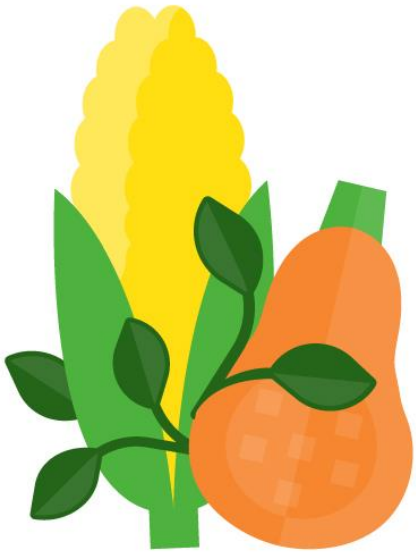
Appendix 1
Print-out Stations



Developed by: Darren Fife, B.Sc. (Nutrition), B.Ed., PHEc [2020]

Gardening can be a wonderful hobby that embellishes your home and community. It is the shortest food system as the food is readily available for preparing. Home gardens often produce fruit and vegetables and usually do not produce grain or protein foods.

Water is required for most gardens to be successful. Many home gardens require manual watering with a hose or a watering can. Watering a garden can be tricky, as different plants require different amounts of water. Both underwatering and overwatering can damage a plant and prevent it from fully growing. Unlike larger-scale farms that accurately measure available water for plants, individual homeowners have a greater risk for overwatering their gardens, using too much water, and drowning their plants. Fresh water is an unbelievably valuable resource and we pay for it; the more we use, the more we pay each month in utility fees.

There are little-to-no transportation costs or emissions of CO_2 because the food is readily available.

There is little-to-no electricity required to produce garden foods.

Waste occurs in gardens when foods are not eaten or stored quickly enough, or are eaten by pests. There are little-to-no plastic products used in the production of food from a home garden. Composting can turn unused plant parts to organic matter.

Local farms and Community Supported Agriculture (CSA) are smaller-scale farms located near your home. The money that is spent with local farmers and growers stays close to home and is reinvested with business and services in your community. Unlike gardens, local farms may produce grain and protein foods. Local farms are a conscious attempt to move away from a global, industrialized food system.

Water is essential for the growth of our food. Compared with home gardens, local farms may have the ability to recycle water more easily. If local gardens are urban, they require water from a residential source. However, if they are rural, they may rely on ground water and rain as water sources, reducing the amount of input required for a successful harvest.

There is likely some transportation required to access local farms; some carbon emissions may be produced from driving too and from the farm. Carbon emissions are also produced at the farm using farm equipment, not required for smaller food procuring practices like gardening.

Little-to-no electricity is used in the production of food from a local farm.

There are little-to-no plastic products used in the production of food from a local farm. Meat products require a wrapping for safe handling and storage purposes.

Farmer's markets are community-oriented marketplaces where farmers sell their products directly to the consumer. Farmers pay a fee to the organizing vendor to sell their products. Farmer's markets have been around for at least 2500 years and were once a major way for urban centres to trade and sell foods. These markets have declined in popularity as food production has become more industrialized. In recent years however, farmer's markets have re-emerged to support local, seasonal food and economy.

Water use is comparable to local farms.

The difference between a local farm and a farmer's market is that there is additional transportation. By removing the food from a local farm and transporting the food to a centralized marketplace, more carbon emissions are emitted into the atmosphere.

There are little-to-no plastic products from access food from a farmer's market. Many modern farmer's markets require the buyer to bring their own bag. Unlike supermarkets, produce arrive in reusable crates and are not coated in a plastic wrapping.

There is little-to-no electricity is used in the production of food from a farmer's market.

Waste is comparable to local farms, although food may be wasted if it deteriorates over the day due to improper storage.

Supermarkets are the most common places for procuring food in Northern America. As the name implies, these are ‘super’ markets, compared with smaller farmer’s markets. When a local food source is no longer in season, supermarkets will source the food from a different area of the earth where it can still be harvested. This globalized system allows supermarkets to sell our favourite fruit and vegetables all year long.

