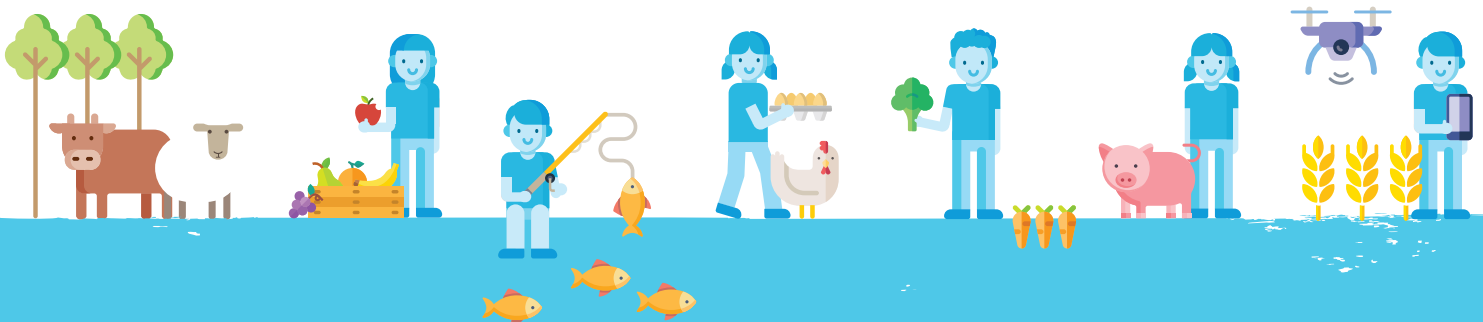




Unit Overview:

Sustainable Solutions on Farms

The following unit focuses on the themes of interdependence, adaptations and sustainability within ecosystems. Teachers and students can follow these engaging lessons to learn about concerns in agriculture, sustainability, biodiversity, adaptations and the ways in which agroforestry can be positively used to support farming systems. The unit features a 'VIC Farmer Time' segment, presented by two inspirational farmers who own and work on a sheep and agroforestry farm that promotes sustainable practices and encourages biodiversity within their production.



➤ **LESSON ONE: Biodiversity, Adaptations and Solutions to Support Sustainability** (120 minutes)

Students will have the opportunity to engage in learning about biodiversity and the importance of protecting it in ecosystems. Throughout this lesson, students will identify concerns in agriculture and suggest ways to control them. They will participate as a team to perform a first-hand investigation into the independence of living and non-living components of an environment.

Students will learn about adaptations in living organisms and how they interact with the environment. They will be provided with a problem-solving task and use elements of 'Design Thinking' to create a prototype of a fantasy farm animal or plant that is super adapted to provide food or fibre in an economically, socially and environmentally sustainable way.

➤ **LESSON TWO: VIC Farmer Time | Agroforestry and Sustainable Solutions for Design** (120 minutes)

Students will have the opportunity to engage with content focused on two Victorian farmers and hear about the operations that occur on their farm. Students will learn about agroforestry as a solution to supporting sustainability of farms and develop an understanding of the ways wood can be used as a sustainable design material.



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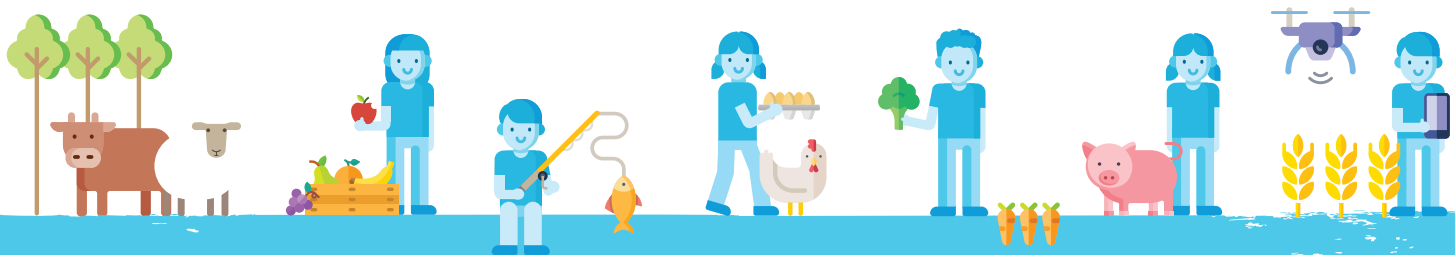
Curriculum Outcomes

LESSON ONE

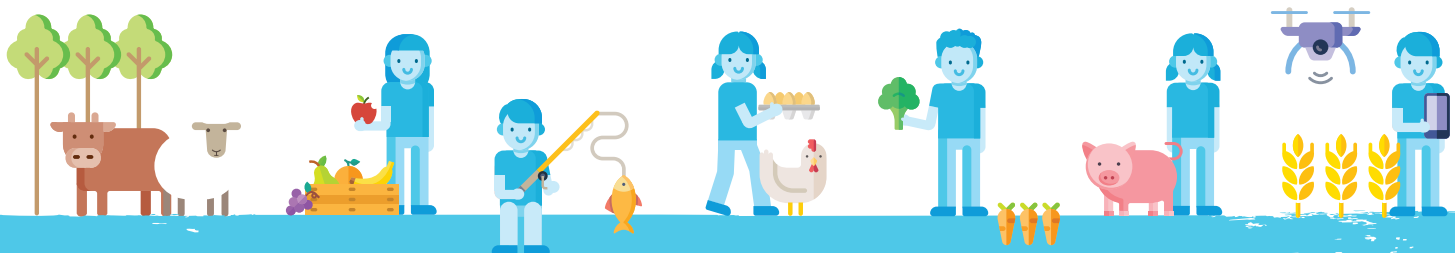
Biodiversity, Adaptations and Solutions to Support Sustainability

