



Using Google Maps to Explore Food Deserts

by Katelyn Gardepe, 2017 CTI Fellow
Selwyn Elementary School

This curriculum unit is recommended for:
4th and 5th Grade Mathematics/Health

Keywords: Food Deserts, Food Insecurity, Food Secure, Malnutrition, Fourth Grade Health, Social Issues, Hunger, Place Value, Numbers in Base Ten, Metric Conversions

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit.

Synopsis: This unit is intended to spark curiosity about the many social issues that plague our society and the areas around the neighborhoods of our students. Students will use Google Maps and the United States Department of Agricultural (USDA) Research Atlas to explore income and access to healthy and nutritional foods in various neighboring areas in my student's community. Students will use the internet in various capacities to access data on demographics, locations of supermarkets and convenience stores in the specified areas, and ways in which we are working to help diminish food deserts and food insecurity in our county. Students will explore Food Deserts, where they are located, and attempt to understand why they exist. We will locate the local supermarkets and convenience stores, determine the difference between the two, and how access to one or the other could affect your entire lifestyle. Throughout the unit, students will explore various math concepts such as place value, addition and subtraction strategies, units of measure and conversion through scaling, and comparing fractional parts. As a culminating project, students will express understanding of all of these different pieces through collaboration. Each group will gather additional data on the topic to share with the class and come up with a variety of ideas on what we can do to help!

I plan to teach this unit during the coming year to 60 students in my 4th grade mathematics classroom.

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Introduction

This year, I teach fifty fourth grade students at Selwyn Elementary School. Selwyn is located in an affluent, suburban neighborhood in South Charlotte. The population of the school is made up of approximately 76% White, 13% Black, 7% Hispanic, and 3% Asian American students. Only 22% of the students at Selwyn are receiving free and reduced lunch services. Our school has amazing parent support with a PTA made up of well over 600 parents. Through the PTA, and additional programs they have created, our school has been able to offer technology in every classroom, mostly one-to-one. Students have the ability to participate in various afterschool clubs, ongoing contests throughout the year, and other occasional opportunities that may prove beneficial for them. As a teacher at Selwyn, the support is endless.

On a normal day, I will teach fifty students in the subject areas of Math, Science, and Health. This year we departmentalize on our grade level, sharing our 25 homeroom students with one other teacher. My homeroom students will spend half of the day with me and then the other half of the day with my partner teacher for Literacy and Social Studies. We have made two groups out of the 50 students in our classes. One group is heterogeneous; the other group is considered our Enrichment group. At Selwyn, the majority of our learners are considered to perform above grade-level. The Enrichment group is comprised of students who performed above the 85th percentile on the End-of-Grade test in 3rd grade, as well as fell into high performance levels on other assessments and observations. The heterogeneous group has mixed ability levels with students ranging in abilities from 22nd percentile to the 83rd percentile, the majority scoring in the 45th-83rd percentile range.

As a math teacher, I was highly intrigued by the idea of this seminar and using mathematics to explore social issues. Because the students in my school typically master grade-level content fairly quickly, we are always looking for ways to encourage them to explore the mathematics in a deeper way. Tying in social issues that would make a connection with their lives, or help them to empathize with another's life, sounded like a great way to incorporate a deeper mathematical content, as well as some global awareness. Often, teachers with students of this caliber are looking towards the next grade level for enrichment content rather than looking at taking the current grade level standards and stretching them further to make students think about the math in different ways. It is my intention with this unit to help my students think about our grade level content in a different way, apply it to real-life applications, and create thought provoking questions about social issues going on around us.

The unit itself will focus on the idea of food insecurity and food deserts. Students will focus on the county that we live in, Charlotte-Mecklenburg, and more specifically the neighborhood and surrounding neighborhoods of where they live. Students will work to use Google Maps in order to identify different neighborhoods, supermarkets and convenience stores within those neighborhoods, and the types of foods they would be able to purchase in each type of store. Students will work to make connections between the incomes in these neighborhoods verses the accessibility to the different type of food stores in the area. By the end of the unit, students will be expected to come to various conclusions about this social issue using the data that they have collected on their maps. Without giving students the answers outright, students will be expected

to explore the information they have collected and come up with their own questions and solutions to the problem at hand.

