions and spark inquiry.

Capture students’ [need-to-know questions](#) about the topic and the project.



Suggested prompts for reflection during this milestone:

- What is new to you about the topic?
- What surprised you?
- What makes you want to act?

It is important to engage students in ongoing reflection throughout the project. Consider asking students to reflect on the content, process, and/or purpose of the project.

Suggested strategies:

- [Exit Ticket/Exit Card/Exit Slip](#)
- [3-2-1](#)
- [Triangle-Square-Circle](#)
- [What Did I Learn Today?](#)

Anticipated student need-to-know questions during this milestone:

- What is hunger?
- What does hunger look like?
- How do we stop hunger?
- Why is there hunger in my community?

(Authentic student curiosity should drive this process, but you may need to provide prompting and support to help students arrive at questions such as those listed here.)

English Language Arts Milestone 1

What is hunger? *Continued from previous page*

1

Formulate teams, introduce contracts, and begin academic/vocabulary word wall.

Form collaborative teams and [introduce team contracts](#).

Begin introducing vocabulary/academic language as students build their understanding of “hunger.” Use a protocol to [generate need-to-knows](#) or a thinking routine such as [Chalk Talk](#) to help curate information.

Considerations and Variations

Possible Literacy Mini-Lessons

- Asking effective questions—[Question Formulation Technique](#) or [other strategies](#) such as the Frayer Model or Bloom’s Taxonomy
- [Responding to a writing prompt](#)
- How to [write a reflection](#)

K–2

- Discuss the expectations for the final product/performance using the [project wall](#).
- Review the driving question and its meaning.
- Show an example of a photo essay and have students do a See, Think, Wonder thinking routine to name and notice its characteristics.

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

- During an entry event, use visual aids (e.g., photos, videos, physical objects) to help build context for learners at all levels of language proficiency. For vocabulary and academic words, use picture/photo cards to help with word recognition.
- Use question starters to help scaffold the need-to-know process.
- Use a K-W-L chart to capture and organize student questions. Move questions as they are answered.

Students New to Project Based Learning

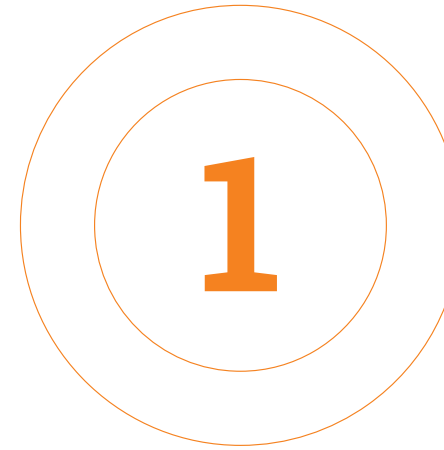
- Generating questions is a skill in and of itself. Use the Question Formulation Technique to teach how to create strong questions.

Possible Entry Event Alternatives

- Show videos on hungry children such as [Pub Fosterhjem: A child has nothing to eat at school](#) or the [Empty Refrigerator](#) and do a [Step Inside thinking routine](#) to help students see from another person’s viewpoint or perspective.

English Language Arts Milestone 1

What is hunger? *Continued from previous page*



- Participate in a gallery walk of infographics, headlines, and/or images to spark questions.
- Read or listen to poetry about hunger and do the [Color-Symbol-Image](#) thinking routine to help students create a frame of reference for discussion.

Reflective Literacy Extension

- To help encourage students to develop intrinsic motivation to investigate this topic, use the [3Ys](#) thinking routine to uncover the significance of hunger in multiple contexts. This routine helps students make local-global connections.

Scaffolding the Product for All Students

- Ahead of the project launch, gather or develop sample photo essays. Review the samples with students asking them to lift up the features that make it high quality. Consider using these identified features as the foundation of a co-created product rubric.
 - [Teach what a photo essay is](#)
 - Showcase photo essay samples—[Humanity](#), [The Hungry Planet: What the World Eats?](#), [The Faces of Nature](#)



2

English Language Arts Milestone 2

What are the causes of hunger?

Students understand the various causes of hunger and connect them to individual stories.

Estimated duration: 2-4 days

Review source material on the causes of hunger.

Based on the selected hunger issue and the impacted community, select appropriate resources. Samples are shared below.

