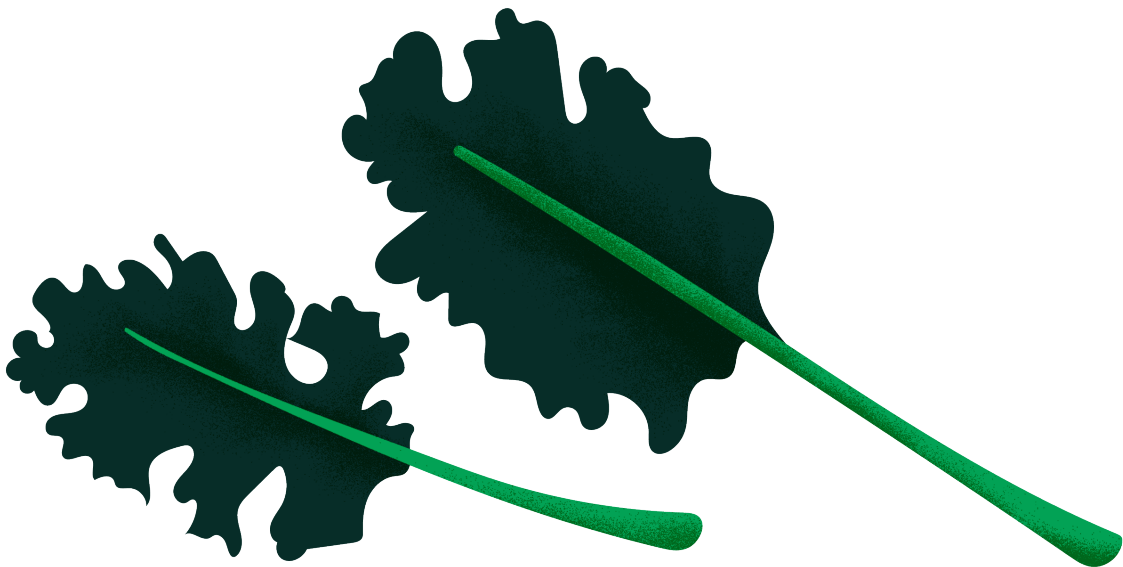


# Salty Smooth

Year 5 – Science

Year 6 – Science



**(Science; Yr 5, ACSSU077)**

Solids, liquids and gases have different observable properties and behave in different ways

**(Science; Yr 6, ACSSU095)**

Changes to materials can be reversible or irreversible

# Salty Smooth

## What salt does to flavour

There's a saying amongst cooks that goes: "Salt makes sugar taste sweeter". We're sure students will have a sweet time with this experiment. The accompanying fact sheet is designed to reinforce the lessons learned in the **Way Too Cool for School** and **Sweetie or Salty** resources.

### Equipment:

Mixture of salad leaves  
(aka: mesclun)

Bowl

Olive oil

Fresh lemon, cut in half

Forks (for tasting)

Good quality salt flakes such as  
Murray River or Maldon salt

Plain flavoured ice cream (vanilla or  
chocolate will work well here)

Teaspoons (for tasting ice cream)

### Duration:

20 minutes

### Location:

The kitchen or the classroom

### Notes:

**Question:**

## Does salt make a sweet food taste sweeter?

**Answer:**

It seems like a contradiction but a pinch of salt in a sweet dessert, like a chocolate beetroot brownie, does make it taste sweeter.

But why?

Most people will agree sweetness on its own isn't satisfying – think of the sweetest lolly you've ever had. It probably coated your entire mouth with a sickly sweet sugar hit.

Now think of the saltiest thing you've ever had. You get a similarly unpleasant result.

In both cases one sensation overloads our taste receptors and 'blinds' our mouths to the subtlety of other flavours. Just like most things in life, balance is better.

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**From Alice:** Salt rounds out flavours. A dish with sweetness, sourness, bitterness and no salt = BORING! Add a pinch of salt and try it again.

The flavour profile will be complete!

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Harold McGee is the master of kitchen science. Check out his book *McGee on Cooking* or watch his *Mind of a Chef* segments on YouTube.

**So what does salt do?**

*'Salt increases the volatility of some aromatic substances in food and it enhances our perception of some aromas, so it can make the overall flavour of a food seem more intense.'*

– Harold McGee in *The New York Times*, August 9, 2008

<https://dinersjournal.blogs.nytimes.com/2008/08/09/harold-mcgee-on-salt>



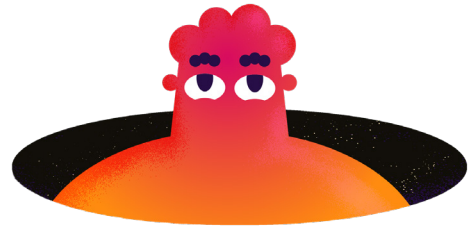
## Make Friends with Salad

- Make a mixture of lettuce leaves. Try some soft butter heart, cos lettuce, red oak leaf and others. Lettuce is naturally slightly bitter.
- Make a salad dressing with 3 teaspoons (tsp) olive oil and 1 tsp lemon juice. Whisk these two together into an emulsion (it should go cloudy as the tiny droplets of the lemon juice suspend in the oil).
- Toss the lettuce leaves in the dressing. Taste.
- Is the taste a bit flat?
- Now add 2-3 pinches of sea salt, mix well and try it again. Salt rounds out the flavours, reduces the sourness of the lemon juice and reduces the bitterness of the lettuce. Sweet!
- Challenge question: If you decided that you didn't like the salt in your salad, could you take it out again? What would the result be?

## Lexicon

**Mesclun** (which translates to 'mixture') originated in Provence, France when farmers from Nice started bringing their prized mix of baby greens to farmers' markets.

**Emulsion** tiny droplets of one liquid in another.



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### Sneaky Smart Stuff:

The word **salad** comes from *salata* which translates to 'salted' from Latin. So a salad without a pinch of salt is just a salad in waiting.

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## Why Ice Cream Loves Salt

Ice cream makes use of salt in two ways:

1. Salt lowers the freezing point of water. If we just froze plain cream it would set hard. Adding sugar alone would mean the cream stays soft in the freezer. Adding salt means the water in the cream can go below freezing point (0°C) so it's cold enough to freeze the sugared cream.
2. Salt makes the sweet, fruit, chocolate or caramel flavours in ice cream taste more rounded and richer. Salt makes the cream in ice cream taste creamier.

## Try This

- Scoop out two teaspoons of ice cream (a plain flavour like vanilla or chocolate will work best here).
- Taste one of the teaspoons of ice cream, taking note of its flavour and texture.
- Sprinkle a few flakes of salt onto the other ice cream'd teaspoon and taste it.
- Compare the two for texture and taste. Which did you prefer?