

## Helping students complete the Tocal Virtual Farm workbook

# Introduction

The Tocal Virtual Farm is a set of resources that allows you to explore Tocal from your home or classroom. It includes:

- Immersive virtual reality videos that can be viewed on your computer or mobile device. If you have a VR headset you will feel almost as if you are on the farm as you take a personal tour with the farm managers.
- Story maps of the farm and cultural heritage as well as more in-depth version on the soils, water and topographic landscapes.
- Images and videos that to include in your exploration and report
- Links to detailed information about the farms.

Tocal is many things to many people; a farm, a workplace, a school and an historic site. These activities encourage students to consider Tocal from each of these perspectives while considering the broader role of farms in providing food and fibre for us.

The overarching themes are:

- Farms as places we value
- Changes in farming and society over time
- Farms meet the needs of living things
- Science and technology in farming
- Farm landscapes
- Perspectives on farming
- Farms on Aboriginal land.

This set of activities, as well as the Tocal Virtual Farm will give students an appreciation of the ways people value places, how changes in Australian society are reflected in the buildings and land management on Tocal and the ways that farmers interact with an environment to sustainably produce food and fibre.

If you would like or need a record of the work you have completed together you can print and use the companion workbook or record the activities in an exercise book, blank paper or on a computer. Keep in mind that the recommended stage / year group



Department of  
Primary Industries



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on the workbooks is a guide only. The activities explore the same areas of the property and the same aspects of agriculture but the workbooks for stages 2 and 3 ask for more detail or ask students to draw conclusions or opinions based on what they have seen. If your students are better suited to a different stage workbook than the one suggested use the one that is best for them.

Remember also that there are multiple ways that you can record your student's responses. In this resource we suggest drawing or writing responses but if your student's strengths lie in different areas you should feel free to record their responses in the best way for you both. For some students that might mean making a video or audio recording of their response or it might mean that you complete some notes from a conversation you have had. The main thing is that through this resource students are exposed to Australian agriculture and the importance of food and fibre production in all our lives.

## Syllabus links

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The activities help students to work towards the outcomes of the NSW Science and Technology, Geography and History syllabuses. Some of the activities are suitable for a number of stages and links to English and Maths syllabuses can vary depending on how you choose to deliver and complete the activities.

A matrix is included in the appendix of this document for syllabus links for each activity.

# What are farms?

Early stage 1 and Stage 1:

Read a model text for example:

The Tocal farms picture books [Bosley and Bruce](#), [Charlotte](#) and [Freda](#) are available as hard copy or ebooks and as Auslan interpreted readings on YouTube.

A Year on Our Farm by Penny Matthews and Andrew Maclean,

My Farm by Alison Lester,

Belinda by Pamela Allen.

One of the George the Farmer books by Simone Kain and Ben Hood.

If you don't have access to any of farms stories you can often find a reading of these online. Some of them are Auslan interpreted, a great opportunity to expose students to this beautiful language.

Stage 2 and 3:

Discuss the role that farms play in producing food and fibre for us. How did the characters in the story meet the needs of the living things depicted?

View the Tocal Farms for primary schools story map. It can be found under the Property label on the Tocal Virtual Farm or on this direct link <https://arcg.is/1HGXn1>. Explore the farm together noting where the different enterprises are run (each enterprise is run as an independent business). As you click through the tabs across the top of the map, the map zooms to that section of the property. The panel on the left side describes how each of the sections meets the needs of the animals.

## Background notes:

It is hard to think of a food that does not originate on farms. The characters in the farm books you have read are involved in food and fibre production - though the story may not revolve around this.

Farming has developed from families raising and producing domesticated animals and plants for consumption within the family unit to a complex system of growing food and distributing it far and wide – in return for money with which to buy other goods and services. But essentially it is growing food (plants and animals) to meet some of the needs of people ... by meeting the needs of plants and animals. It is an important aspect of the Living World strand of the NSW K-6 Science and Technology syllabus.

This may raise an issue for some children who have not considered before that we eat animals. If it comes up it is best to be honest and culturally sensitive - that yes many people eat meat, and others choose not to eat some meat for religious, cultural or personal reasons. It is important that these choices are respected and discussed in an inclusive manner. Try encouraging students to state their beliefs as they apply to themselves not how others choose to eat eg 'we eat this way because ... and we respect other people's choice to eat differently.'

It is also worth mentioning that farmers and farming systems do their best to reduce the suffering of animals – there are examples of when things go wrong or poor decisions are made but farmers are doing their best to look after animals.

## Syllabus links

STe-3LW-ST / ST1-5LW-S / GEe-1 / ST2-5LW-T / ST3-5LW-T

## Activity:

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In the Early stage 1 and Stage student workbooks there is a place to draw a farm. This can be student's interpretation of Tocal, including some information about how the animal's needs are met, it can be a farm they are familiar with (a friend or family farm) or it can be a farm of their own design. Encourage students to illustrate a farm and some of the animals and plants that are found on farms.