Reading

- [Global hunger continues to rise, new U.N. Report says](#) | UNICEF
- [“America Has a Hunger Problem”, *The Atlantic*](#)
- [Food Insecurity in the United States](#) | Feeding America

Videos

- [The Shocking Truth About Food Insecurity](#) | TedTalk
- [Sesame Street: Growing Hope Against Hunger Highlight Reel](#) | Sesame Street
- [A Place at the Table](#) (Movie Trailer)
- [Documentary 'A Place At The Table' Is A Call To Action On Hunger](#)

Connect the causes of hunger to individual human stories.

Invite an expert or someone who has experienced hunger to talk with students. If guest speakers are not available, leverage text, video, or narratives. Possible guests could include:

- A representative from a local food bank
- A healthcare professional (e.g., nutritionist, doctor)

Suggested prompts for reflection during this milestone:

- What are the central causes of our hunger issue?
- How did my thinking change after hearing/learning the personal stories?
- In preparation for creating your photo essay, what images come to mind or represent either the causes of hunger or the human stories?

Suggested prompts for revisiting the need-to-know questions during this milestone:

- What has been answered?
- What is proving less or more important?
- What new questions are emerging?

For more information about revisiting the need-to-know questions, [see this strategy guide](#).

English Language Arts Milestone 2

What are the causes of hunger? *Continued from previous page*

2

Introduce the empty plate.

Using a [graphic](#) or drawing of an empty plate on chart paper, lead a class discussion on causes of hunger. Write those causes around the plate illustration.

Engage in the restorative practice discussion, In2Out.

This discussion is a series of progressive prompts that move from individual, internal reflection to a shared discussion with a partner and ending with an outward, whole group discussion. The process allows students to connect personally to the topic during the In portion and moves to greater levels of safety as the conversations become public. Be sure to keep this in mind if modifying the prompts for grade level and comfort of the group. Students should sit in a circle for the duration of the discussion and commit to maintaining confidentiality.

Source: SF-CESS, 2011 (San Fran Coalition of Essential Small Schools).

- 1. In**—Students individually complete this written reflection: Describe a time when you, your family, or someone you know needed help from others. (3–4 min)
- 2. 2**—With a partner, students discuss: How do you know you have helped someone else? How does it feel to help others? (5 min)
- 3. Out**—As a whole group, discuss: What is our role in addressing this hunger issue? (10–20 min)

Begin storyboard for the photo essay.

Students sketch out ideas to tell the story of the selected hunger issue. Storyboard panels could include: what the hunger issue is, what causes it, who is impacted, and how we can help. Note the “how we can help” panel will be completed during Milestone 4.

What are the causes of hunger? *Continued from previous page*

2

Considerations and Variations

Possible Literacy Mini-Lessons

- How to [take notes](#)
- How to [determine importance from informational text](#)
- How to [interview someone else](#)

K–2

- Model literacy skills by reading /listening to information about hunger.
- Selectively highlight important information as a whole group.
- Facilitate discussion using interactive reading.

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

For vocabulary and academic words, use picture/photo cards to help with word recognition.

- Use question starters to help scaffold interviewing experts.
- Use [sentence frames](#) for discussions and/or writing.
- Use [thinking maps](#) such as a circle map to emphasize key ideas from the readings or a treemap to sort and categorize information.
- Provide leveled texts for students during work time.

Variations of Building Knowledge

- Use the [jigsaw method](#) to read books, articles, or website resources about hunger in different communities.
- Have individual students summarize and discuss their readings in groups using the [Headline](#) thinking routine.
- For videos or direct instruction, use the [+1](#) thinking routine to help guide students to better note-taking, build memory and synthesize what they're learning.

Plate Introduction - Causes

Have small groups or teams brainstorm and prioritize the leading causes of hunger. Capture their ideas on chart paper.

Scaffolding the In2Out Discussion

Engage in the [Making Meaning Visible thinking routine](#) prior to the In2Out discussion. This is done as a means to help students consolidate and clarify their understanding of the concept of hunger.

