

Education Kit

earth

**CANVAS**



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**Earth Canvas** is an incentive that incorporates a network of landowners who are passionate about implementing regenerative farming practices on their properties, and a selection of leading contemporary artists who resonate with the concept.

The key aim of this project is for the farmers to share their vision through the creative conceptual interpretation of the artists, who have produced works representative of each property through immersion and engagement with its practices.

## The artists and farms involved in Earth Canvas are:

- Rosalind Atkins at Yammacona
- Jenny Bell at Mount Narra Narra
- Jo Davenport at Mundarlo
- Janet Laurence at Yabtree West
- Idris Murphy at Eurimbla
- John Wolseley at Bibbaringa

This education kit offers suggestions for activities that can be adapted to a range of ages and abilities. Teachers are encouraged to visit the exhibition prior to arranging excursions in order to establish relevant links to the exhibition content.

For more information about the farms and artists involved with the Earth Canvas exhibition, follow the links below:

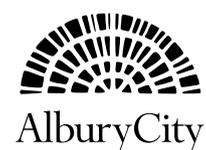
The **farms** involved in Earth Canvas

**[WWW.EARTHCANVAS.COM.AU/FARMERS](http://WWW.EARTHCANVAS.COM.AU/FARMERS)**

The **artists** involved in Earth Canvas

**[WWW.EARTHCANVAS.COM.AU/ARTISTS](http://WWW.EARTHCANVAS.COM.AU/ARTISTS)**

Photography courtesy Tony Nott



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In the lead up to the Earth Canvas exhibition, the participating farmers, in partnership with the artists, have hosted a series of Open Days - on farm demonstrations and workshops on site at each of the properties, which are situated between the Murray and Murrumbidgee rivers in southern NSW. The artists have developed artworks in response to the landscape and the theme of regenerative farming on each property. These artworks form the basis of the exhibition.

As well as the aesthetic value of the artworks themselves to teachers and students of Visual Arts, Earth Canvas offers conceptual links that provide engaging learning experiences for students from Foundation to Year 12, allowing them to explore the concepts being represented at their own level. The areas of the Australian Curriculum touched on by the Earth Canvas exhibition are as follows:

## SCIENCE

F-10 – Biological Sciences, Earth and Space

11-12 Biology – Unit 1: Biodiversity and the interconnectedness of life

11-12 Earth and Environmental Science – Unit 3: Living on Earth - extracting, using and managing Earth resources