With an additional focus on nutrition, this unit will be integrated with our Health standards for nutrition. In fourth grade, students are expected to compare unhealthy and healthy eating patterns (including eating in moderation). This standard will be addressed in order to help students gain a better understanding of what the data about the grocery stores versus the convenience stores is telling them. It is my hope that it will allow students to create generalizations about the data and then encourage some higher level inquiry and questioning from the students.

Content Background

Mathematical Content

Throughout this unit, students will explore various mathematics concepts covered in the fourth grade curriculum, as well as additional work with decimal computation that is covered in fifth grade. The unit could be used in the fourth grade curriculum with modification for the on-level students, or it can be used as an enrichment lesson for students who may need an additional challenge.

Students will begin the unit by shopping for a healthy meal for a family. They will utilize addition and subtraction of decimals to purchase this meal and determine how much it will cost them to eat healthy. Later on in the lesson, students will be expected to be able to compare the value of homes and family incomes by using place value understanding. By doing this, they will gain a further understanding of which neighborhoods are low-income versus which are not. As they continue to explore their neighborhoods, they will look at the composition of grocery stores versus corner stores and fast food restaurants. Students will determine a family's ability to access these food markets by evaluating the distance from each store to the family's neighborhood using metric conversion. Using fractional parts, students will make inferences about how the amount of access to each type of food market affects the ability to access high-quality nutritional foods.

Vocabulary

Food Insecurity: A household is considered food insecure if, in the previous year, the access to nutritionally adequate foods were minimal or uncertain in availability.

Food Security: A household is considered food secure if the family is able to access nutritionally adequate foods on a consistent basis, with no fear of where their next meal will come from.

Fairtrade: Trade in which fair prices are paid to producers in developing countries

Federal Poverty Line: the minimum amount of income a family needs to be able to afford housing, food, and the basic necessities. In 2017, the federal poverty line (FPL) for a family of four is set at \$24,600.

Food Insecurity

The average person needs 2100 kilocalories per day to efficiently perform the physical and mental tasks required of them. Without this caloric intake, adults cannot complete vital actions that need to be carried out and children cannot play and learn. It is estimated that at least 1 in 6 individuals do not have enough food to eat on a daily basis.¹

You may be asking yourself, “Isn’t this the same as a person suffering from hunger?”. The answer is yes. Until 2006, the USDA used the term “food insecurity with hunger” to describe families that were not able to acquire enough nutritionally adequate or safe foods in a socially acceptable way.² Later it was decided that hunger described the physiological state an individual experienced when they did not receive the appropriate amount of nutrition for their body. Hunger is more of a state of pain and discomfort when on one’s way to starvation. Truthfully, we have probably all felt hunger at one time or another. However, we may not have experienced food insecurity.

Food security describes the ability to be able to acquire access to an adequate amount of nutritionally adequate foods to live a healthy lifestyle. Trends in national food insecurity levels parallel with poverty levels, proving that there is almost certainly a connection between poverty and food insecurity. However, food insecurity affects individuals of all different demographics, forcing them to choose between their next meals and paying the electric bill, medical bills, or other utility bills. Today, more than ever before, food insecurity is effecting working families as well. Because of our economy, some families still have trouble making ends meet and fall into this category. Many food insecure families have no idea where their next meal is coming from.¹⁰

Food Insecurity in the United States

In the United States alone, 42.2 million Americans live in food insecure households, unable to gain consistent access to food sources. Of these 42 million, 29.1 million are adults and 13.1 million are children below the age of 18.² Households that tend to have higher rates of food insecurity are households with children (17%), households with single mothers (30%) or single fathers (22%), households of Black, non-Hispanic families (22%), and households of Hispanic families (19%).²

According to the May 2017 Executive Report on FeedingAmerica.org, twelve states exhibited significantly higher household food-insecurity rates than the United States national average in 2013-2015. They were the following:

1. Mississippi (20.8%)
2. Arkansas (19.2%)
3. Louisiana (18.4%)
4. Alabama (17.6%)
5. Kentucky (17.6%)
6. Ohio (16.1%)
7. Oregon (16.1%)
8. North Carolina (15.9%)
9. Maine (15.8%)

10. Oklahoma (15.5%)
11. Texas (15.4%)
12. Tennessee (15.1%)²

About \$165 billion worth of food is thrown out in the U.S. each year.³ This uneaten food would be enough to feed 25 million Americans and significantly cut down the amount of food insecurity in our nation.⁴

North Carolina

Over the last 6 years, North Carolina has consistently ranked among the top ten states with the highest percentage of food shortage in the United States. Approximately one in six people, or 1,764,000 citizens, are considered food insecure in our state. The cities of Greensboro, High Point, and Winston-Salem have some of the highest percentages of food insecurity in our nation. Of those identified, almost 25% are under the age of 18, one of the highest percentages of all of the states. An additional 160,000 people in the state receive emergency food support in any given week.