Possible Alternatives to Building Connections

- Interactively read aloud [Maddi's Fridge by Lois Brandt](#) using the [BHH framework](#) (*In the Book, In the Head, In the Heart*) to inspire deeper reader engagement.
- “The Food Banquet” Activity → Set up learning stations around the room that each represents a different food environment in their community. For example, the stations could highlight

English Language Arts Milestone 2

What are the causes of hunger? *Continued from previous page*

2

scarcity, abundance, or an unhealthy food choice. Rotate project teams through each learning station and have students discuss with their group questions such as the following:

- How do I feel about the meal in front of me?
- Is it a healthy meal?
- If this is what I ate before going to school, how might I feel at school?
- Is this enough food for my family and me?

Supporting Students Who Are Exceptionally Sensitive to this Topic

For some or many of the students in our classrooms, hunger is a reality. How can teachers support those students by having those critical conversations without re-traumatizing them?

- [How to Talk to Kids About Hunger](#)
- [5 Powerful Ways to Teach About Hunger in Middle School](#)





3

English Language Arts Milestone 3

What are some strategies that have been tried to address hunger, and what were their impacts?

Students research and interrogate the strategies that have been tried to determine the most viable solutions.

Estimated duration: 3-4 days

Critique and revision of storyboard for the photo essay

Students give and receive feedback with what was completed in Milestone 2 (the hunger issue, its causes, and the impact on their community). Note the “how we can help” panel will be completed during Milestone 4. Use a feedback protocol such as [Praise, Question, and Suggestion](#).

Photo selection and reflection for the first three storyboard panels

Based on the critique feedback, students select photos for the hunger issue, its causes, and the impact on their community storyboard panels. Students then individually write a reflection about the photos they chose by responding to the following questions: Why did your group choose those specific photos for your photo essay? Which photo do you like or connect to the most? Why?

Research different solutions that have been tried to address the problem of hunger.

Begin by simply gathering the information or data. What has been tried? What was involved in those strategies? Offer a note-catcher, digital document, or an organizational structure for their project journal to help students keep track of what they are collecting and learning.

Compare the impact of different solutions to address hunger. As students continue to research, consider one of two options:

Suggested prompts for reflection during this milestone:

- How have communities tried to address hunger?
- Is the information I’m gathering true? How do I know?
- How have different solutions impacted the community?
- What feedback can I use to make my project better?

Suggested prompts for revisiting the need-to-know questions during this milestone:

- What has been answered?
- What is proving less or more important?
- What new questions are emerging?

What are some strategies that have been tried to address hunger, and what were their impacts? *Continued from previous page*



1. **Fact or Fiction** thinking routine to help increase awareness of the truth and what to consider when exploring the truth of something
2. **Make Note** thinking routine to synthesize key ideas, raising discussion points, and identifying puzzles of understanding.

Analyze the impact of those solutions on the community.

With each solution, students explore the impact on the community using the **Name-Describe-Act (NDA)** thinking routine for looking closely, noticing, developing memory, and analyzing their research

Present research findings and possible solutions to hunger.

Filling the empty plate

As project teams present their research findings regarding the effectiveness of different solutions to hunger, chart the information in the perimeter of the empty plate illustration to signify how we can fill the plates of the hungry. Allow students time to analyze the class document and use the **Connect-Extend-Challenge** thinking routine to make connections and question the information presented.

The Art of the Plate: The Medium

Remind students they will be selecting 1–2 of the photos from their photo essay to serve as inspiration or focus for their individual plates. If predetermined, introduce the medium (i.e., drawing, clay, painting) or, if allowing for more choice, brainstorm with students possible ways to represent their plates artistically. Make sure students have an understanding of what medium they choose to represent their plate.

What are some strategies that have been tried to address hunger, and what were their impacts? *Continued from previous page*

3

Considerations and Variations

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

- Provide sentence frames to help students give and receive feedback.
- Model and practice the use of structured protocols for critiquing work.

Photo Selection

- Curate photos of causes for students to choose from.
- Students select photos from copyright/royalty-free photo sites.
- Conduct a mini-lesson, allow students to view a tutorial, or have an expert share on how to take quality photos.
- For each storyboard panel, one to several photos can be chosen to represent panels of the hunger issue, its causes, the impact on their community and “how we can help” (introduced in Milestone 4). Factors such as grade level, PBL understanding, or time determines how many photos a teacher will allow students to use in their photo essay.