## HUMANITIES AND SOCIAL SCIENCES

F-10 – Geography

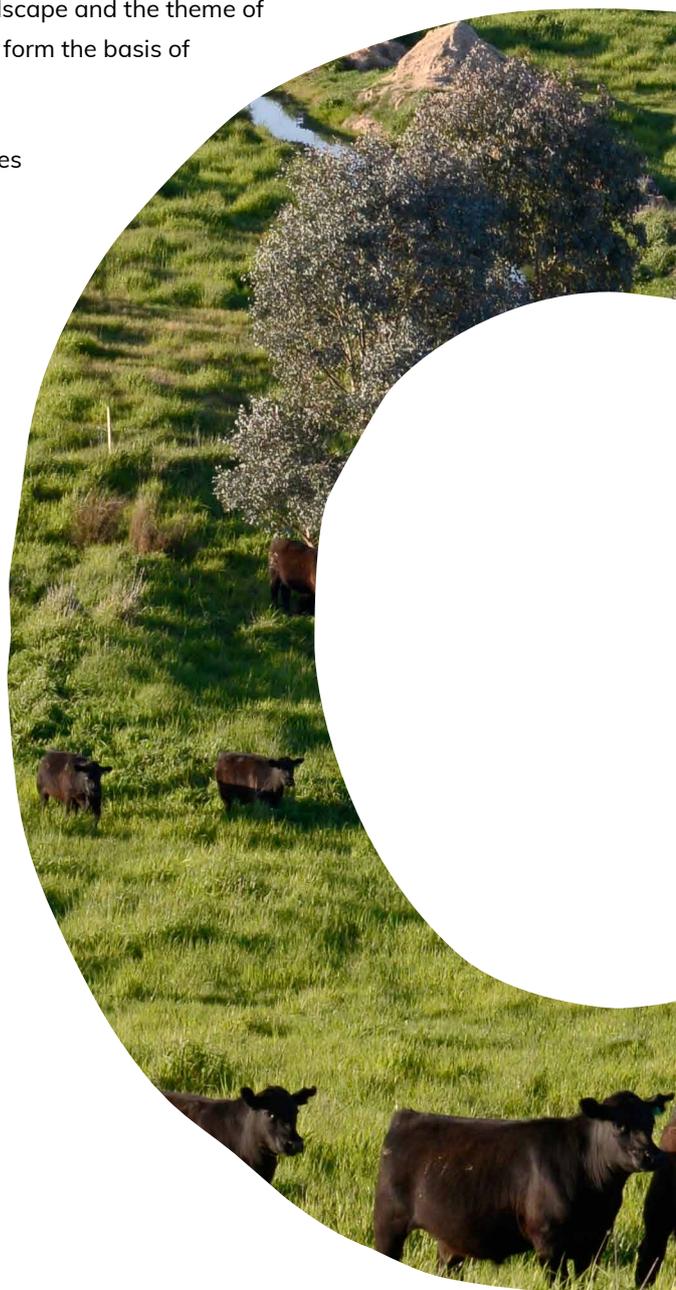
11-12 Geography – Unit 2: Sustainable places, Unit 3: Land cover transformations

## TECHNOLOGY

F-10 – Design & Technologies

## THE ARTS

F-10 – Visual Arts





### Science

F-2 : Living things have basic needs, including food and water (ACSSU002)

- recognising the needs of living things in a range of situations such as pets at home, plants in the garden or plants and animals in bushland

Living things have a variety of external features (ACSSU017)

- describing the use of plant parts for particular purposes such as making food and obtaining water

3-4 : Living things depend on each other and the environment to survive (ACSSU073)

- investigating the roles of living things in a habitat, for instance producers, consumers or decomposers

5-6 : The growth and survival of living things are affected by physical conditions of their environment (ACSSU094)

- investigating how changing the physical conditions for plants impacts on their growth and survival such as salt water, use of fertilizers and soil types

7-8 : Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)

- investigating the effect of human activity on local habitats, such as deforestation, agriculture or the introduction of new species

9-10 : Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)

- considering how energy flows into and out of an ecosystem via the pathways of food webs, and how it must be replaced to maintain the sustainability of the system



11-12 : Unit 1: Biodiversity and the inter-connectedness of life



### Science

F-2 : Observable changes occur in the sky and landscape (ACSSU019)

- exploring the local environment to identify and describe natural, managed and constructed features

Earth's resources are used in a variety of ways (ACSSU032)

- describing how a resource such as water is transferred from its source to its point of use

3-4 : Earth's surface changes over time as a result of natural processes and human activity (ACSSU075)

- considering how different human activities cause erosion of the Earth's surface

5-6 : Sudden geological changes and extreme weather events can affect Earth's surface (ACSSU096)

- considering the effect of drought on living and non-living aspects of the environment

