

How do we eat apples?

In a nutshell

Half eaten apples are a common source of food waste in schools. This lesson encourages learners to consider how they may be wasting food through the way they eat their apples. Learners try two different ways of eating apples to see which wastes less. Learners will also measure and weigh food.

Core Learning

We are learning that the way we eat apples can cause food waste. We are also learning how to measure and weigh food. We understand that we can waste less food by the way we look after and eat our food.

Preparation

This lesson works well as the lesson preceding either morning tea or lunchtime and will take approximately 40 minutes. If there is a half-eaten apple from the food waste audit, use this as a starting point. If there isn't, use the picture of a half-eaten apple on the powerpoint.

Equipment needed:

- Five small eating apples and one larger apple
- One set of scales
- Access to the internet to watch a YouTube video
- PowerPoint presentation

bit.ly/LFHW-ppt

Starter

Tell learners New Zealanders throw away around 22 million apples every year. This is just families and children, not supermarkets or farms. Why do you think we waste so many apples?

Answers could include:

- They bruise or go brown
- They are too soft
- They are too big and we can't finish eating them
- We buy too many and they can't be eaten in time

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Main

Bring out 2 small apples and the larger apple. Ask for volunteers to weigh the apples and write up on the board how much each apple weighs.

Ask for three volunteers to come forward who would like to eat an apple.

Give them each an apple and ask them to start eating the apples. Tell them they can stop whenever they are full or have had enough.

Advise them to spit out any pips as they are not safe to eat.

Note: Apple seeds contain very small amounts of cyanide so it's best to spit them out.

bit.ly/LFHW-2-pips

While the three learners eat the apples have a whole class discussion on:

Why is wasting food wrong?

What can we do to waste less apples?

- We can buy fewer apples
- We can share them with a friend if we can't eat them all
- We can buy smaller apples

- We can cook with them and turn them into something that tastes nicer

What about the way we eat apples?

While the learners are eating, ask the rest of the children if they would eat the apple in the same way or in a different way.

Note: if the learners are still eating their apples other discussion questions could include:

What other kinds of food do we waste a lot of at school?

Why do we waste this food?

What can we do to waste less?

When the learners have finished eating the apples, weigh the apple cores and write up how much is left. If any child hasn't finished eating their apple, ask why not.

Ask the class to work out how much of each apple was eaten i.e. the original weight of the apple - the weight of the uneaten apple. For more advanced learners you could ask them to calculate what percentage of the apple was eaten and compare it for the three apples.

Ask learners if there a different way that we could eat apples so that we don't waste so much.

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Now watch the video

bit.ly/LFHW-2-eat

Ask learners

- How much of the apple does he waste? *None*
- How much of the apple do most people waste? *30%*
- What parts of the apple can't we eat? *Answer the pips and the stem. The core can be eaten it is just a bit crunchier*

Ask for volunteers to eat the apple in this new way.

Weigh the apples before they are eaten and after they have been eaten with the new method. Compare with the previous results.



Dessert

Ask learners what can we do to waste less apples?

- Eat from the top
- Ask our parents to buy us smaller apples if we can't finish large ones
- Share our apple with our friends if it's too big
- Ask our parents to give us apple pieces instead of whole apples
- Eat the rest of the apple after school
- Turn it into a smoothie or make a toasted sandwich with apples

Are there any other fruits which we can eat differently like this?

- Pears can also be eaten from the top down.
- Eating the skin of the kiwifruit.

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CURRICULUM AREA	ACHIEVEMENT OBJECTIVES	LEARNING INTENTION
Social Sciences	Level 1 Social Studies Learners will gain knowledge, skills, and experience to understand how the cultures of people in New Zealand are expressed in their daily lives.	<ul style="list-style-type: none">• We are learning how to waste less food.• We are learning how culture can influence how and what we eat.• We are learning about different cultures, customs and values.
	Level 2 Social Studies Learners will gain knowledge, skills, and experience to understand how cultural practices reflect and express peoples' customs, traditions, and values.	
	Level 3 Social Studies Learners will gain knowledge, skills, and experience to understand how people make decisions about access to and use of resources.	
Mathematics & Statistics	Level 1 Measurement Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units.	<ul style="list-style-type: none">• We are learning to calculate how much food we waste.• We are learning how to weigh and measure food.
	Level 2 Measurement Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time.	
	Level 3 Measurement Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time.	

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Extra helping

Inquiry learning: Edibility of fruit and vegetables

When we talk about food waste we are talking about avoidable food waste - the food that could have been eaten.

Show the learners a banana. Ask what part of the banana can you eat?

Explain that for most people the skin is inedible i.e. it is unavoidable food waste, whereas the banana flesh is edible i.e. avoidable - it could have been eaten.