Helping Students with Understanding a Text (RI.1 - Reading Informational Text)

- Select a small group or project team to model researching and discussing solutions in a fishbowl. Following the discussion, be

sure to facilitate a debrief in which all students, both in the [fishbowl](#) and outside of it, reflect on their engagement as listeners and participants. From the debrief, lift up and chart the strategies and best practices that should be used in future teamwork and discussions. This strategy can be used for K–12 students.

Digging Deeper with the Research (W.9 Drawing Evidence)

- Teachers often pre-select research materials for younger students or for students who are newer to Project Based Learning as a means to help them get into the content more quickly. As students become more independent and proficient with PBL, we can challenge them to make more decisions and do more critical thinking. Ask students to not only research strategies used to address the hunger issue, but to evaluate the sources. How do I know this source is valid? Is there a bias I should be mindful of when weighing whether or not to suggest the strategy in my photo essay?
- The [WWWDOT](#) strategy is a six-point strategy, structured to help students learn about responsible web research by assessing the validity of most information that they’ll encounter online.

What are some strategies that have been tried to address hunger, and what were their impacts? *Continued from previous page*

3

Supporting Academic Discourse and Team Discussion

- To assess student learning and ensure participation in partner and team discussion, use a [participation protocol](#). This can help you track the extent to which students are engaging in a range of conversations and collaboration. Consider adding different criteria or identify different skills you are looking for as you circulate the room. Be sure to share student ideas you wish to lift up to the whole class, celebrate what went well, and allow students an opportunity to set goals around what they could do better in future discussions. This strategy can be used for K–12 students.

Helping Students Organize Possible Effects

- To help students organize the possible effects of each solution, use a visual organizer like a [Multi-Flow Thinking Map](#). This map usually focuses on an event.

Additional Resources for Solutions for Hunger

- [Red Wagon](#) A young boy discovers a way to help his hungry friend—and the community. He asks an important question. (Elementary)
- [Kids Go Green: Reducing Food Waste](#) Learn about the impact of food waste on the environment in this animated video. (Elementary)

- [Feeding America: Ending Child Hunger](#) Learn how food banks work to make sure kids and their families have enough to eat.
- [Evidence-Based Strategies to End Childhood Food Insecurity and Hunger in Vermont](#) (Secondary)
- [The Food Security Solution](#) | CSIS (Secondary)
- [Food Security](#) | USDA (Secondary)

Selection of Medium for Plate

If new to PBL or art, it is highly suggested that student choice is limited and that the whole group uses the same medium for their plate.



English Language Arts Milestone 4

What solutions do we want to take action on?

Students select which solutions are best to address this particular hunger issue.

Estimated duration: 3-5 days

Create a pro and con list for their top 5 solutions to the selected hunger issue.

Depending on the complexity of the issue, the number of solutions, or the age-level of the group, this activity can be done with the whole class or in small groups/project teams. The generation of the pro/con lists can be jigsawed (meaning each group/team takes one solution) or teams could complete a pro/con list for all of the identified solutions.

Present pro/con lists.

Teams present their pro/con lists to either the whole class or other teams. The audience can offer feedback to improve the list.

Move students to action through [How-Wow-Now](#).

In this Gamestorming activity, students consider the various pro/con lists and move solutions into one of the three boxes in the matrix: how, wow, now. Students then add the solutions they want to use to their storyboard.

Add solution to storyboard for photo essay and get feedback on the storyboard.

Facilitate the [Charrette Protocol](#) for student partnerships/triads to receive feedback on the storyboard draft. Allow time for revision.

Select a photo and reflect on the solution (how we can help).

Based on the critique feedback, students decide which photos to use for their photo essay. Students then individually write a reflection on the photos they chose responding to the following questions: Why did your group choose those specific photos for your photo essay? Which photo do you like or connect to the most? Why?

Suggested prompts for reflection during this milestone:

- What are the most viable solutions?
- What is most important to me in picking a solution?
- How will I know my solution(s) is successful?
- What is the impact I hope to have with my proposed solutions?

Suggested prompts for revisiting the need-to-know questions during this milestone:

- What has been answered?
- What is proving less or more important?
- What new questions are emerging?