Food Insecurity around the World

About 795 million people around the world suffer from food insecurity. The majority of our world's hungry come from developing countries with approximately 12.9% of their population being undernourished. Roughly 100 million children in these countries are underweight; that's one in every six children. One in four of the world's children are considered stunted from malnourishment at some time throughout their childhood, 1 in 3 in developing countries.

Malnutrition

Malnutrition is one of the largest issue related to food insecurity. It is the driver for poverty and inequality, pushing individuals down a pipeline already chosen for them before they have the opportunity to choose for themselves. The inability to have adequate nutritional needs met, prevents individuals from performing mental tasks that enable them to sufficiently care for their household, keep a good job, and take care of themselves and their family's health needs. Malnutrition weakens the immune system and makes an individual more prone to disease, many times even leading to death. A tremendous amount of children dies from malnutrition each year. In fact, it is estimated that 45 percent of all deaths of children under 5 have an underlying cause of malnutrition, more than any other cause of mortality.⁵ Each year, that means 3.1 million children across the world die from being malnourished! ⁴

Children who survive undernutrition at a young age are likely to be stunted as they grow older. These children rarely are able to meet their full potential in physical and mental capacities. It is likely that they will always struggle with lower education levels, lower earnings, and increased risk of chronic disease and mortality for the rest of their lives. Research has shown that the first 1,000-day period after a child is born (birth through the second birthday) is the most crucial time for a child to receive appropriate nutrition in order to avoid the irreversible damage malnutrition can wreak on their little lives.⁵ Children who are born to a parent who is

undernourished will be born malnourished as well, and likely land in the intergenerational cycle of undernutrition.⁴

Why does it happen?

Many of the people who are considered food insecure fall below the poverty line or are often living just above it. Often, families fall into the cycle of hunger when they are working from paycheck to paycheck to try and get by and then an unexpected bill comes up. In many urban areas, a routine medical visit often has to take place at the emergency room which is an extremely expensive cost. If the car breaks down unexpectedly, the family must find a way to get the car fixed in order to continue to have transportation to work. These types of unexpected happenings force households to make choices over adequate nutrition for their family.

In addition to unexpected events, healthy food can be quite expensive. When choosing to feed your family at all or to feed them healthy food, many households would prefer to put food on the table. This also depends on the demographic you live in. In many areas retail stores do not sell as much fresh, healthy produce, but have a variety of processed and packaged goods. For some families, nutrient-rich foods are not as plentifully available as they are to others simply because of where they live. Low-income neighborhoods often support the low-cost retailers; low cost foods are often high in fat and low in nutritional value.

Food Deserts

In many low-income areas, grocery stores can be hard to access. With this, comes the scarcity of the valuable nutrition that comes from fresh fruits and vegetables. Food Deserts are defined as areas with low-access to affordable, healthy foods due to the lack of grocery stores within a considerable driving distance (one-mile).⁶ Many of the families that live within these areas also have minimal access or no access to a vehicle.

What these neighborhoods lack in grocery stores, they make up for with corner stores and fast food restaurants. Because of this, these neighborhoods are set up for an unhealthy diet filled with cheap “meats”, dairy, and an abundance of fats.⁶

Teaching Strategies

Accountable Talk: Students will work throughout this unit to have academic conversation about the topics at hand. Students will be encouraged to build on each other’s ideas and take different perspectives on their topic. It will be important for students to really work with their partners to identify the social issue at hand and collaborate on ways to potentially problem-solve where needed.

Mathematical Discourse: Students will be encouraged to discuss various problems concerning food insecurity around us. Students will be asked to work with their partner during this time to discuss the data and what they think it means in the context of the problem.

Problem Solving: Students will need to use their problem solving strategies to work through various problems given to them about the topic. They will be expected to think outside of the box, persevere in finding a solution, and use appropriate tools when necessary.

Turn and Talk: Students will work together often to discover ideas to share. With this strategy, students will turn to their neighbor for approximately a minute to discuss their ideas on the topic at hand.