Provide an opportunity for students to discuss what they have included in their farms and why they placed them in that particular location.

For students using the Stage 2 and 3 workbooks there is space to record their understanding of what a farm is, what role they fill in meeting our needs and what you would expect to see on a farm. There is also space for illustrating their thoughts.

Some students will also be able to discuss what they have been seeing recently in the media about farms. Is it positive or negative? What are their thoughts on this information? Do they have any experience with farms?

# Features of Tocal

Find your school or home on Google maps (or similar platform).

- Talk about the immediate environment of the school and how it can be seen on the satellite map.
- Ask students to think about some questions they could research to find out if their school environment is different to a farm environment (eg does a farm have play equipment? Or How close is the nearest shop?).
- Record their questions.
- Discuss how they can investigate the answers to their questions.

Find Tocal on the same platform.

Discuss the difference you can see between the school environment and Tocal. Comparisons to discuss include houses v open pastures, roads, cement/paving v grass and forest, access to water ie rivers/dams v taps and bubblers.

Discuss how students think that these different locations meet some of the needs of people in different ways? Record your discussion in the space provided.

Investigate how far away from your school the nearest farming area is. For some students it will be just over the fence for others it will be suburbs away!

How do the activities at our school differ to those on a farm? Revisit the Tocal story map at [at <https://arcg.is/1HGXn1>].

Talk with students about how the features and activities that take place on Tocal are influenced by the landscape. For example, the dairy is located on the flat area along the Paterson River. Dairy cattle are brought to the dairy twice a day so they need to be close by. These river flats also have beautiful deep rich soil for growing highly nutritious grasses needed by dairy cows to produce around 24 litres of milk every day.

## Background notes

The NSW Geography syllabus aims to encourage students to engage with and understand the world around them. Comparing two very different locations (for most students) in this way encourages them to focus on the way the spaces are arranged for different needs and how different Australian landscapes allow for different uses.

Tocal is an interesting site to compare to a school site because there is more overlap between Tocal and schools than there generally is between farms and schools. While production is the main focus of the farms on Tocal we also have an education focus with the CB Alexander Agricultural Campus of Tocal College located here. Farms don't often have classrooms and training facilities on them (though many do provide training for

staff) so it provides another level of discussion about similarities and differences of places – and designing spaces for a specific purpose.

## Syllabus links

GEe-1 / GE1-1 / GE1-2 / GE2-1 / GE3-1

### Activity:

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The map of Tocal in the workbook has spaces for students to label features of the farm. Using the story map as a guide colour code where the different enterprises are run on Tocal.

Students using the stage 2 or stage 3 workbooks have space write about the comparison between Tocal and the school, the spaces themselves and the surroundings.

Ask them to consider the interactions people have with schools and farms and how the features and characteristics are different in each location. They may also consider why your school is where it is and why Tocal is located where it is – what is different about the spaces around them? Record these discussions and thoughts in the space provided.

# Water and weather at Tocal

Sometimes the weather doesn't provide enough water for pasture and animal growth so science and technology are there to help. View the Water on Tocal story map [<https://arcg.is/1LfjPe>].

Discuss the ways that establishing dams and troughs in paddocks and piping water to buildings helps people to ensure there is enough water when people, plants and animals need it. Providing water this way also helps us to protect the natural environment along the creeks and rivers that pass through Tocal.

View the video One year at Tocal. This video highlights the changes that occur on the property in changing seasons and with changing weather conditions (and associated water availability). The long history of weather records kept by the Bureau of Meteorology (and resulting accuracy of weather forecasts) helps farm managers to plan for the water needs on their property.

## Background notes

The Science Web unit Changing Lands and Skies published by ASTA provides background information about the difference between natural, managed and constructed landscapes ([http://scienceweb.asta.edu.au/verve/\\_resources/asta\\_2-2-1\\_bi\\_lands\\_yr1\\_v1-4.pdf](http://scienceweb.asta.edu.au/verve/_resources/asta_2-2-1_bi_lands_yr1_v1-4.pdf)). This is a useful way to consider how farmers manage land to balance the needs of the environment (conservation) with the needs of people (production). On Tocal we have a published Code of Landuse Practice [[link: http://www.tocal.nsw.edu.au/publications/list/general/land-use-practice-book](http://www.tocal.nsw.edu.au/publications/list/general/land-use-practice-book)] that identifies appropriate ways of using different landscapes and soils to ensure the continued production potential of the property whilst maintaining a healthy ecosystem. The needs of the environment are critical to the ongoing production potential of the property as well as the needs of the surrounding properties and the regional environment

The Water on Tocal story map discusses the way that we manage stock access to water to protect the health of the natural water sources while ensuring that water is available for pasture growth and for stock needs.