What solutions do we want to take action on? *Continued from previous page*

4

The Art of the Plate: The Inspiration

Students select 1–2 photos from the photo essay to be the inspiration or focal point for their individual plate. To support students in selecting a photo, consider using the [Visual Thinking Strategies \(VTS\)](#) to help students look deeply at the meaning and significance of the photos.

Students begin drafting and creating their art pieces.

Considerations and Variations

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

- Ahead of the presentation of the pro/con lists, offer sentence stems (e.g., A pro for this solution is... I think it is a good thing because...). This strategy can also be beneficial for elementary students.
- Continue to model and practice the use of structured protocols for critiquing work.

High School

- In addition to generating the pro/con list, students can be called upon to [evaluate their sources and take into account the perspective](#) and potential bias of the writer.

Reflecting on Team Collaboration

- At this point in the project, if it hasn't been addressed earlier, allow time to reflect on the success of their team collaboration. Use the [PBLWorks Collaboration Rubrics](#) for self-evaluation, peer evaluation, or whole group talking points discussions.

Art Inspired Innovation

- If a student was inspired by any of the photos to derive their own innovative solution, their artistic rendition of the plate is their outlet to share their creativity. Allow this to happen even if it isn't one of the selected solutions from their top 5 team solutions.



5

English Language Arts Milestone 5

How do we best communicate our solutions to appropriate stakeholders?

Students identify and empathize with their targeted stakeholder group in order to best communicate their message about hunger.

Estimated duration: 3-4 days

Invite community partners or key stakeholders to provide feedback on students selected solutions.

Students present their ideas to the external audience, explaining their rationale for advocating for the solution. Invited guests provide feedback on the solutions themselves and/or the quality of the students' argument. Students revise their thinking as needed following the feedback session.

Prepare presentations to explain their photo essay and share reflections on their learning.

Review the [Presentation Rubric](#) and discuss expectations for the final presentation. Using the [Microlab Protocol](#), have students discuss what insights and questions (IQ thinking routine) they have in their learning.

The Art of the Plate: The Recipe and the Reflection

Introduce the idea that “a recipe” for addressing hunger will need to be written or embedded in some form in the plate. Students finalize their plate creations and begin drafting their written reflection ideas of what photos inspired their art and why they chose to represent those photos the way they did in their individual plate.

Suggested prompts for reflection during this milestone:

- How well did I share my solutions to my audience?
- How will I use the feedback I received from the community partners or key stakeholders?
- Does my photo essay explain the story I want to tell?

Suggested prompts for revisiting the need-to-know questions during this milestone:

- What has been answered?
- What is proving less or more important?
- What new questions are emerging?

How do we best communicate our solutions to appropriate stakeholders? *Continued from previous page*

5

Considerations and Variations

K-2

- Show examples of recipes and discuss what are common characteristics in all of them (ingredients, step-by-step instructions on how to make food).
- The teacher can facilitate a whole group discussion on creating a class recipe for addressing hunger (i.e., “The Recipe for No More Hungry Children”). This can be put in individual plates.
- Students can bring recipes from home representing their favorite cultural dishes.

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

- Record students as they practice presentations. Allow them to review the video and compare their performance to the presentation rubric, reflecting on opportunities for improvements.
- Work with students to identify the tone, level of formality, and linguistic style that are most appropriate for the presentation audience and context. Provide models to help students understand the appropriate “register.”

Adjusting for the (Missing) Audience

- If an external partner is not available to provide feedback, use the [Circle of Viewpoints](#) thinking routine to help students empathize with the end-user and provide feedback to each other on their solutions.

Presentation Rubric Support

- PBLWorks offers [grade-span specific rubrics](#) and some that are Common Core aligned while others are not. Select the rubric that is right for your students. Consider picking only one or two of the criteria to make the focus of the project. For example, you may pick Voice and Organization this project but really drill down into Response to Audience questions in the next one. This creates the opportunity for students to learn fewer skills more deeply and avoid the “checking the box” feeling.



English Language Arts Milestone 6

How did our product(s) and presentation help answer our driving question?

Students share their work with the public audience and reflect on their learning and project experience.

Estimated duration: 2-3days

Students share their products with their intended audience.

Either in a portfolio, gallery, or digital presentation, present the photo essay about hunger to the audience. Verbally explain or use written captions to help depict each photograph.

