



Refresh.ED Newsletter Term 2, July 2021

Welcome to Refresh.ED's Newsletter for Term 2 July, where we will be exploring all things food and science! With the upcoming events and celebration of National Science Week, we are sharing inspiration and some exciting ideas, activities, and teaching opportunities to help integrate food and nutrition into science education.

What do you have planned for Science Week...

NATIONAL SCIENCE WEEK



Food: Different by Design

This August 14th – 22nd we celebrate all things science in schools, with the National Science Week 2021 theme *Food: Different by Design*. In recognition of the United Nations International Year of the Fruits and Vegetables and the International Year of Creative Economy for Sustainable Development.

Discover a range of events, virtual tours, webcasts, talks, DIY experiments and competitions on offer throughout [Science Week](#).

These events act as excellent learning opportunities to inspire classroom discussion and investigation. Refresh.ED provides unit resources for specific year groups, that can be used to extend learning and further explore ideas and topics from Science Week events.

SCIENCE FUN WITH FOOD

Refresh.ED have developed an exciting new resource for Science Week, inspired by, and in support of this years' theme *Food: Different by Design*.



[Science Fun with Food](#) book includes **10 fun and practical experiments**, for **Kindergarten to Year 10**, to help teachers to integrate food and sciences into the classroom. Students will develop an understanding of science principals through investigation, observation, creativity, and design as they explore the role of science in nutrition, food, and food production.

With each experiment there are additional resources to compliment teaching. These include detailed **lesson plans**, activity **worksheets** and comprehensive, curriculum-linked **teacher support materials**, across a range of learning areas and year groups.

Science Fun with Food and all supporting teacher materials can be downloaded for free at

www.refreshedschools.health.wa.gov.au

YEAR 7-8
Bouncy Eggs 2-2 days

MATERIALS

- 1 raw egg per student/ group.
- 1 - 2 cups white vinegar.
- Container/ glass to house the egg & vinegar.

METHOD

- Place the egg into a suitable container.
- Cover with white vinegar & leave overnight.
- Remove the egg from the vinegar and rinse under running water whilst rubbing off the shell.
- When bouncing your eggs use a shallow dish in case of breakage.

WHY?

An egg is comprised of several layers: the shell, an inner membrane, the egg white (Albumen) & the yolk. It's shell consists mostly of calcium and is porous. When placed into the vinegar (an acid) the acid reacts with the calcium carbonate of the shell, dissolving the shell & producing Carbon Dioxide gas whilst the inner membrane is intact.

Refresh.ED

Observe the physical changes in an egg occurring from a chemical reaction, dissolving the shell in vinegar, producing a bouncy egg!

YEAR 2-3
Magic Milk 40 mins

MATERIALS

- Full fat cows milk.
- Water.
- 2 x shallow dish.
- Liquid dishwashing detergent.
- Cotton bud sticks.
- Liquid food dyes in assorted colours.

METHOD

- Pour the milk into 1 dish & water into the other.
- Place drops of the various food colourings into the centre of the milk & water.
- Place some of the detergent onto a plate/bowl and dip a cotton bud stick in it until the end is well covered.
- Tap the cotton bud stick gently on the surface of the water. Repeat with the milk and observe the magical results.

WHY?

The reason the colourful dyes move so magically around in the milk when detergent is applied is because of surface tension. Surface tension is like an elastic web of liquid molecules on top of the liquid and when they are disturbed they move around & then reform. The detergent also reacts with the fat in the milk which many mini chemical reactions within the milk which keep the liquid moving for longer.

Refresh.ED

Watch as coloured dyes move magically around in milk when there is a chemical reaction. Explore the role of science in manufacturing the things we eat and drink.

See how vegetable pigments can be used as natural dyes, and learn how to read and follow a recipe!

YEAR 1-2
Purple Pickled Eggs 1-2 days

MATERIALS

- 2 cups of water (divided into single cups).
- 1 medium fresh beetroot, peeled & diced.
- 1 cup apple cider vinegar.
- 1/3 cup sugar.
- 2 teaspoons sea salt.
- 12 hard-boiled eggs, peeled & cooled.
- Salt & pepper for serving.

METHOD

- Prior to beginning boil the eggs, peel & cool ready for pickling.
- Mix 1 cup of water and the chopped beetroot in a small pot & bring to a simmer. Cook until tender, 15 mins approx. Strain the mixture, reserving the liquid and Beetroot pieces.
- Return the liquid to the pan & add the vinegar, remaining 1 cup water, sugar & salt and simmer until the sugar is dissolved.
- Remove from heat & leave to cool.
- Transfer the brine to a large glass jar/bowl and add your boiled eggs. Make sure they are fully covered. Chill overnight. The eggs will intensify in colour the longer they are pickled for and will store in the fridge for up to 1 week.
- To serve cut the eggs in half and season with salt & pepper as desired.

WHY?

Fruits & veges contain chemicals in their cells called pigments which give them their colours. Reddish-yellow pigments are named Betalains. These pigments are water soluble and red beetroot contains the pigment Betalain.