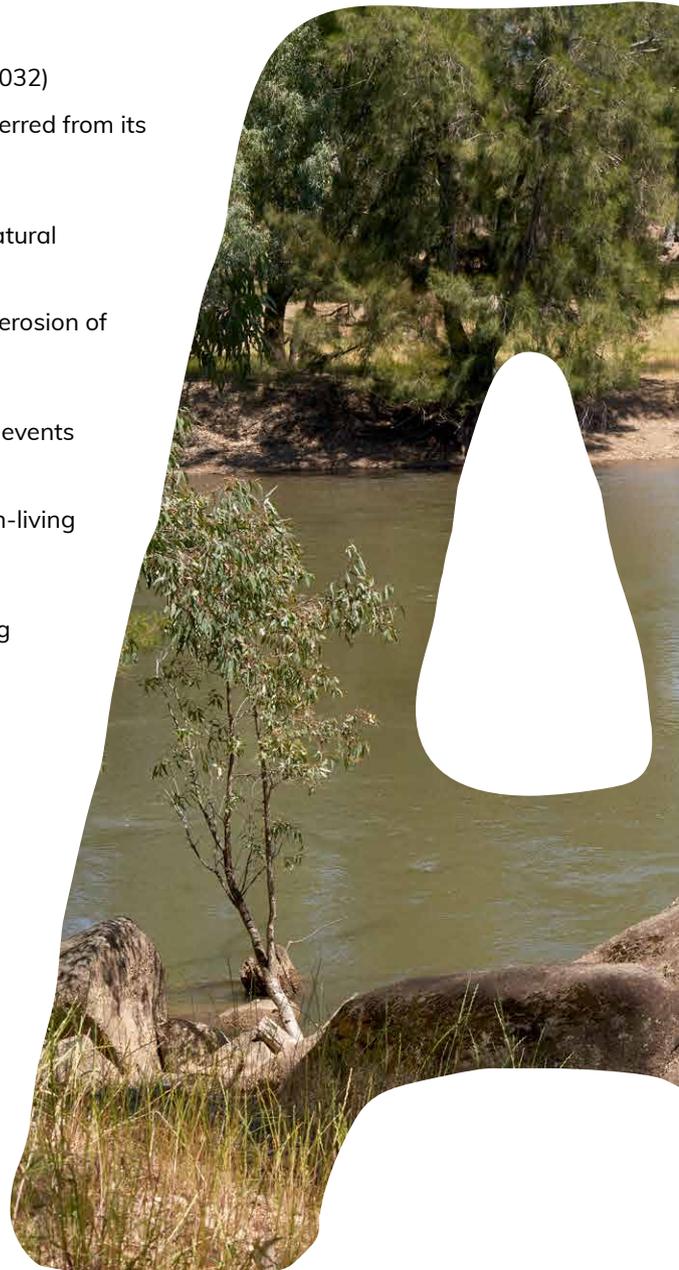
7-8 : Some of Earth's resources are renewable, including water that cycles through the, but others are non-renewable (ACSSU116)

- considering timescales for regeneration of resources
- exploring how human management of water impacts on the water cycle

9-10 : Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189)

- considering the long-term effects of loss of biodiversity

11-12 : Unit 3: Living on Earth - extracting, using and managing Earth resources





## Humanities and Social Sciences F2-8

**F-2 :** The places people live in and belong to, their familiar features and why they are important to people (ACHASSK015)

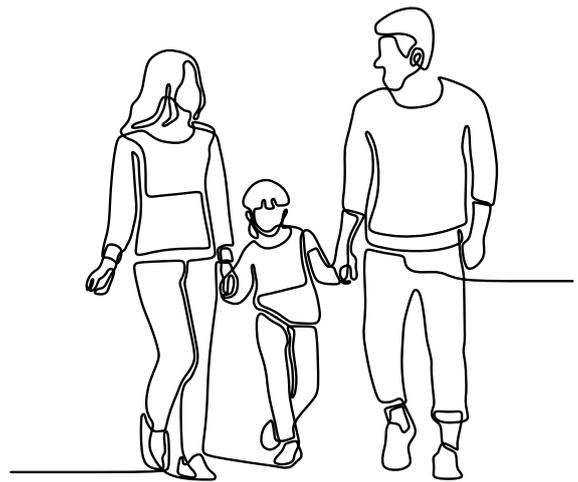
- identifying how places provide people with their basic needs (for example, water, food and shelter) and why they should be looked after for the future

The natural, managed and constructed features of places, their location, how they change and how they can be cared for (ACHASSK031)