Internet Research: Students will be expected to conduct some of their own internet research to add to the data given to them. They will be expected to continue adding to the data collected on their maps for their final culminating project by figuring out ways that we are working to help alleviate the issue of food deserts.

Note-Taking: Students will need to do some research in various cases to find additional information about food deserts. During this time, they will be asked to take notes given to them regarding directions and initial information and then add to them as they complete their task.

Gallery Walk: Students will complete a Gallery Walk as they view the projects completed by their fellow peers. Students will work to complete an idea of how they would stop food deserts and food insecurity in our county and include the steps they would need to take to make it happen. Each student will be able to view the project as they walk around the room.

Activities

As an integrated unit, the following activities are intended to teach students about this very important social issue while enriching the knowledge students are learning in the math classroom throughout the year.

Day One: Making a Healthy Meal

Give students the following prompt to respond to:

Mrs. Jacobs wants to create a healthy dinner for her family tonight. She will make baked chicken, sweet potatoes, broccoli, and a side salad. What would Mrs. Jacobs need to do in order to make this meal for her family? Think about what needs to happen to get dinner to the table in your household. Be specific and thoughtful.

Allow students about 5 minutes to respond to this prompt. Then, discuss their responses as a class. Try to specifically draw out ideas about having to shop for these items, needing to get to the grocery store, and then also having to come home and have the supplies to make this dinner.

Tell students that they will now "shop" for these items. As a group, create a shopping list of the items students will need to purchase for this meal. With a partner, have students use an online grocery store to shop for these items. They should be sure to write down the cost of each item and add up the total cost at the end of their shopping.

Before students leave for the end of the day, have them complete this question as an exit ticket: *Do you think everyone has access to the meal you shopped for today? Why or why not?*

Day Two: Identifying Grocery Stores vs. Convenience Stores

As you begin today's lesson, tell students that we will be looking for a place to shop for our meal today. Each student will receive a section of our county to explore and we will identify various grocery stores available to the population in that area.

**Before beginning this, have students draw three mini stars on the map in random locations. We will use these for something later on in this unit.*

Using Google Maps, show the students how to access a map of the area we will be looking at today. (I have typed in the zip code for my students and used the surrounding areas around them as our location.) Students may need to maneuver the map a little in order to zoom in and find their area. Show them how to do this and let them explore to find their section. Explain to students how they will search for grocery stores in the search bar.

As you are explaining this, students will notice that Convenience Stores also pop up. Discuss the difference between the two by making a chart on the board. Tell students that we will label both today by following these guidelines. List the names of the Grocery Stores and allow for additional questions about Convenience Stores. Gas Stations can also be included in Convenience Stores if students feel that this is necessary.

Have students work in pairs. Give each pair a section of the Mecklenburg map already prepared for this lesson. Students will identify Grocery Stores by making a red dot with their marker and labeling it. Students will label Convenience Stores with a blue dot with their marker and labeling it.

Have students determine what fraction of their mapped area stores are convenience stores versus actual grocery stores. Students should record this on the bottom corner of their map. Use chart paper to create a running table for the class.

As students begin to wrap up the work on their areas, have them use a magnet to connect the map together on the board. As a class, talk about the prevalence of each type of store and what that might mean. Go back to yesterday's exit ticket question and ask students again, *“Do you think everyone has access to the meal you shopped for yesterday? Why or why not?”*

Day Three: What are Food Deserts?

Begin exploring Food Deserts with an article or video about what they are. Here is a link to an appropriate article that can be used with the kids, <https://www.commonlit.org/texts/food-deserts>. As a class, have a discussion about Food Deserts and discuss the effect it has on a community. Ask students if they think there is any relation to the work we have been doing over the past two days. Discuss.

Tell students that today we are going to add income to our maps so that we can make some more conclusions from the data we are presenting on our board. Each group will take their maps off of the board and continue to work on the area they have begun to identify stores in. Today, they will use the USDA Food Access Research Atlas (<https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>) to shade in low income areas on their maps. They will use a light blue colored pencil for this and shade lightly.

After student's shade in the low income areas, have students hang the maps back on the board. Tell students that Low Income in this case means that the family or individual falls above 20% of the Poverty Rate for NC or within less than 80% of the Median Family Income for NC. Poverty is described at an annual income of \$24,600.