Students reflect on their learning and project experience.

Using the Presentation Rubric, have students evaluate themselves and each other's public presentation. Facilitate the “[I used to think... , now I think](#)” thinking routine to help capture the change in thinking about the topic of hunger.

As both a final, whole group reflection and end of project celebration, run a [World Café](#).

Set the room and let the students get to talking! Possible discussion prompts include the following (though feel free to design your own):

- What do I hope will happen as a result of my work?
- How has this project changed or shaped me?
- What is the most important thing I learned?
- What is something I want to share with others?

The Art of the Plate: The Reflection

Finalize reflection on how photos inspired the artistic representation of the plate.

Recommendations for post-project reflection and feedback:

- Have students return to their need-to-know questions and identify changes and new understandings.
- Closing reflection activities and resources might include the following:
 - [My Thoughts about the Project](#)
 - [Plus, Minus, Interesting](#)
 - [I used to think... , now I think...](#)
- Use [this strategy guide](#) to support the post-project reflection process.

English Language Arts Milestone 6

How did our product(s) and presentation help answer our driving question? *Continued from previous page*

6

Considerations and Variations

K-2

- Use pictures for their individual reflections.
- Lead a whole class reflection on the process using shared writing.
- For the art plate reflections, conference with students using reflection questions.

Presentation Alternatives

- Make the presentation a ticketed event by inviting audience members to donate canned food or other nonperishable item as a “ticket.” Those donations will be given to a local food bank. Check with the food bank to see what donations they accept or need.
- Have the individual art plates displayed throughout the gallery or take photos of the plates to include in the digital presentations.

English Learners Scaffolds for PBL

Note that these scaffolds can also be used for students in early stages of literacy development.

- Provide sentence frames for students to reflect on their learning and presentation experience.

World Café Modifications

- For younger students or students new to World Café, shorten the rounds and offer sentence stems to help students engage in discussions.
- Encourage students to share their thinking in doodle, drawing, and written form on the butcher paper on the table. This is another way for students to express themselves and engage in reflection. Circulate the room and ask students to share something about their drawings with their World Café group.

Learning Extensions: Taking Action

If team solutions such as creating a school garden, supplying the needs of local food banks, or gaining an increased awareness through fundraisers for hunger relief organizations is doable and applicable, help students organize, lead, and carry out their proposed solutions. Partner with experts, mentors, and community members to help make their propositions a reality.



Math

Math



*Data & Statistics,
Operations with Base Ten*

Pathway Options

Addressing hunger requires a deep understanding of the issues and the viability of solutions. In this math-focused project, students take a deep dive into a hunger-related issue by analyzing data trends and comparing data on the impact of various solutions on communities that students discovered in their research. They will present a solution and prepare to defend their position using data.

As in the English Language Arts pathway, students will extend their learning through the creation of a plate. The plate's design will include a "recipe" to help address hunger in their communities. The plate will be made into a collaborative art installation, "inviting others to join the meal of empty plates."

| Team | Individual | Making It Public |
|--|--|---|
| Presentation | Plate art inspired by the data collected for the team presentation and a "recipe" of a possible solution based on the data collected | Present results and analysis to key stakeholders such as elected officials or local community members |
| Results and analysis of collected data for actionable solution | Infographic representing student's interpretation of the data and trends | Display art piece in a collaborative installation |

Key Standards

Common Core State Standards—Math

Make sense of problems and persevere in solving them. (MP1 Problem Solving)

Model with mathematics. (MP4 Modeling Mathematics)

Construct viable arguments and critique the reasoning of others. (MP3 Constructing Arguments)

Evaluate reports based on data. (HSS.IC.B.6. *sample high school Statistics & Probability standard*)

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. (5.NBT.B.7. *sample elementary Operations with Base Ten standard*)

Key Success Skills

Critical Thinking

Use information from different sources to help answer the driving question (CC 3-5.RI.7, CC 3-5.W.7; CC 6,11-12.RI.7)

Use feedback from other students and adults to improve my writing or my design for a product (CC 3-5.W.5)

Creativity and Innovation

Asks new questions and takes different perspectives to elaborate and improve on the selected idea. (CC 11-12.SL.1c)

Promotes divergent and creative perspectives during discussions. (CC 11-12.SL.1c)

Seeks out and uses feedback and critique to revise product to better meet the needs of the intended audience. (CC 6-12.W.5)

Collaboration

Makes agreements on how the team will work together. (CC 3-5.SL.1b)

Prepared for work with the team, studied required material and use it to explore ideas in discussions. (CC 3-5.SL.1a)

Acknowledges and respects other perspectives; disagrees diplomatically. (CC 3-5.SL.1b)

Presentation

Includes everything required in the presentation.

