

# Food Deserts

## *A Fairness & Equity Activity*

Estimated time for activity ~45 minutes

### Objective

Students will be able to identify what a food desert is and where they exist in their place by using google maps and other research tools.

### Essential Questions

- Why do food deserts exist?
- How do we impact the health of our neighborhood and how does our neighborhood impact our health?
- What challenges do humans face who live in a food desert area?

### Materials

- Map of the area with general markings (highways, major roads, etc) but without establishments of any kind (to do this on google maps, zoom to the extent that you want → click on “layers” → click “more” → uncheck the box that say “Labels” - this removes road and highway labels as well, so you might have students write them back in) *\*note the scale of the map\**
- Computers with internet access
- String
- Ruler
- Pencil
- Markers/colored pencils/highlighters

### Background

Food deserts are geographic areas where access to food, specifically healthy food like fruits and vegetables, is restricted or nonexistent in some way. This may be due to the lack of a local grocery store or farmer’s market in the area, lack of public or private transportation to the grocery store, and/or income inequality. There are several criteria taken into account when designating an area as a food desert: poverty rate, median household income, urban vs rural, and distance to the grocery store. Furthermore, a certain portion of the neighborhood must be within a determined percentage of the criteria to be designated as a food desert. For the simplicity of this activity, we will designate a neighborhood (or house) as a food desert, if it is greater than 1 mile from the nearest supermarket/grocery store/supercenter.

#### GRADE LEVEL



6TH - 12TH  
GRADE

#### CONNECTIONS TO THE BIG IDEAS OF SUSTAINABILITY



INTERDEPENDENCE



PLACE



FAIRNESS &  
EQUITY

#### CURRICULAR CONNECTIONS



SCIENCE:  
SCALE, PROPORTION,  
& QUANTITY



SOCIAL STUDIES:  
PEOPLE, PLACES, &  
ENVIRONMENTS



ART:  
CREATING

## Activity

1. Give students a blank map of the area and start by having them mark their home (or you may choose to use the school as home) on their map. They can designate 'home' by using a symbol and certain color (e.g. a red star, a red house, etc)
  - Students should come up with a marking system for each type of place and route they will be marking and make a key designating each type.
  - Places to mark: home, grocery stores, fast food restaurants (optional)
  - Type of routes to mark: walking, biking, driving, bus
  - Time it takes to get to the store, restaurant etc
2. Next, have students search for grocery stores using Google Maps in their neighborhood, greater neighborhood, and city. If you live in a rural area, have students do a wider search for grocery stores to the nearest town/big city. Mark the grocery stores on the map with a different symbol and color.
3. Students will then draw the "route" and denote distance (mi) as well as time (hr/min) to the grocery store on their map. Make sure students designate if this is a walking route, bus route, or driving route (or all) on the map and in the key.
4. Students will then draw a 1 mile radius around each grocery store. To do so, determine the scale at which your map was printed (e.g. 1 inch = 1 mile).
  - To draw the radius you can use the string and pencil method: cut a piece of string ~5" longer than your radius. Tie one end to a pencil and then put a thumb tack the appropriate distance away from the pencil measuring your scale (i.e. if you're using 1in. = 1 mile place the thumb tack 1in. from the pencil).
5. Students then lightly shade areas that are not within the 1 mile radius of a grocery store. These shaded areas mark one of the criteria the USDA uses to designate a food desert. We have not taken into consideration economic income nor transportation accessibility, so these areas are not necessarily designated as food deserts, but they are areas where a person would most likely need to drive or take public transportation to the grocery store.
6. After students are done mapping, discuss what they found during the activity. Lead them to the reflection questions or discuss them as a group.
  - Additional things to discuss:
    - Distance to grocery store(s)
    - Portion of neighborhood(s) within 1 mile of a grocery store
    - Access to public transportation
    - Personal vehicle ownership and costs associated with it

## Activity Extension:

1. Have students mark where fast food establishments are on their map. These types of restaurants usually do not offer a healthy meal option, but many people eat at them because of convenience.
2. Look up food deserts in your city. Check out these cool interactive maps:
  - [Food insecurities interactive map of Houston, Texas](#)
  - [Food Deserts of South LA](#)
  - [USDA food Access map](#)
3. Look up food pantries, and other entities that give out food for free and add them to your map. For example, in Houston, Second Servings alleviates hunger and reduces waste by rescuing perfectly edible surplus food, and delivers it directly to local charities.

## Reflection Questions

1. Are the locations of grocery stores fair and equitable? Why or why not?
2. What surprised you most about mapping where grocery stores are in your area?
3. Why do you think grocery stores are not built close to every neighborhood (<1 mile of a neighborhood)?
4. Do you think it's easier to go grocery shopping or to get fast food? Why?
5. What long term human health effects might one have if they lived off of a majority fast food diet?
6. What long term environmental effect might there be if the majority of the population lived off of a fast food diet?