- using observations and/or photographs to identify changes in natural, managed and constructed features in their place (for example, recent erosion, revegetated areas, planted crops or new buildings)

**3-4 :** The importance of environments, including natural vegetation, to animals and people (ACHASSK088)

- exploring how vegetation has an important role in sustaining the environment by producing oxygen, protecting food-producing land from erosion, retaining rainfall, providing habitat for animals, sheltering crops and livestock, providing shade for people, cooling urban places, producing medicines, wood and fibre, and making places appear more attractive



**5-6 :** The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places (ACHASSK112)

- exploring the extent of change in the local environment over time (for example, through vegetation clearance, fencing, urban development, drainage, irrigation, farming, forest plantations or mining), and evaluating the positive and negative effects of change on environmental sustainability

**7-8 : Yr7 Unit 1:** Water in the world The nature of water scarcity and ways of overcoming it... (ACHGK040)

- investigating land use management practices that have adversely affected water supply, such as land clearing and some farming practices

**Yr8 Unit 1:** Landforms and landscapes Human causes and effects of landscape degradation (ACHGK051)

- analysing the effects of erosion and sedimentation produced by human activities, including farming and recreation, on landscape quality



## Humanities and Social Sciences 9-12

**9-10: Yr9 Unit 1:** Biomes and Food Security-Human alteration of biomes to produce food, industrial materials and fibres, and the use of systems thinking to analyse the environmental effects of these alterations (ACHGK061)

- investigating ways that the production of food and fibre has altered some biomes (for example, through vegetation clearance, introduction of exotic species, drainage, terracing and irrigation)

Environmental, economic and technological factors that influence crop yields in Australia...(ACHGK062)

- evaluating the ways that agricultural innovations have changed some of the environmental limitations on and impacts of food production in Australia

Challenges to food production, including land and water degradation, shortage of fresh water, competing land uses, and climate change, for Australia...(ACHGK063)

- evaluating whether some ways of increasing food production could threaten sustainability

**Yr10 Unit1:** Environmental Change and Management-Human-induced environmental changes that challenge sustainability (ACHGK070)

- discussing the concept of sustainability in relation to environmental functions
- identifying human-induced environmental changes (for example, water and atmospheric pollution; loss of biodiversity; degradation of land) and discussing the challenges they pose for sustainability

Yr 11-12

Unit 2: Sustainable places

Unit 3: Land cover transformations





## Technology F-6

F-2 : Explore how plants and animals are grown for food, clothing and shelter and how food is selected and prepared for healthy eating (ACTDEK003)

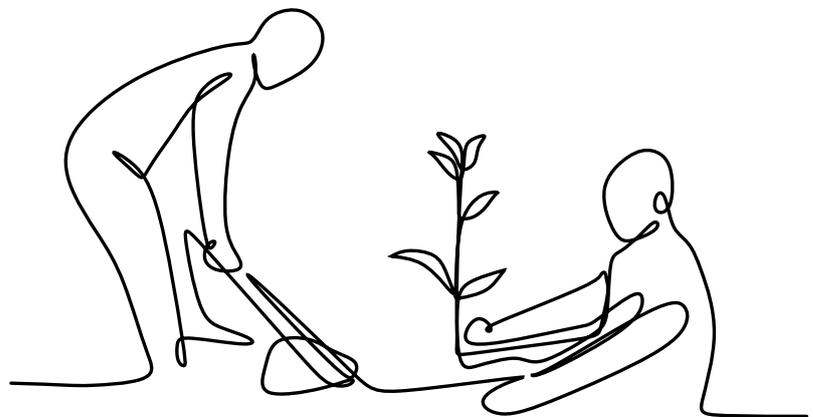
- exploring which plants and animals can provide food or materials for clothing and shelter and what basic needs those plants and animals have

3-4 : Investigate food and fibre production and food technologies used in modern and traditional societies (ACTDEK012)