Refresh.ED

FARM TO FORK

Farm To Fork an educational game, providing teachers and parents with an interactive and immersive tool to educate students about the health, environmental, economic, and social realities of food production systems. Manage the **potato supply chain**, from farm, through processing, marketing, consumption, and waste management.



FARM TO FORK

EDUCATIONAL GAME CREATING A VIRTUAL WORLD IN WHICH THE PLAYER MANAGES THE POTATO SUPPLY CHAIN, STARTING WITH ON-FARM PRODUCTION, THROUGH PROCESSING, MARKETING, CONSUMPTION AND WASTE MANAGEMENT

- AIMS TO EDUCATE STUDENTS ABOUT THE HEALTH, ENVIRONMENTAL, ECONOMIC AND SOCIAL REALITIES OF FOOD PRODUCTION SYSTEMS
- CO-DESIGNED WITH YOUNG PEOPLE AND TEACHERS TO ENGAGE STUDENTS IN SCIENCE, TECHNOLOGIES, HUMANITIES AND HEALTH TOPICS WITH A FOCUS ON FOOD SYSTEMS AND SUSTAINABILITY
- PROVIDES AN IMMERSIVE TOOL AND KEY INFORMATION WITH GAME LEVELS, CHALLENGES AND DECISION MAKING TO ENHANCE LEARNING
- SUPPORTED BY TEACHING RESOURCES MAPPED TO WESTERN AUSTRALIAN AND AUSTRALIAN CURRICULUM YEAR 6 TO YEAR 9

FREE DOWNLOAD

GAME - APP STORE FOR IPAD: [HTTPS://TINYURL.COM/FARMTOFORKECUIAPP](https://tinyurl.com/farmtoforkapp)
TEACHING MATERIALS: [HTTPS://TINYURL.COM/FARMTOFORKECUGAME](https://tinyurl.com/farmtoforkgame)

Logos for Western Australia, health, and ECU (Edith Cowan University) are visible at the bottom.

Co-designed by young people and teachers to engage students, Years 6 to 9, in Science, Technologies, Humanities and Health topics with a specific focus on food systems and sustainability.

A free [teaching resource booklet](#) has been developed to support educators in introducing Farm to Fork in the classroom. Learning outcomes of the teaching and learning activity resources are aligned to the WA and ACARA Curriculum areas of Science, Design and Technologies, Humanities and Social Sciences, and Health and Physical Education.

Farm to Fork is available to download for free for iPad from the [App Store](#).

REFRESH.ED



Refresh.ED
Food & Nutrition Teaching Resources

HELPING TEACHERS INTEGRATE FOOD & NUTRITION INTO SCIENCE EDUCATION

ONLINE - FREE TO DOWNLOAD

Resources for Kindergarten to Year 10 aligned to Western Australian and Australian Curriculum

A suite of teaching materials addressing food and nutrition across a range of learning areas

- lesson plans
- teacher information sheets & ideas
- step-by-step video guides
- nutrition notes
- and much more!

Interactive, activity-based units are adaptable to suit a Home Learning environment

@Refreshedschools
refreshedschools@ecu.edu.au

REGISTER & DOWNLOAD AT [WWW.REFRESHEDSCHOOLS.HEALTH.WA.GOV.AU](http://www.refreshedschools.health.wa.gov.au)

Logos for Western Australia, health, and ECU are visible at the bottom.

Have you seen our ad in the Science Week resource booklet?

Refresh.ED's platform of online food and nutrition resources, provides teachers with ready access to curriculum supported teaching and professional learning materials for Kindergarten to Year 10, across a range of learning areas. A reminder that all materials are free to download once registered!

Access Refresh.ED units and teaching materials at <https://www.refreshedschools.health.wa.gov.au>

Attention Primary Teachers!



Our friends at the Western Australian Farmers Federation (WAFarmers) have recently launched **AG Academy** – a program designed for Year 6 classrooms to share the importance of the many agricultural industries, here in WA.



AG Academy seeks to spark curiosity in students, allowing them to explore, interact and learn from the many great resources about farming. There are three components of AG Academy:

1. **Classroom Resources**

Teachers are provided five lesson plans, with student activities, in-classroom presentations, and a Student Investigation to engage and grow knowledge about agriculture in WA. Developed by Edith Cowan University, these materials are WA curriculum aligned.

2. **Incursion/ Excursion**

Students will have the opportunity to interact with agriculture industry professionals and discover interesting facts about their industry, through school incursions and excursions.

3. **Journal with Augmented Reality**

Through innovative Augmented Reality (AR) technology, bring learnings and experiences from the AG Academy to life through a digital app! Work through an engaging journal, exploring each of the major agriculture industries in WA with interactive activities.

For more details or to find out how to enrol, check out the AG Academy at

<https://foodyoucantrust.org.au/agacademy>

CONTACT US

FACEBOOK

[@Refreshedschools](#)

EMAIL

refreshedschools@ecu.edu.au

WEBSITE

www.refreshedschools.health.wa.gov.au