Recap with the learners about apples.

- What parts of the apple are edible? *white flesh of apple*
- What parts are inedible? *stem and pips*
- Are there any which are potentially edible? *I.e. some people eat them and some people don't. skin and core*

Explain that while banana peels are normally seen as inedible in parts of India they are cooked in a curry. On the Love Food Hate Waste website there is a recipe for a banana peel cake - a cake made only using the peels of the banana and not using the flesh.

bit.ly/LFHW-2-recipe

Ask learners what parts do you usually have in fruit?

- Flesh
- Stem
- Pips / seeds
- Stone/ pit
- Core

Ask learners what parts do you usually have in vegetables?

- Flesh
- Skin
- Leaves
- Stalk
- Roots
- Seeds

Ask learners to choose one fruit and one vegetable draw it and label the parts. Then write down which parts are edible, potentially edible and inedible. Then research online to find out whether other cultures eat the parts which we consider to be inedible.

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Suggested inquiry questions

- If something is potentially edible e.g. some people eat it, but some people don't, why do you think they don't eat it?
- If they do eat it, how do they eat it?
- Why might they eat things that in New Zealand are thrown away?
- Are there any special recipes or ways of cooking etc?
- Is it only cooked or eaten in certain countries?

Note: In the Southern States of America they eat deep fried watermelon rind; in England they eat the rind of oranges and grapefruit when they make marmalade. In Asia they eat fish heads and chicken feet.

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Social Sciences	Level 1 Social Studies Learners will gain knowledge, skills, and experience to understand how the cultures of people in New Zealand are expressed in their daily lives.	<ul style="list-style-type: none">• We are learning what and how food is eaten by different cultures.• We are learning how different cultures value different foods.
	Level 2 Social Studies Learners will gain knowledge, skills, and experience to understand how cultural practices reflect and express peoples' customs, traditions, and values.	

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FRUIT	EDIBLE	POTENTIALLY EDIBLE	INEDIBLE
Bananas	White flesh	Banana skin - this is turned into curry in India	Stem
Oranges/grapefruit/mandarins	Orange flesh	Peel - this can be candied and used in mixed peel or it can be turned into marmalade	
Peaches	Yellow flesh	Skin - some people choose to peel their peaches	Stone/pit
Nectarine	Yellow flesh & skin		Stone/pit
Watermelon	Pink flesh	White flesh - can be used to make chutney Rind - can be deepfried Pips - they can be swallowed	
Strawberries & other berries	Pink flesh		Green leaves and stem
Grapes	Green flesh	Skin - in Japan they always peel grapes before eating them Pips - they can be swallowed	
Mango	Yellow flesh		Stone and peel
Pears	White flesh	Skin - some people choose to peel pears Seeds - they can be swallowed	Stem
Pineapple	Yellow flesh	Core - this can be used to make pineapple tea or vinegar	Skin

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VEGETABLES	EDIBLE	POTENTIALLY EDIBLE	INEDIBLE
Cauliflower	White florets	Stalk - this can be cooked and turned into soup Leaves - these can be turned into pesto	
Broccoli	Green florets	Stalk - this can be grated and turned into broccoli slaw Leaves - these can be turned into pesto	
Silverbeet	Green leaves	Stalk - these take longer to cook than the leaves but are still edible	
Leeks	White stalk	Green leaves - these take longer to cook than the stalk but are still edible Roots - these can be stir-fried and eaten	
Potatoes/Kumara	White/yellow flesh	Skins - some people remove the skins for mashed potato, others keep the skins for baked potatoes	
Pumpkin	Orange flesh	Skins - these can be eaten Seeds - these can be roasted and the inside flesh eaten	
Carrots	Orange flesh	Leaves - these can be made into pesto	
Beetroot	Purple flesh	Skins - these can be eaten Stalks - these can be stir-fried Leaves - these are similar to silverbeet	Roots
Coriander	Leaves	Stalks - these can be stir-fried Roots - these are used to make curry pastes	
Lettuce	Leaves	Outer leaves - these can be washed and eaten Core - this can be cooked and eaten like cabbage	Roots
Celery	Stalks	Leaves - these can be stir-fried or used in soups Hearts - these can be used in coleslaw	
Cabbage	Leaves	Outer leaves - these can be washed and eaten Core - this can be made into sauerkraut	

My FRUIT is

DRAW YOUR FRUIT HERE. Label the parts of the fruit.

Write which parts are edible, potentially edible and inedible.

Write down the names of recipes which use the different part of the fruit.

My VEGETABLE is

DRAW YOUR VEGETABLE HERE. Label the parts of the vegetable.

Write which parts are edible, potentially edible and inedible.

Write down the names of recipes which use the different part of the vegetable.