There is increased water use through a supermarket food system than a more localized food systems. Have you even noticed produce being sprayed with a mist at the supermarket? Certain produce items, like lettuce, will dry out without moisture, especially if it has travelled a long distance to the store. Another reason produce is misted is that it is more appealing to the consumer because it appears to be ‘fresher’.

Out-of-season produce that is available in Supermarkets require much more intensive transportation and produces more carbon emissions that local farms. Some foods arrive by cargo ship or plane. After, they are sent to a packaging a distribution centre and shipped out to all their stores.

Produce from supermarkets are often wrapped in packaging, like plastic bags, clamshells, and elastic. Plastic bags are also available to wrap up the produce that has not already been packaged in plastic.

The supermarket food system produces significantly more waste than local food systems. Farms have become decent at finding new ways to produce that may be wasted, like turning it to compost or feeding it to animals. The transport and distrubution of produce also increase the chances it will be damaged, and produce is wasted before packaging. The supermarkets themselves only want picture-perfect produce and any product that developes a blemish may be wasted. Even quality produce may be wasted if it reaches it’s sell-by date.

Food delivery services, or meal delivery services, became popular in the 2010's. These subscription-based services ship customers pre-portioned food ingredients and recipes to prepare meals at home. These kits can include raw ingredients and partially prepared ingredients. Meal kits have been criticized as they are far more expensive than purchasing the same ingredients separately.

Like supermarkets, delivery services include a variety of foods, whether in season or not. However, some meal delivery services prefer to use local foods, although there are variations between companies. A variety of food items are included in one kit and are assembled before being delivered out to the consumer. This service is unique as it does not require the consumer to transport food from a location and instead, the food comes to them.

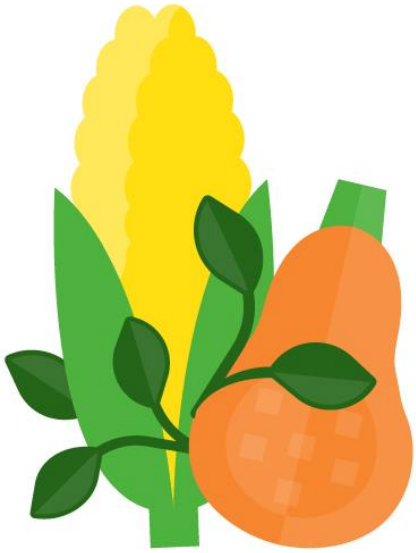
Food found in a delivery service kits do not sit in refrigeration for as long as foods from a supermarket, as they are quickly packaged and delivered. These meals are kept cool by an ice pack which uses less energy to produce than a refrigerated truck. In this way, meal delivery services may use less electricity than supermarkets.

Food delivery services have been criticized for their use of excess packaging. Individual food items are encased in non-reusable plastic or canisters and kept cool with a non-recyclable freezer pack. However, recent data suggests that meal delivery services can reduce food waste as each ingredient is precisely measured. It is environmentally more friendly for a delivery truck, which is filled with other packages and driving an optimized route, to deliver food to consumers' doorsteps, rather than having each household make independent trips to the supermarket.

Resources:

- Food Systems images borrowed from: https://www.sandiaseed.com/blogs/news/shorten-your-food-chain-infographic

Appendix 2
Food System Resource Evaluation Worksheet



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Food System Resource Evaluation Worksheet

	HOME GARDEN	LOCAL FARMS / CSA	FARMER'S MARKET
WATER			
CO_2			
ELECTRICITY			
WASTE			
NOTES			

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	SUPERMARKET	FOOD DELIVERY SERVICE	Critical Thinking:
WATER			1. Which food system uses the least amount of water, CO_2, plastic, electricity, and waste? 2. What barriers prevent people from gardening? 3. What did you notice about the amount of waste produced and the length of the food system? 4. Which food system produces the cheapest food for the consumer? What about the most expensive?
CO_2			
ELECTRICITY			
WASTE			
NOTES			

