LOCATION: CLASSROOM | SUGGESTED DURATION: 1 AND 1/2 HOURS.

Food Waste Has Come a Long Way!

STUDENT GOALS

- I can identify some of the production steps required for a piece of produce to arrives at the supermarket.
- I can identify some of the decisions that determine why a particular piece of produce arrives at a supermarket.
- I understand where food waste goes after it goes in the bin.
- I can begin to understand how food systems can be circular.

CURRICULUM LINKS

- Consumer and financial literacy
- Knowledge and understanding about the nature of food systems
- Informed and appropriate food preparation choices when experimenting with, preparing, consuming and disposing of food in a sustainable manner.
- Understanding the nutritional quality of food and the environmental impact of food manufacturing processes, consumption and waste.

In this lesson, students will 'follow the thing' by following a particular piece of produce from seed to farm to distribution to eating to waste and back into the environment again. It begins to develop systems thinking, and food system literacy.

WARM UP

Look at the image below and ask the following questions:

- Where did all this food come from?
- Which food do you think travelled the farthest to get to the supermarket?
- Where does it go once we've finished with it?
- What kind of waste do you think is easy to process? And what kind of waste is difficult to process?

DID YOU KNOW?

Working out how far food has travelled can get really complicated. This is because many foods in the supermarket have **global supply chains**. The map below shows where all the ingredients for Nutella come from. This means that the ingredients in a jar of Nutella that is being sold in London had travelled over 46,000 km! That's more than travelling all the way from the South Pole to the North Pole and back again.

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EXERCISE ONE: EGGS!

As a group, draw the journey of an egg to the supermarket shelf, then from the shelf to the household and then on to waste.

Consider the following questions and include this information in the diagram:

1. Where do eggs come from?
2. What determines if an egg makes its way to the supermarket shelf?
3. What happens to the eggs that don't sell in time?
4. If the eggs are cooked, what happens to eggshells?

When all information has been included watch the following clip.

https://www.youtube.com/watch?v=4AZSoQ-RaKY (Why do supermarket eggs look perfect?)

Can you now add any further information to your diagram?

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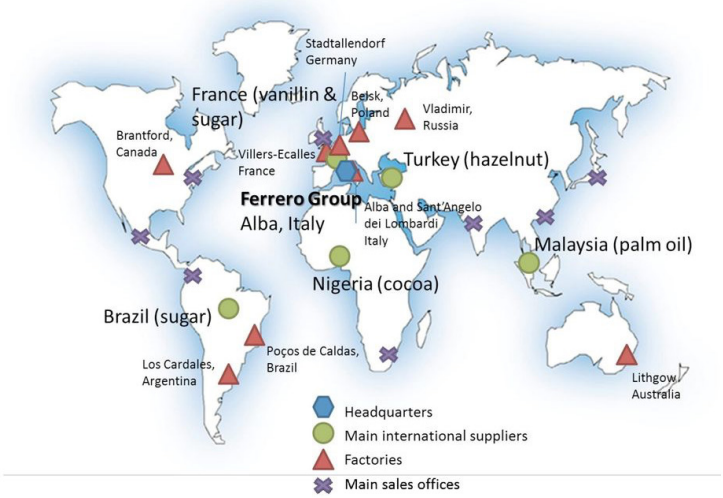

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EXERCISE TWO: EGGSPLANATION!

When we waste food we waste all kinds of things, not just the food itself. As a class, think about what types of other things are wasted. Then work out if they are **natural resources, human resources** or **financial resources.**

Now, what is happening with the supply of eggs in your area right now? What has this done to the **price**? And what does the price do to the **way we use eggs everyday**? And do you think this has any effect on how many eggs are **wasted**?

DID YOU KNOW?

When food waste goes into landfill, it creates **methane**.

Methane is a greenhouse gas and so causes **global warming**. Food waste causes about 10% of global greenhouse gas emissions. Throwing food into general rubbish also means that it **does not turn into compost** and the nutrients contained in it are **lost or contaminated**.

