***Objective: To determine the number of food miles associated with a typical meal in your home.***

*There are certain foods/crops that are known to be fertilizer intensive or have a really large carbon footprint. The United Nations Food and Agriculture Organization offers a handy list of various crops and their associated fertilizer loads. Bananas consume the most by a very large margin, requiring a whopping 427 pounds of nitrogen, phosphate, and potash fertilizer per acre of cultivation. Sugar beets and citrus crops are next, followed by vegetables, tubers, and grains. Peas and beans require just 35 pounds per acre, in part because they have capacity to absorb nitrogen from the air.

Numbers on pesticide use can be found in a database of California crops maintained by the Pesticide Action Network. According to the information compiled there, raspberries are the worst offenders, accounting for an average of 20.2 pounds of chemicals dumped on every acre of treated land. Other particularly noxious crops include carrots and strawberries. Wild rice also fares poorly by this metric, requiring nearly 6 pounds of pesticide per acre. In the middle of the pack are the tree crops, like avocados and oranges, and at the clean end of the list you'll find broccoli, leafy greens, beans and grains—which are grown with an average of less than 3 pounds of pesticide per acre.

Lamb, beef and cheese have the highest green-house gas emissions. This is true, in part, because they come from ruminant animals that constantly generate methane through their digestive process, called enteric fermentation. Roughly one-fifth of the total greenhouse gases produced comes from livestock production, which isn't surprising, considering 70 per cent of all agricultural land use is devoted to livestock production and makes up for 30 per cent of the land surface of the planet.*

*Each student will conduct research to determine the origins of each food and beverage item in a typical meal at his or her home. The findings will be written up in a report including the following:*

1. *List of each food and beverage item (at least 3 items required).*
2. *A detailed description of each item.*
3. *Evidence of the research efforts made to determine the origins of each item (i.e. websites visited, persons spoken to at food distributors/manufacturers, etc.), which can be in the form of notes.*

*Include as many of the following as possible:*

* *Physical aspects - fertilizers, treatment of animals, size of farm*
* *Distance traveled to arrive at your home.*
* *Mode(s) of transportation used, including the trip from the store to your home, and the approximate carbon footprint of that travel.*
* *A reflection on what you learned in the process. Be sure to include a rationale for why you will or will not change your eating habits based on your findings.*

***QUESTIONS TO CONSIDER:***

***1)****Did you have difficulties determining the origins of the food items? If so, how do you feel about eating foods with unknown origins? How is buying an item with an unknown origin different from taking food from a stranger? How is it similar?*

***2)****Are there farms near your city or town? Where does the food from those farms go? Do they supply to any markets near your home?*

***3)****Is it feasible for you to grow your own food? Is that something you may consider doing in the future? Why or why not?*

***4)****Did any of your findings surprise you? If so what was surprising about what you discovered? What did you expect?*