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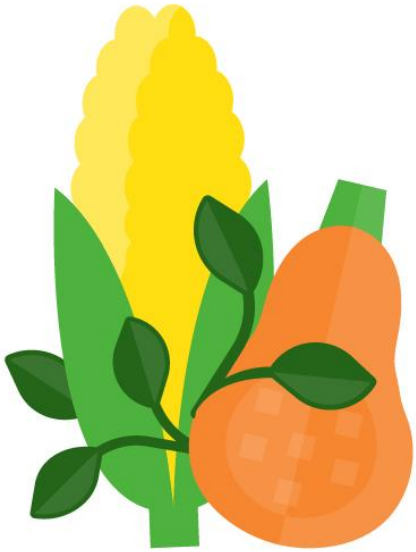
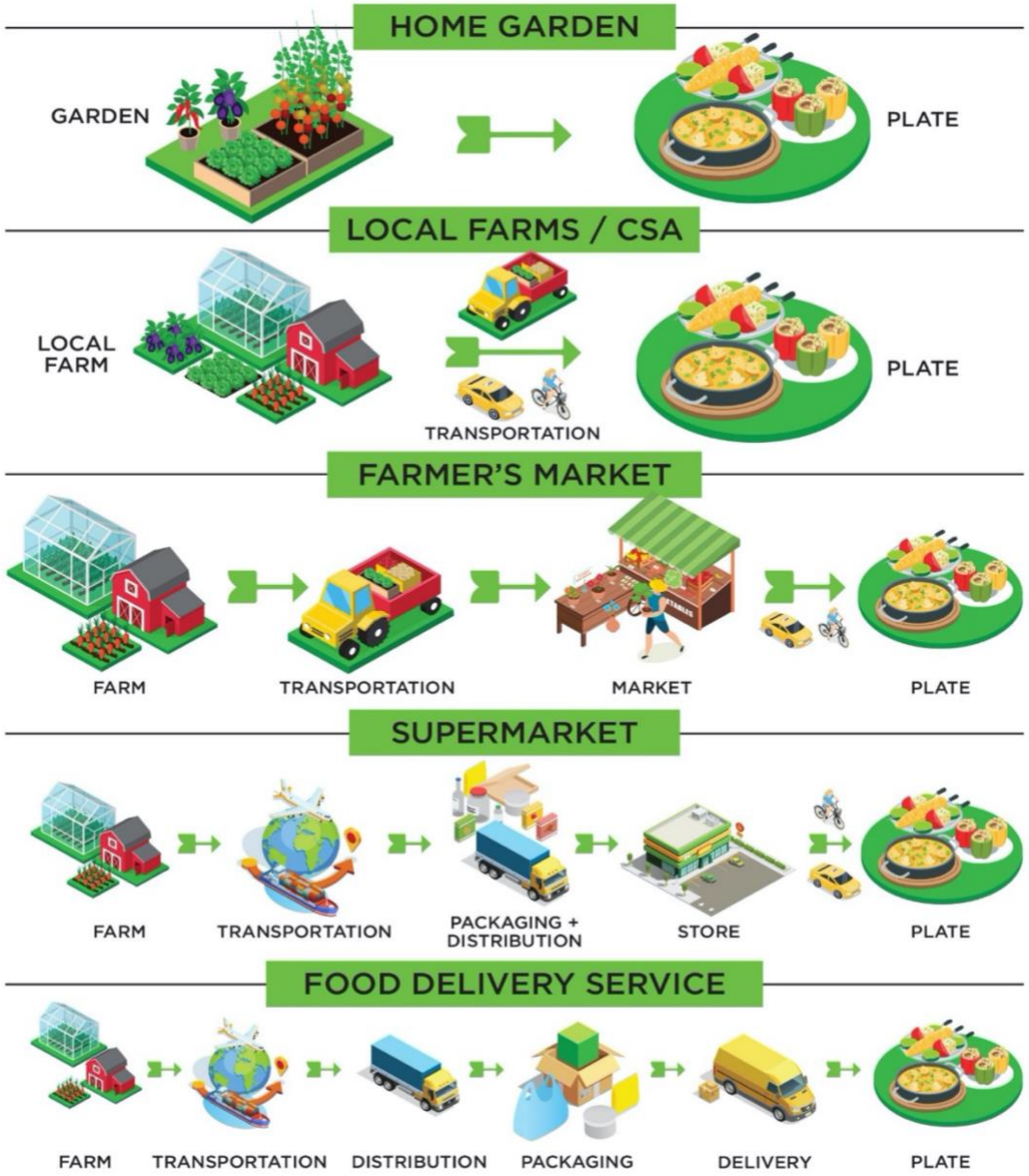