- exploring tools, equipment and procedures to improve plant and animal production, for example when growing vegetables in the school garden and producing plant and animal environments such as a greenhouse, animal housing, safe bird shelters

5-6 : Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy (ACTDEK021)

- investigating and experimenting with different tools, equipment and methods of preparing soil and the effect on soil quality and sustainability including conserving and recycling nutrients, for example when designing a sustainable school vegetable garden or cropping area
- describing the relationship between plant types and animal breeds and their environmental suitability when selecting suitable plants or animals for an environment





### Technology 7-12

7-8 : Investigate the ways in which products, services and environments evolve locally, regionally and globally and how competing factors including social, ethical and sustainability considerations are prioritised in the development of technologies and designed solutions for preferred futures (ACTDEK029)

- investigating how ethics, social values, profitability and sustainability considerations impact on design and technologies, for example animal welfare

Analyse how food and fibre are produced when designing managed environments and how these can become more sustainable (ACTDEK032)

- recognising the need to increase food production using cost efficient, ethical and sustainable production techniques

9-10 : Investigate and make judgements on the ethical and sustainable production and marketing of food and fibre (ACTDEK044)

- examining emerging production technologies and methods in terms of productivity, profitability and sustainability, for example vertical farming, recirculation technologies in aquaculture
- comparing the environmental impacts of intensive and extensive production systems and their contribution to food and fibre production
- investigating the interdependence of plants and animals in food and fibre production



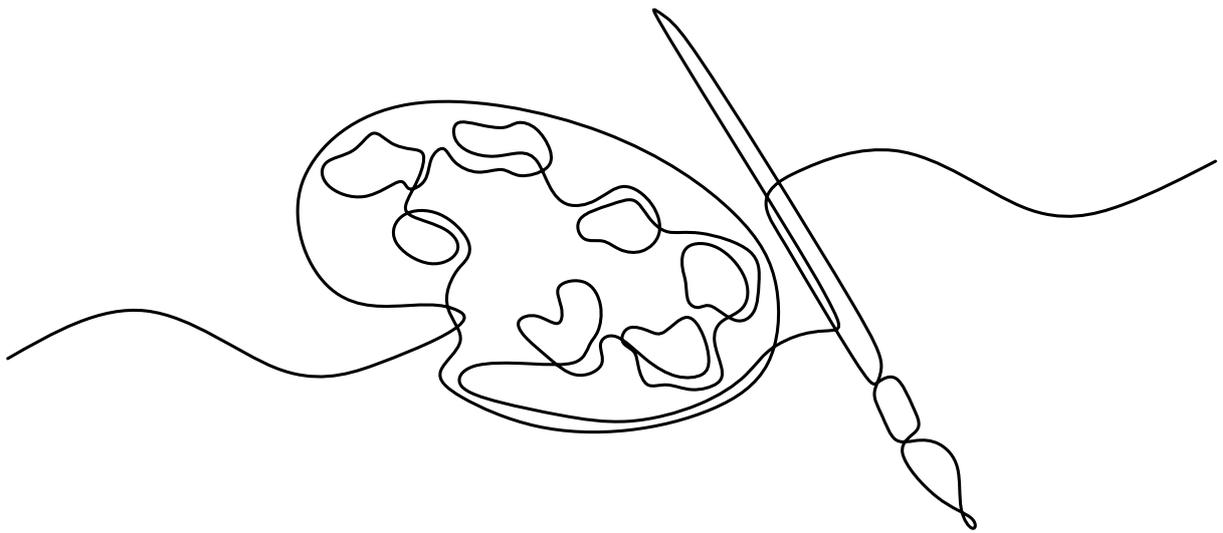


## Art F-6

**F-2** : Respond to visual artworks and consider where and why people make visual artworks, starting with visual artworks from Australia, including visual artworks of Aboriginal and Torres Strait Islander Peoples (ACAVAR109)

- identifying where they might experience art in their lives and communities, for example, keeping a diary of 'art experiences' and combining to create a class list and then discussing how visual artworks sustain and communicate cultural knowledge

