ZERO WASTE SCOTLAND

Resource:	Resource 31 – Why do apples turn brown?
Text:	This is a science experiment that you can do in your kitchen, all you need is: · A sliced apple · A sealed container · Something to wrap a slice in e.g. beeswax wrap or clingfilm (only if you can't find a reusable or recyclable option), kitchen roll, a tissue · Optional lemon juice (this will test the effect of acid) · Small space in the fridge. Place sliced apple in different environments as described in the table, record and observe what happens with time. What is the best way to store sliced apple to keep it fresh for longer? This resource involves maths and science skills
Suitable for:	P6 - S2
Approximate time:	20 minutes to set up and 10 minutes the next day
Curriculum links:	SCN 3-19a, MTH 2-21a, 3-21a
Meta-skills:	Curiosity: Observation, Problem Recognition. Focussing: Attention, Filtering. Critical Thinking: Logical Thinking, Judgement. Creativity: Idea Generation.

Sustainable Development Goal links:

LOVE FOOD hate waste

Why do apples turn brown?

Time	Control - air	Wrapped	Lemon juice	Fridge	Sealed container
30 minutes					
1 hour (or end of first lesson)					
24 hours (or end of next lesson)					

Which method is most effective at slowing the chemical process of browning?	Wrapped	Lemon juice	Fridge	Sealed container
1 = least effective 4 = most effective				

- Based on your results which method (or perhaps a combination of methods) do you think is the most effective at slowing down the chemical reaction that causes browning?
- How and why do you think each method affects the browning chemical reaction?

Once the experiment has been completed, answer the following questions:

- Which apple segment showed most browning?
- Which apple segment showed least browning?

Now fill in this table and order the methods used to slow down the browning chemical reaction (1 = least effective, 4 = most effective).

Important: You will need to work quickly once the apple is cut so you should set up and prepare your experiment before you cut into the apple.