## Syllabus links

STe-3LW-ST / STe-8NE / ST1-10ES / GE1-2 / ST2-10ES / ST2-11LW / GE2-2 / ST3-5LW-T / ST3-10ES-S / GE3-2 / GE3-3

## Activity:

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Help students to label or colour code water features on the map that are natural and those that are built or enhanced by people, the Water on Tocal story map will help.

For the Stage 1 workbook there a question about how farmers provide water for livestock. The most obvious answer is by installing troughs, building farm dams or enhancing naturally occurring water sources (eg building a dam wall on a natural lagoon). It is also good to discuss farmers' use of fences to control where stock move (so that stock do not pollute delicate environments that can impact on water quality or quantity or so that stock do not drain water sources dry) or monitoring of stock and water sources to ensure both remain healthy.

Older students will be able to reflect on the management of water access and availability and how that influences the way that the property is used and impacts on the environment.

Some students will also be able to record their thoughts on how weather records and weather forecasts help farmers plan for the needs of the people, animals and the environment.

Start keeping your own weather records. How or where will you record it? What will you measure and how will you measure? How often will the recordings be made?

# What do the farms on Tocal produce?

Discuss with students what they think farms produce. You might be surprised by the range in understanding about the role of farms in producing food and fibre. Some students will have a thorough knowledge while others may have only a vague concept of farms as places for animals to live.

Review the Tocal Farms K-6 story map at <https://arcg.is/1HGXn1> and watch the Introduction to Tocal Farms VR video (<https://youtu.be/oqGARzeIE2U>). This map provides an outline of the property and demonstrates how the property is arranged for different purposes – as well as the role of farms in producing food and fibre for us.

The story map has eight sections that are viewed by clicking through the tabs at the top of the map. Depending on the screen that you are using you may need to scroll to see all of the information and images for each section before moving on to the next section.

## Background notes

While the information on the Tocal Farms K-6 story map is quite detailed, if you require more detail it can be found on our other story maps [link <https://www.tocal.nsw.edu.au/tocals-new-e-farm>] or on the Tocal property and Farms documents (available as a free download as either pdf).

## Syllabus links

STe-1WS-S / STe-2DP-T / STe-3LW-ST / GEe-1 / GEe-2/ ST1-1WS-S/ ST1-4LW-S / ST1-5LW-T / ST1-10ES-S / GE1-2 / ST2-1WS-S / ST2-4LW-S / ST2-5LW-T / GE2-1 / GE2-2/ ST3-4LW-S / ST3-5LW-T / ST3-10ES-S / GE3-1 / GE3-2

## Activity

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Younger students concentrate on understanding natural environment and living world outcomes with the activity to match the baby animals with their parent and returning them to the correct areas of the farm.

Older students can either draw or write on the map provided what they would expect to see at Tocal. Stage 3 students might be able to think about not only the animals and where they live and are fed and watered but also some of the machinery or infrastructure that is likely to be in those areas. For example, the sheep need food and water, they sleep in the

paddock (on Tocal they are protected at night by Maremmas) but there also needs to be shearing facilities and access in and out of the property and sheds. The Tocal property story map will be able to help with this detail.

If you are working with a group or class, make this a collaborative activity by waiting until you have viewed all of the sections of the story map and videos and have students complete large joint illustrations. Hang large pieces of paper on the wall or on tables spread around the room and as groups move around the sheets of paper and recall details of the farms to draw that on the shared illustrations.

Discuss with students how they use or consume the products that are produced on Tocal eg milk on their cereal, mince in their spaghetti, lamb roast, eggs for breakfast or in cakes and woollen clothes. Note: discuss also the differences in people's diets - be particularly mindful of cultural preferences and celebrate the differences represented in your classroom.

If you are able to visit Tocal or another farm revisit students' writing or illustrations to see if their predictions about what they would see on Tocal were correct.

# Is Tocal a natural, managed or constructed landscape?

Consider the background information to the unit Changing skies and lands on the ASTA Science Web site ([http://scienceweb.asta.edu.au/verve/resources/asta\\_2-2-1\\_bi\\_lands\\_yr1\\_v1-4.pdf](http://scienceweb.asta.edu.au/verve/resources/asta_2-2-1_bi_lands_yr1_v1-4.pdf)). This information explains the difference between natural, managed and constructed landscapes and gives you a way to classify natural and built environments for your class discussion. Discuss the difference in how they reflect the impacts of human activity – this can be positive and negative.

Discuss some examples of each type (or classification) of landscape in your immediate area. As with many things there will probably be examples that don't fit neatly into a classification.