## Visual Arts



**3-4** : Identify intended purposes and meanings of artworks using visual arts terminology to compare artworks, starting with visual artworks in Australia including visual artworks of Aboriginal and Torres Strait Islander Peoples (ACAVAR113)

- comparing artworks made for different reasons, using appropriate visual conventions, and identifying possible differences in interpretations

**5-6** : Explain how visual arts conventions communicate meaning by comparing artworks from different social, cultural and historical contexts, including Aboriginal and Torres Strait Islander artworks (ACAVAR117)

- Considering viewpoints – meanings and interpretations: For example – What is this artwork about? What visual conventions have been used to convey meaning? How did the artist represent their subject matter? How does the artwork reflect the artist's perspective about the environment?



## Art 7-12

**7-8 :** Experiment with visual arts conventions and techniques, including exploration of techniques used by Aboriginal and Torres Strait Islander artists, to represent a theme, concept or idea in their artwork (ACAVAM118)

- observing how artists select and apply different visual arts techniques to represent themes, concepts and ideas and considering how they could use these in their own art making

**9-10 :** Conceptualise and develop representations of themes, concepts or subject matter to experiment with their developing personal style, reflecting on the styles of artists, including Aboriginal and Torres Strait Islander artists

(ACAVAM125)

- Considering viewpoints – societies and cultures: For example – Can you understand and explain why the artist has developed their representation in this way? How can you represent (sustainability) in a way that is globally recognised?



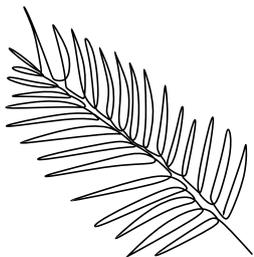
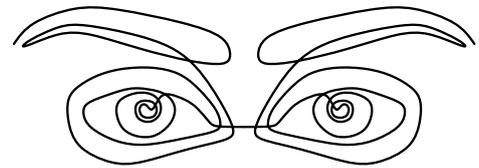
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## Primary Activities

This exhibition is about farmers who are making a concerted effort to look after the land that they farm by planting trees, taking great care of the soil and keeping the precious rainwater that falls on their land right there by creating ways to stop it simply rushing away into creeks and gullies and even worse, causing erosion. These farmers have even organised schedules for grazing their stock so that the plant life has a chance to regenerate.

**Activity 1. Using your artist's eye :** Can you look around at the natural world where you live in with the eye of an artist? What colours and shapes do you see? Use pencils or paints to draw a picture of somewhere that you love. It could be a park, your backyard or even your farm.



**Activity 2. Art from natural materials :** As you walk around the place where you live collect some natural materials; fallen leaves, twigs, flowers (take care not to take things that need to stay where they are to make homes for minibeasts!)

Use your collection to create a collage that reminds you of your special place.

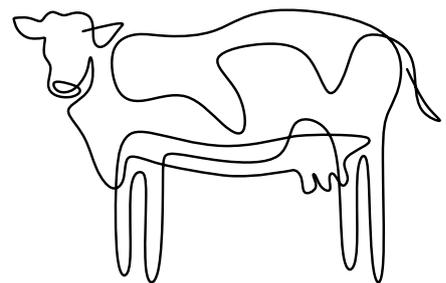
**Activity 3. Farms and food :** Do you love pizza or hamburgers or even icecream? What is your favourite food? Where do you think it came from? How do you think a farmer was involved in getting it to your table?

### Years F - 2

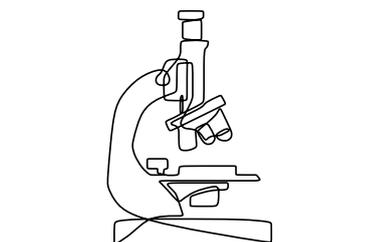
Find out how your food is grown for you. Read a book about farms, vegetable gardening or farm animals.