Day Four: Connections between Low Income and Low Access to healthy foods

Today, students will continue working with their maps. Students will refer back to the stars they drew on their maps the first day they started working on them. They will use the stars to represent a home location and determine the distance from this location to the nearest grocery store. Afterwards, students will determine the distance from the location to the nearest convenience store to see which is closer for the family living there. Students should use the conversion of 1 inch= 1,000 feet as the scale for our maps. From this, students will convert the distances into miles knowing that 5,280 feet is equivalent to 1 mile. Any family who is further than 1 mile away from a grocery store would be considered to have Low Access to essential food sources.

Once the work has been completed on the student's end for this, they can check their work with the USDA Food Access Research Atlas (<https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>) by clicking on the box for Low Access only.

Go over discussion questions as a class.

Day Five: What Can We Do?

Today, students will use the information they have gathered through data this week to create a cumulative project. Two groups of pairs will be grouped together to create a team of 4. Try to group together pairs that had relatively different map sections represented.

Have students complete the project sheet to go with this lesson. Students will answer questions about the work we had done throughout the week, as well as continue their research to learn a bit more.

Students should explore specific data points regarding food insecurity in our county, as well as what is being done to help, and then what we can do to help. Groups should be prepared to present their findings in a creative way of their choice (slideshow, poster, brochure, large map, etc.).

Appendix 1: Implementing Teaching Standards

[CCSS.Math.Content.4.NBT.A.2](#)

Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Students will be using a variety of data points throughout this unit to look at Food Deserts more deeply. As they explore the income of various households and how they compare to the households in other neighborhoods, they will need to compare multi-digit numbers using place value understanding.

[CCSS.Math.Content.4.NF.C.5](#)

Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.² For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.

While looking at the locations of supermarkets and convenience stores in the surrounding areas, students will write down the fraction of each on the bottom of their maps. We will use this number to gather a percentage of supermarkets verse convenience stores in each area.

[CCSS.Math.Content.4.MD.A.1](#)

Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),

Students will use a scale of 1 inch = 1,000 feet to determine the distance specific locations on their map are located from grocery stores. After using this scale and measuring, they will be asked to convert the measurement into miles to determine whether or not the store is within walking distance for those who do not have a vehicle to drive.

[CCSS.Math.Content.5.NBT.B.7](#)

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.

Students will begin the lesson by shopping for a healthy meal with their partner. As they do so, they will need to add up the prices for each product they purchase to find out the total cost of the items they buy. We will use this later on to discuss the amount one in poverty may use when shopping for an average dinner meal.

Appendix 2: Unit Materials

Name: _____

Date: _____

Google Maps Food Exploration

Day One:

Mrs. Jacobs wants to create a healthy dinner for her family tonight. She will make baked chicken, sweet potatoes, broccoli, and a side salad. What would Mrs. Jacobs need to do in order to make this meal for her family? Think about what needs to happen to get dinner to the table in your household. Be specific and thoughtful.

What fraction of the stores on your map are Grocery Stores?

What fraction of the stores on your map are Convenience Stores?

Look back at the table we created about the differences between the two types of stores. How do you think someone might be affected if they only lived around convenience stores? Why?

How might someone's life be affected if they lived around a lot of grocery stores? Why?

Going back to yesterday's exit ticket, do you think everyone has access to the meal we shopped for yesterday? Why or why not?

How could not having access to that meal, or meals like that, affect you and your family?

Day Three: What is a Food Desert?

After reading the article about Food Deserts, write three important pieces of data you think people should know about Food Deserts.

1.

2.

3.

Go to USDA Food Access Research Atlas by clicking <https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/> or typing it in the address bar on your computer. Type in our zip code for the locator to search. Find the area of the map that you have been working with by holding down the left mouse button and moving the map around a little. You can also zoom in and out as needed using the plus and minus buttons on the side of the map.

At the top of the Atlas, unclick all boxes except for the Low Income box. This will keep the areas of the map that are labeled as Low Income shaded. Shade in the same area on your map using a light blue colored pencil, if it applies to your area. If not, just answer the questions below.

Did you notice any relationships between the amounts of Low Income area you shaded in verses the amount or types of food stores in the area? If so, explain.

Why do you think that it might be harder for families with Low Incomes, or families in Poverty, to access healthy foods?

Do you think your area qualifies as a Food Desert? Why or why not?