States main idea and moves from one idea to the next in a logical order, emphasizing main points in a focused coherent manner. (CC 6-8.SL.4)

Keeps eye contact with the audience most of the time. (CC 6-8.SL.4)

Speaks clearly; not too quickly or slowly. (CC6-8.SL.4)

Bringing This Project to Life

Consider Your Students:

What will excite your students about this project? How can you help students connect emotionally to the hunger issue?

Do students in your class come from a variety of language and cultural backgrounds? How might you leverage this diversity as an asset in support of the hunger project, especially if the hunger issue is a local one?

What types of data are most appropriate for your age group?

How can you use this project as a way to help your students make their unique voices and perspectives heard, and to highlight their varied communities and backgrounds?

Are any of your students experiencing hunger? How can you leverage this experience while being mindful of the trauma that is sometimes associated with these experiences?

Consider the Context:

What needs and opportunities exist in your community? How can you help students learn about these?

Are there existing community service organizations or projects that you and your students might partner with for this project?

Is there a museum or other community space that might serve as a venue for showcasing students' art?

Consider the Content and Skills:

What texts, activities, guest speakers, or field trips might help students build their understanding of the hunger issue and the steps that have been taken to address it?

How will you break down and scaffold the mathematical skills that students will need in order to successfully complete this project?

What models and examples might help students understand how to craft an effective infographic?

How will you help students identify, evaluate, and synthesize research about the issues they are exploring?

What specific collaboration, critical thinking, and communication skills might you want to teach and assess through this project? How will you scaffold these skills?

Math Milestone Map

Use this suggested project flow to guide you as you map out a detailed daily plan for your classroom in the Project Planner. As appropriate, leverage the instructional activities provided in the English Language Arts pathway.

| | LAUNCH | BUILD KNOWLEDGE | | DEVELOP & CRITIQUE | | PRESENT |
|--|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Milestone | Entry event | Research and analyze data about hunger | Analyze and evaluate the mathematical costs of different solutions | Stakeholder interviews | Final product review and finalization | Public presentation |
| Key Student Question | What does hunger look like? How many people go hungry? | What are the causes of hunger? What is the cost of hunger? | What are some strategies that have been tried to address hunger, and what were their impacts? | What solutions do we want to take action on? | How do we best communicate our solutions to appropriate stakeholders? | How did our product(s) and presentation help answer our driving question? |
| Essential Formative Assessments | Need-to-know questions | Draft of data analysis (individual) | Journal reflection (individual) | Journal reflection (individual) Draft of presentation (team) | Charrette or Tuning Protocol | Public panel |



Science



Science



*The Interdependence
of Science, Engineering,
and Technology*

Pathway Options

How do we address the issues of hunger in a community? In this science-focused project, students learn the nutritional value of food (protein, fats, carbohydrates, pathways of ingestion and nutrition) and the necessity of food for individuals. They then identify major stakeholders and social services within the area (food banks, shelters, local chefs, and grocery stores), and conduct interviews with these organizations to identify how they address the provision of food in the area (i.e., What recipes do you use for the meals that you make? What foods are provided at the food bank?). They then go back to the classroom and compare what is provided with an ideal “menu.” Students then create a presentation to the stakeholders recommending any changes in what is provided, and how they could access the food necessary for the community.