### Years 3 - 6

- Research how your favourite food is grown and then present your findings to your class.
- Future food. What type of food do you think we will be eating in the future. What are food scientists cooking up in their labs? Will it still be grown on a farm? Describe the farm of the future in words or pictures.



**Activity 4. Soil makes your food! :** Really. Without healthy soil our food cannot grow properly. What makes our soil healthy? There are billions of micro-organisms in the soil, each playing a unique role in soil and plant health. It's sometimes said that one teaspoon of soil contains more microbes than the number of people on the planet!



Collect one teaspoon of soil from your schoolyard, vegie garden, flower beds and see if you can see any organisms using the best microscope you can find at school.

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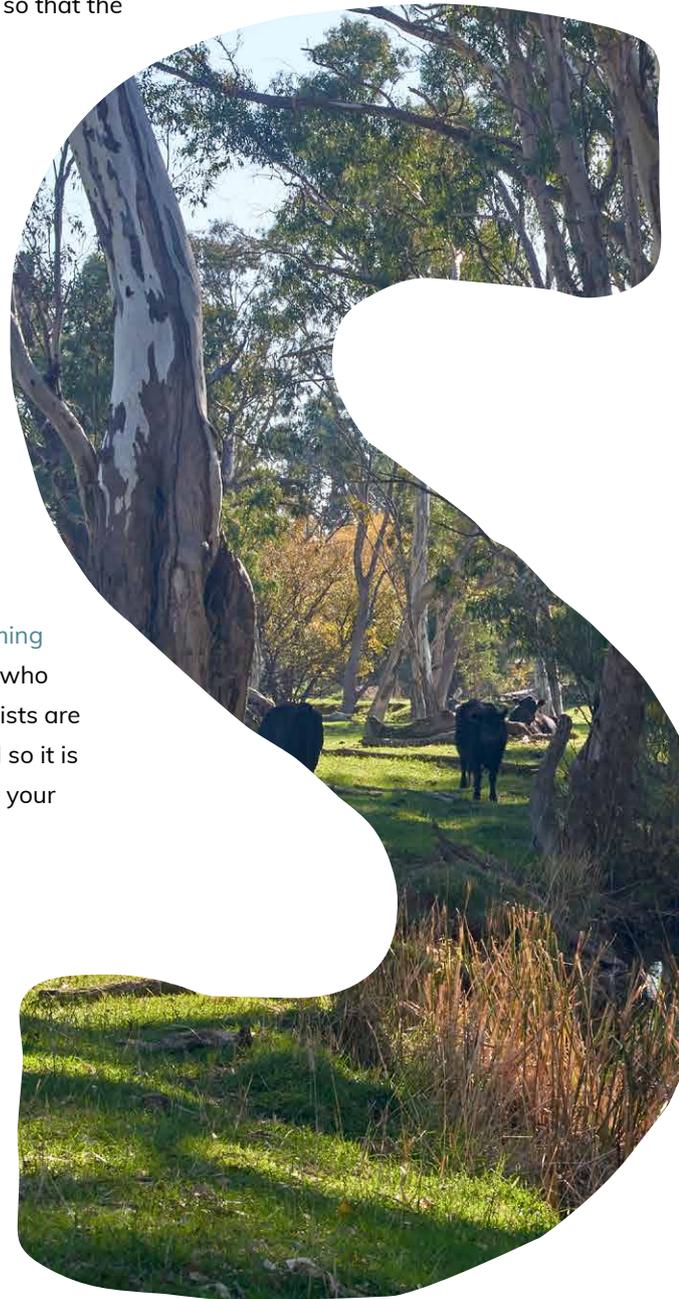
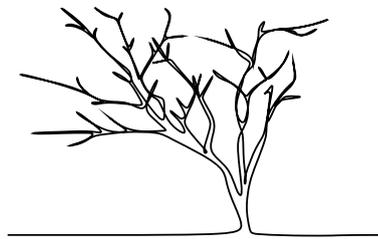


## Secondary Activities

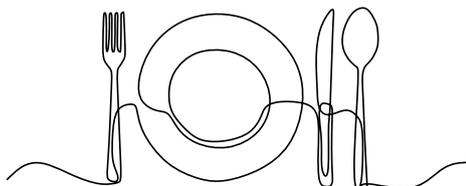
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These farmers have even organised schedules for grazing their stock so that the plant life has a chance to regenerate.