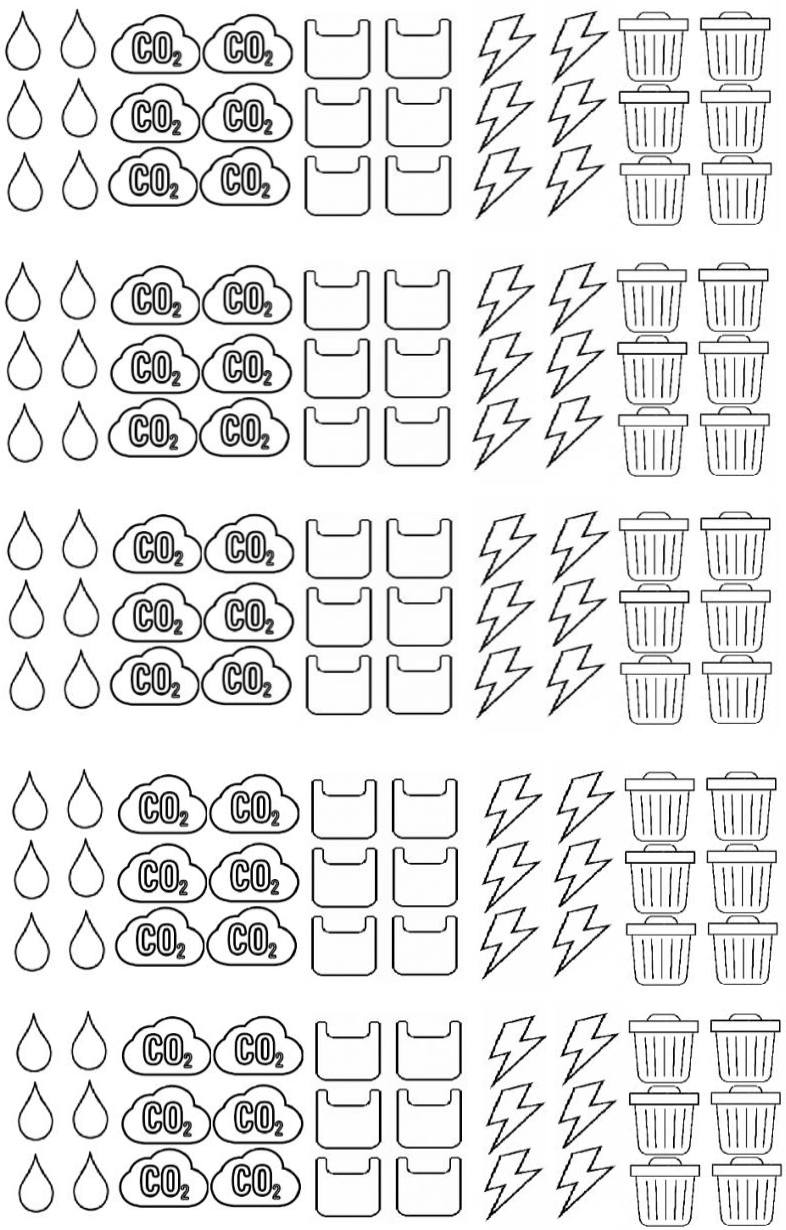
Appendix 3
Food Systems Image



Food Systems Resource Evaluation





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