Day Four: Low Income and Low Access

Today you will continue to work on your maps and the site you worked on yesterday. We will work to figure out just how far some families have to go to access healthy food sources. We have established that healthy foods often cannot come from Convenience Stores, so we will need to find access to a Grocery Store. Using the stars you put on your paper on Day Two, you will measure the distance from each star to the closest grocery store. Then, convert the measurement using a scale of 1 in. equals 1,000 feet. From there, turn your feet into miles using the conversion of 1 miles = 5,280 feet. Add your information to the table below.

Location	Measurement in Inches (from ruler)	1 inch=1,000 feet	5,280 feet = 1 mile
1			
2			
3			

Any family who is more than 1 mile away from a grocery store would be considered to have low access to essential nutrition. How many of your location would fall into the low access zone?

Using the information you collected yesterday, think about the fact that many families in these low access zones are also living below the poverty line. How do you think that having a substantially lower income and living in a low access zone may harm a family's chances at a healthy lifestyle?

Think about other classmates that had to join additional groups (or maybe you yourself had to join another group) because their mapped area didn't have any low income households. Compare their map to yours. Why do you think the maps are so different? What makes our neighborhoods like this?

Do you think that there is anything that could change the way that food insecurity is affecting our county? What could we do to make the issue of Food Deserts get better?

Day Five: What Can We Do?

Think about the information you learned this week. Gather resources, data, and conclusions from your work to create a “What Can We Do” project. It is your job to advocate for all of the people who are suffering from Food Insecurity and come up with a plan for some feasible ideas of what can be done to help solve this problem. Use data and real facts to present your idea—this will encourage people who matter, to listen!

How you present this project is completely up to you! Use the rubric below to guide you as you work with your group in completing your final project. Good Luck in working to make a difference! ☺

Criteria	Points Possible	Points Earned
Include at least 5 data points about food insecurity in Mecklenburg County.	20	
Give evidence of at least 2 other projects that are being done around the world to help solve this problem.	20	
Create your own plan to help solve the problem of Food Deserts and Food Insecurity.	10	
Give at least 3 reasons to support why this plan will help solve the problem.	20	
Tell what you would need to do in order to make this plan work. Is it something that you could feasibly do at your age? Is it something adults would need to help with?	20	
Did you present your work in a creative way?	10	
Total Points	100	

Notes

¹ (kidsglobal.net)

² (Hunger and Health)

³ (dosomething.org)

⁴ (Change for Children)

⁵ (World Food Programme)

⁶ (foodispower.org)

Annotated Bibliography

"11 Facts about Hunger in the US." DoSomething.org | Volunteer for Social Change.

<https://www.dosomething.org/facts/11-facts-about-hunger-us>.

This site is great for a variety of statistics regarding food insecurity in the United States.

"Food." Kids Go Global News. <http://www.kidsglobal.net/the-issues/food/>.

This site will give you facts about food insecurity and hunger. You will find additional resources to explore for grades K-6.

"Food Deserts." Food Deserts | Food Empowerment Project. <http://www.foodispower.org/food-deserts/>.

This is a great resource for additional information about Food Deserts.

"Go to the Atlas." USDA ERS - Go to the Atlas. <https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>.

This website will allow you to access the USDA Atlas to show low-income areas and low-access areas within specific locations or zip codes. This will be used throughout the unit.

"Key Statistics & Graphics." USDA ERS - Key Statistics & Graphics.

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics/#foodsecure>.

A great resource for additional statistics about food insecurity in the United States.

"Learn & Teach: Food Security." Change for Children. <https://changeformchildren.org/learn-teach/food-security/>.

This is a great site for numerous statistics about malnutrition and hunger around the world. There are a variety of links to access other resources for the classroom.

McBirney, Jessica. "Food Deserts." CommonLit. 2017. <https://www.commonlit.org/texts/food-deserts>.

Use this link to access a great article on Food Deserts written by Jessica McBirney. You can share this with your students to help them learn more about Food Deserts throughout this unit.

"Nutrition." World Food Programme. <http://www1.wfp.org/nutrition>.

Another great site for statistics about malnutrition and food insecurity in children.

"Nutrition and Food Insecurity Research." Hunger and Health.

<https://hungerandhealth.feedingamerica.org/understand-food-insecurity/research/>.

Hunger and Health offers a variety of links to numerous articles regarding food insecurity, food security, and malnutrition.

Valentine, Vikki. "Q & A: The Causes Behind Hunger in America." NPR. November 22, 2005.

<http://www.npr.org/2005/11/22/5021812/q-a-the-causes-behind-hunger-in-america>.

A Q&A about food insecurity.