Victorian Curriculum Content Descriptors:	Australian Curriculum Content Descriptors:
<ul style="list-style-type: none"> • Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people’s lives (VCSSU073) • Living things have structural features and adaptations that help them to survive in their environments (VCSSU074) • The growth and survival of living things are affected by physical conditions of their environment (VCSSU075) • With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be based on previous experiences or general rules (VCSIS082) • Decide which variables should be changed, measured and controlled in fair tests and accurately observe, measure and record data (VCSIS084) • Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) • Investigate how and why food and fibre are produced in managed environments (VCDSTC035) 	<ul style="list-style-type: none"> • Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE100) • Living things have structural features and adaptations that help them to survive in their environment (ACSSU043) • The growth and survival of living things are affected by physical conditions of their environment (ACSSU094) • With guidance, pose clarifying questions and make predictions about scientific investigations (ACSIS231) (ACSIS232) • Decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate (ACSIS087) (ACSIS104) • Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy (ACTDEK021) • Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions (ACELY1709)

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Victorian Curriculum Content Descriptors:	Australian Curriculum Content Descriptors:
<ul style="list-style-type: none"> Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions, and use interaction skills, varying conventions of spoken interactions according to group size, formality of interaction and needs and expertise of the audience (VCELY366) Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039) 	<ul style="list-style-type: none"> Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025)



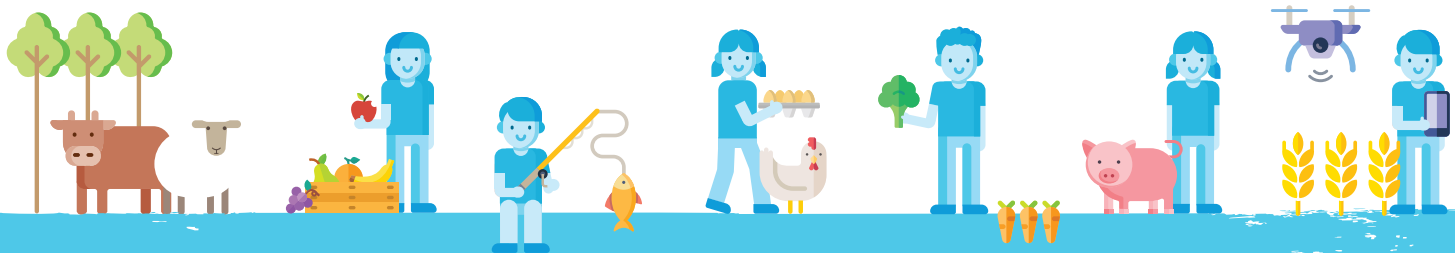
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LESSON TWO

VIC Farmer Time –Agroforestry and Sustainable Solutions for Design

Victorian Curriculum Content Descriptors:	Australian Curriculum Content Descriptors:
<ul style="list-style-type: none"> • Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (VCDSCD038) • Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039) • Apply safe procedures when using a variety of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD040) • Negotiate criteria for success that include consideration of environmental and social sustainability to evaluate design ideas, processes and solutions (VCDSCD041) • investigate how and why food and fibre are produced in managed environments (VCDSTC035) • Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions, and use interaction skills, varying conventions of spoken interactions according to group size, formality of interaction and needs and expertise of the audience (VCELY366) • Clarify understanding of content as it unfolds in formal and informal situations, connecting ideas to students’ own experiences, and present and justify a point of view or recount an experience using interaction skills (VCELY337) 	<ul style="list-style-type: none"> • Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024) • Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025) • Select appropriate materials, components, tools, equipment and techniques to make designed solutions and apply safe procedures (ACTDEP026) • Negotiate criteria for success that include sustainability to evaluate design ideas, processes and solutions (ACTDEP027) • Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy (ACTDEK021) • Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions(ACELY1709) • Clarify understanding of content as it unfolds in formal and informal situations, connecting ideas to students’ own experiences and present and justify a point of view (ACELY1699) • Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE100) • Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)

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Victorian Curriculum Content Descriptors:	Australian Curriculum Content Descriptors:
<ul style="list-style-type: none"> • Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people’s lives (VCSSU073) • Living things have structural features and adaptations that help them to survive in their environment (VCSSU074) • The growth and survival of living things are affected by the physical conditions of their environment (VCSSU075) 	<ul style="list-style-type: none"> • The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)



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Primezone Resources

Many of the resources found within these units are also available for access on:



CONTACT INFORMATION:

Contact Victorian Education Officers for more information regarding:

- Programming and curriculum development
- Lesson planning
- Resource development
- Conducting professional development
- Contacting enterprises of interest
- Organising personal VIC Farmer Time sessions
- Ordering stimulus materials

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Primary Industries Education
Foundation Australia 

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