**Activity 1. Artists in the landscape :** Investigate the work of one of the artists in the exhibition and locate the farm they worked at on a map. Think of a favourite landscape of yours and create an artwork in the style of the artist you have studied.



**Activity 2. Regenerative farming and your food :** The farmers who hosted the Earth Canvas artists are trying to look after their land so it is in a better condition to grow your healthy food.



**Activity 3. Soil and water – the keys to your healthy food :** Why is it important to manage water so that any rainfall flows slowly through the land?

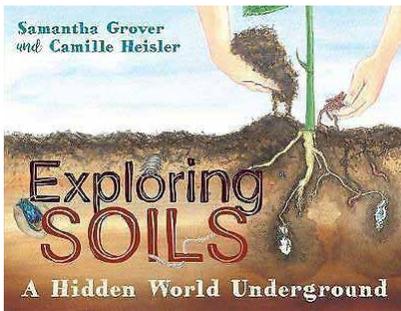
What role do the micro-organisms in the soil play in creating your food?



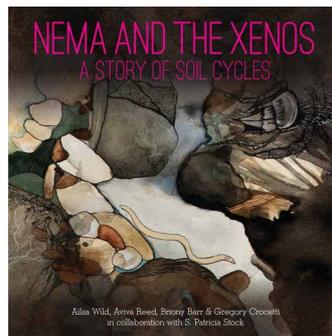
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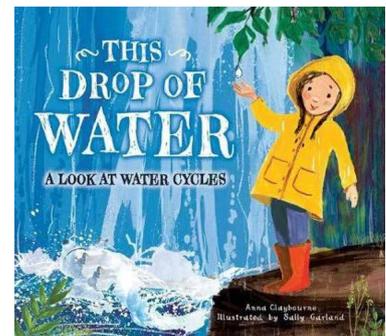
## Teachers: Books to read to your class



**Exploring Soils: A Hidden World Underground** by Samantha Grover and Camille Heisler



**Nema and the Xenos: A Story of Soil Cycles** by Ailsa Wild, Aviva Reed, Briony Barr, Gregory Crocetti, S. Patricia Stock

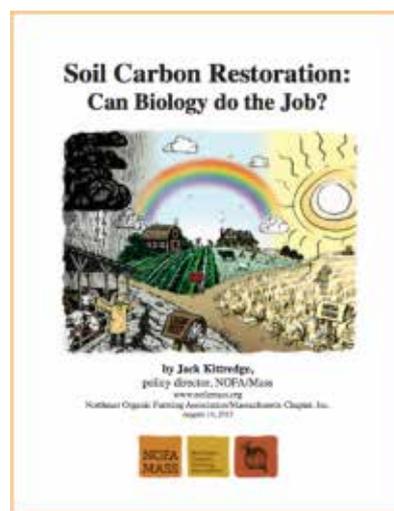


**This Drop of Water: A look at Water Cycles** by Anna Claybourne

## Teachers: Some useful links



[www.soilscienceaustralia.org.au/training/soils-in-schools/teacher-guides](http://www.soilscienceaustralia.org.au/training/soils-in-schools/teacher-guides)



[www.regenerationinternational.org/why-why-regenerative-agriculture](http://www.regenerationinternational.org/why-why-regenerative-agriculture)



[www.theconversation.com/why-is-everyone-talking-about-natural-sequence-farming-106232](http://www.theconversation.com/why-is-everyone-talking-about-natural-sequence-farming-106232)