Again, students contribute to a broader collective art piece through the creation of a plate with a “recipe” to address hunger.

| Team | Individual | Making It Public |
|------------------------------------|---|--|
| Presentation | Plate art inspired by the evidence from their science research and a “recipe” for nutritionally balanced food or menu | Present to appropriate stakeholders (e.g., food banks, shelters, grocery stores) |
| Proposal using scientific evidence | Science journal | Display art piece in a collaborative installation |

Key Standards

Next Generation Science Standards

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. **(LS1.C. Lifecycle)**

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **(K-2-ETS1-1 Engineering Design)**

Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. **(3-5-ETS1-2 Engineering Design)**

Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. **(MS-ESS3-4 Earth and Human Activity)**

Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. **(HS-ETS1-3 Engineering Design)**

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Key Success Skills

Critical Thinking

Use information from different sources to help answer the driving question **(CC 3-5.RI.7, CC 3-5.W.7; CC 6,11-12.RI.7)**

Use feedback from other students and adults to improve my writing or my design for a product **(CC 3-5.W.5)**

Creativity and Innovation

Asks new questions and takes different perspectives to elaborate and improve on the selected idea. **(CC 11-12.SL.1c)**

Promotes divergent and creative perspectives during discussions. **(CC 11-12.SL.1c)**

Seeks out and uses feedback and critique to revise product to better meet the needs of the intended audience. **(CC 6-12.W.5)**

Collaboration

Makes agreements on how the team will work together. **(CC 3-5.SL.1b)**

Prepared for work with the team, studied required material and use it to explore ideas in discussions. **(CC 3-5.SL.1a)**

Acknowledges and respects other perspectives; disagrees diplomatically. **(CC 3-5.SL.1b)**

Presentation

Includes everything required in the presentation.

States main idea and moves from one idea to the next in a logical order, emphasizing main points in a focused coherent manner. **(CC 6-8.SL.4)**

Keeps eye contact with the audience most of the time. **(CC 6-8.SL.4)**

Speaks clearly; not too quickly or slowly. **(CC6-8.SL.4)**

Bringing This Project to Life

Consider Your Students:

What will excite your students about this project? How can you help students connect emotionally to the hunger issue?

Do students in your class come from a variety of language and cultural backgrounds? How might you leverage this diversity as an asset in support of the hunger project, especially if the hunger issue is a local one?

How can you use this project as a way to help your students make their unique voices and perspectives heard, and to highlight their varied communities and backgrounds?

What prior knowledge and beliefs about nutrition might students bring into this project?

Are any of your students experiencing hunger? How can you leverage this experience while being mindful of the trauma that is sometimes associated with these experiences?

Consider the Context:

What needs and opportunities exist in your community? How can you help students learn about these?

Are there existing community service organizations or projects that you and your students might partner with for this project?

Is there a museum or other community space that might serve as a venue for showcasing students' art?

How will you help students identify people to interview?

Consider the Content and Skills:

What texts, activities, guest speakers, or field trips might help students build their understanding of the hunger issue and the steps that have been taken to address it?

What models and examples might help students understand how to craft an effective proposal?

What specific literacy skills might you want to teach and assess through the project? How will you scaffold these skills?

What specific collaboration, critical thinking, and communication skills might you want to teach and assess through this project? How will you scaffold these skills?

How will you help students navigate (and critically evaluate) conflicting recommendations and information regarding nutrition?



Science Milestone Map

Use this suggested project flow to guide you as you map out a detailed daily plan for your classroom in the Project Planner. As appropriate, leverage the instructional activities provided in the English Language Arts pathway.

| | LAUNCH | BUILD KNOWLEDGE | | DEVELOP & CRITIQUE | | PRESENT |
|--|-----------------------------|---|---|--|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Milestone | Entry event | Research the hunger issue and interview stakeholders | Evaluate and analyze multiple perspectives | Identify solution(s) | Final product review and finalization | Public presentation |
| Key Student Question | What does hunger look like? | What are the causes of hunger? | What are some strategies that have been tried to address hunger, and what were their impacts? | What solutions do we want to take action on? | How do we best communicate our solutions to appropriate stakeholders? | How did our product(s) and presentation help answer our driving question? |
| Essential Formative Assessments | Need-to-know questions | Notes identifying community needs from interviews (individual) Draft of initial solutions (team) | Notes about research and exit ticket reflections on how thinking has evolved (individual) | Initial draft of solution (individual) | Presentation practice and feedback forms (team) | Public panel |

We hope this project will inspire students to understand the complexities of issues like hunger, and to recognize the power they hold to impact change in their communities.

For more information about PBLWorks and Students Rebuild, visit our websites:

pblworks.org | studentsrebuild.org/

