Environmental Education Activity

Where in the World Does our Food Come From?

NWT SCIENCE FOCUS

Resource Sheet

Emissions Calculator

- Check the food label: Where did your product come from?
- Look it up the location on the chart: how many kilometers did your food travel?
- Which method of transportation did your food use to get here? Plane, boat, train, truck?
- Use the table to calculate the emissions produced from the transport of your food

Distance Chart

Product	Distance (Km)	Method of Transport
Apple- New Zealand	13,131	Boat
Banana- Costa Rica	8,815	Plane
Beef- Alberta	1,455	Truck
Flour- Saskatchewan	2,206	Truck
Tomato- Mexico	5,455	Truck
Eggs- Hay River	481	Truck
Potatoes- PEI	6,140	Truck
Carrots- Florida	6,280	Truck
Mango- India	9,886	Plane
Grapes Spain	7,063	Plane
Orange- Uruguay	11,942	Plane
Coffee- Ethiopia	11,744	Plane
Chocolate- Ecuador	7,732	Boat
Kale- California	4,228	Truck

Grams of GHG emissions per 1 km traveled for each 1 kg of food	
Plane	1.1010g
Truck	0.2699g
Boat	0.1303g
Train	0.2699g

- For example, if 1kg of tomatoes from Mexico travels 4200km by truck to reach your community the calculation would be done as follows:
- 1kg tomatoes x 4200km x 0.2699g GHGs/km = 1129.8g GHGs for 1 kg of tomatoes
- That means that 1.1298kg of GHGs are emitted to the atmosphere, the same amount as going for a 3.6km in an average Canadian Car.

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When we transport food from one place to another, the method of transportation we use emits greenhouses gases (GHG) that are harmful to people, animals, and the environment. Check out this chart to see what emits the most greenhouse gases:

Grams of GHG emissions per 1 km traveled for each 1 kg of food	
Plane	1 g
Truck	0.3 g
Boat	0.1 g
Train	0.3 g

Now we're going to figure out which products emit the least amount of greenhouse gases- which means they're the best for us and the planet!

1. Fill out the last two columns in the table below:

Product	Imported Distance (km)	Method of Transport	Greenhouse Gas Emissions per kg (GHG)	Total Emissions (km x GHG)
Apple- New Zealand	13 000	Boat	0.1	13 000 x 0.1 = 1 300
Banana- Costa Rica	9 000	Plane	1.0	9 000 x 1.0 = 9 000
Beef- Alberta	1 000	Truck	0.3	1 000 x 0.3 = 300
Flour- Saskatchewan	2 000	Truck		
Tomato- Mexico	5 000	Truck		
Eggs- Hay River	500	Truck		
Potatoes- PEI	6 000	Truck		
Carrots- Florida	6 000	Truck		
Mango- India	10 000	Plane		
Grapes Spain	7 000	Plane		
Orange- Uruguay	12 000	Plane		
Coffee- Ethiopia	12 000	Plane		
Chocolate- Ecuador	8 000	Boat		
Kale- California	4 000	Truck		

Based on the results from the table, which THREE products have the lowest greenhouse gas emissions?

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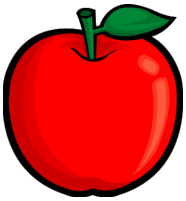
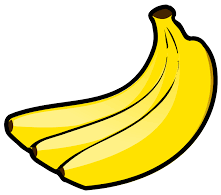
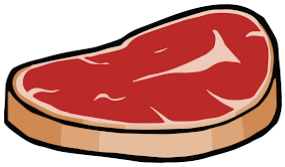
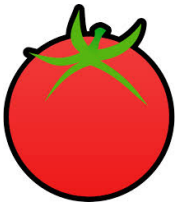
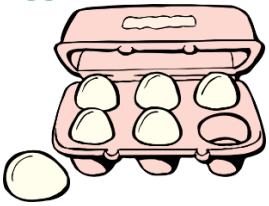
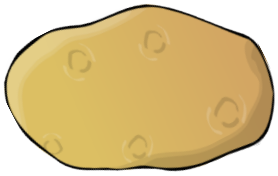
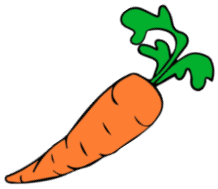
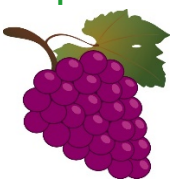
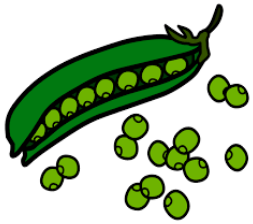
2. On the “What’s in my Grocery Bag” chart, circle all the things that you think could be grown/produced here in Yellowknife.

What’s in My Grocery Bag?

Apple  Product of New Zealand Could this be produced locally?	**Banana**  Product of Costa Rica Could this be produced locally?	**Beef**  Product of Alberta Could this be produced locally?	**Wheat Flour**  Product of Saskatchewan Could this be produced locally?
Tomato  Product of Mexico Could this be produced locally?	**Eggs**  Product of Hay River Could this be produced locally?	**Potatoes**  Product of PEI Could this be produced locally?	**Carrots**  Product of Florida Could this be produced locally?
Mango  Product of India Could this be produced locally?	**Grapes**  Product of Spain Could this be produced locally?	**Wild Cranberries**  Product of the bush near my community	**Peas**  Product of my garden
Orange  Product of Uruguay Could this be produced locally?	**Fair Trade Coffee**  Product of Ethiopia Could this be produced locally?	**Fair Trade Chocolate**  Product of Ecuador Could this be produced locally?	**Kale**  Product of California Could this be produced locally?

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