A system where waste is not wasted but is used again as a resource is called a **circular economy.**

Composting is better than wasting food, but even better than this is not wasting food to begin with.

In Australia around 7.6 million tonnes of food is wasted annually. This amount would fill the Melbourne Cricket Ground **9 times**!

RESOURCES

De Backer, K. and S. Miroudot (2013), "Mapping Global Value Chains", https://doi.org/10.1787/5k3v1trgnbr4-en.

https://noblue2.com/blog/how-many-food-miles-favourite-foods/Food Waste Facts |

https://www.foodbank.org.au/food-waste-facts-in-australia/?state=vic

https://www.kitchengardenfoundation.org.au/sos-save-our-scraps

Leftover Egg Recipes: Friands!

FRESH FROM THE GARDEN:
Fruit, and eggs if you're lucky!

SEASON:
All year.

SERVES:
10-12 friands.

Egg whites can be stored in the freezer. Pop them in a plastic container, and just add to that container as you have a spare one.

When you have saved up six egg whites, you can make this deliciousy fancy friand recipe!

Equipment

oven
2 bowls
whisk
scales
cup measures
teaspoon
pastry brush
friand tins*

For the friands:

6 egg whites
1/2 cup flour, or gluten free flour
1 1/2 cup icing sugar
1 cup ground almonds/ almond meal
150 grams melted, cooled butter
1 teaspoon vanilla extract
fruit for topping, either small or cut into fine slices
spray oil, or extra butter

* if you don't have oval shaped friand tins, muffin tins work just fine!

What to do:

1. Preheat oven to 180 degrees celcius.
2. Grease 12 friand tins, or muffin tins. If using muffin tins, you can line with muffin liners.
3. Whisk egg whites just until frothy.
4. In a separate bowl, sift the icing sugar and the flour, or gluten free flour. Add the ground almonds and mix through.
5. Pour in the egg whites, melted butter and vanilla. Stir just to combine.
6. Spoon the mix into the greased tins. They will probably be only half full, that's ok. Bake for 20 minutes or until a skewer inserted tests clean.

Leftover Egg Recipes: Cured Egg Yolks!

FRESH FROM THE GARDEN:
Eggs if you're lucky!

SEASON:
All year.

SERVES:
Variable!

These taste a lot like parmesan cheese, and can be used just like that - finely grated over pasta!

Equipment

fridge
oven
plastic containers with lids
spoon
baking sheet

For the egg yolks:

egg yolks
fine salt

What to do:

1. In a small plastic container (like a take away container, depending on how many yolks you have), put down a layer of salt about 3cm deep.
2. Push dents into the salt with the back of a spoon.
3. Drop an egg yolk into the dent.
4. Cover completely with another layer of salt.
5. Pop them in the fridge, and leave them overnight.
6. The next day, take the yolks out and rinse them under cold water. Dry them careuflly with paper towel.
7. Put your oven on the lowest setting (about 60 degrees celcius).
8. Put yolks onto a baking sheet, and bake for about three hours.
9. These yolks can now be kept in the fridge for about three months!

Reusing Eggshells!

Eggshells are a really useful resource in the garden and can be used in a lot of beneficial ways, including deterring slugs and boosting soil nutrients. All you need for these recipes are eggshells!

1. Rather than plastic trays and punnets, use empty eggshells when planting seeds. You can plant the whole thing in the ground, and the eggshell will gradually breakdown as the plant grows.
2. For smaller shell fragments, dry your empty egg shells in a warm oven for a few minutes. Remove them carefully and crush them with a mortar and pestle until grainy. Sprinkled around young seedlings, the sharp edges of the shell are a deterrent for slugs and snails. As an added bonus, the shells are a source of calcium for the soil.
3. These ground up eggshells can also be fed to chickens! Wild birds also like eggshells, if you add it to their feeding mix.
4. You can even make chalk out of eggshells! Check it out: https://www.instructables.com/Homemade-Chalk-From-Egg-Shells/ (Homemade Chalk From Egg Shells : 4 Steps (with Pictures) - Instructables)