Consider the different areas of the map in the Tocal Farms story map [<https://arcg.is/0OP1X4>]. For more detail see the Landscapes on Tocal story map (<https://arcg.is/0Dm54C>) and VR video (<https://youtu.be/WMHwVYMHGNo>).

How do students classify the different areas of Tocal? While the majority of Tocal landscape would be classified as managed there are areas that are constructed (the campus and the Homestead in particular) and there are also areas of the property that may be considered natural. Compared to national parks or wilderness areas they are really closer to managed landscapes but this is a good opportunity for students to talk about how they made their decision on whether an area is managed or natural and to take time to understand why someone else may see it differently. It is an ongoing discussion between land managers and this example may help students to appreciate the perspectives on land management which is an aspect to be considered in the geography syllabus.

When discussing some of the changes on Tocal as a result of human activity, it is worth pointing out that construction of buildings, changes to waterways and clearing of land are

human impacts as are the regeneration efforts, establishment of shelter belts and wildlife corridors.

## Background information:

The information provided for the unit Changing skies and lands on the ASTA Science Web site ([http://scienceweb.asta.edu.au/verve/\\_resources/asta\\_2-2-1\\_bi\\_lands\\_yr1\\_v1-4.pdf](http://scienceweb.asta.edu.au/verve/_resources/asta_2-2-1_bi_lands_yr1_v1-4.pdf)) provides a good description of the different classifications of landscapes. On Tocal the areas that are designated as bushland – where there is limited grazing and no cropping or intensive farming are not pristine natural areas as cattle have in the past - and occasionally still do - have access to them. Barrington Tops provides better examples of natural areas but for the sake of the exercise students may label these inaccessible areas as natural.

## Syllabus links

GEE-1 / GEE-2 / ST1-5LW-T / ST1-10ES-S / GE1-2 / ST2-5LW-T / ST2-10ES-S / GE2-1 / GE2-2 / GE2-3 / ST3-5LW-T / GE3-1 / GE3-2

## Activity:

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The table and map in the workbook are taken from the Tocal Property Plan. When this plan was developed seven topographic landscape units were identified and mapped. The table sets out the features and management objectives of each landscape unit. This information is also available on the Topographic landscapes story map which was put together for high school students. If you think that your students are able to work with this level of information it could be a useful source for them.

Younger students can label or colour code areas on the map as natural, managed or constructed. There is space for students to record why they have classified each area the way they have and to list some features.

Older students will be able to make a more detailed map with different areas marked and labelled as natural, managed or constructed. There is also space for them to write why they classified areas differently, the differences in the features in those areas and how it is cared for. Many of the features will be visible on the story map – you will need to zoom in – the Landscapes at Tocal VR video ( ) also provides more detail for the different ‘natural’ areas as does the Topographic Landscapes at Tocal story map.

# Know your product

This learning experience encourages students to think of food production as a process; for example, dairy production starts from cow intake (grass and water etc), milking, transport and processing for sale. It also asks students to think about the large range of products that farms produce.

The differentiation in this activity between the stages will be in the level of detail students are able to identify. Younger students might consider what is in their favourite food or drink (is there strawberries in the strawberry flavoured milk?). By stage 3 students are likely to be able to identify or research ingredients, where they come from and what happens to them before they are sold to us.

**Note:** there are some websites created by groups that believe all farming is cruel to animals. While they have a right to express this point of view some of the sites contain distressing images. If you are planning on allowing students to research online it is worth having a conversation with students about these sites before they undertake research and how to ensure that they are using reputable websites. Government agencies or Industry grower groups are reliable sources of information about products. If you are concerned about this, assist students to undertake the research or curate a set of websites for students to use for research.

Cultural and social sensitivities about consumption of meat or particular diets should also be discussed and respected.

Ask students to think of a food that does not originate with agriculture. This discussion requires students to consider the ingredients of foods to see that most foods we consume regularly originate with agriculture—this will highlight how broad the agricultural industry is.

With older students discuss the definition of both ‘primary’ and ‘industry’ provided below and discuss how the definitions explain the fundamental nature of agriculture in our society—particularly food production:

Primary; adj

1. first in importance, degree, rank, etc
2. first in position or time, as in a series
3. fundamental; basic
4. being the first stage; elementary

Industry; n

1. (Economics) organized economic activity concerned with manufacture, extraction and processing of raw materials, or construction
2. (Commerce) a branch of commercial enterprise concerned with the output of a specified product or service: the steel industry.
1. (Sociology)
  - a. industrial ownership and management interests collectively, as contrasted with labour interests
  - b. manufacturing enterprise collectively, as opposed to agriculture

Source: Collins English Dictionary—Complete and Unabridged © HarperCollins Publishers

1991, 1994, 1998, 2000, 2003

The NSW Department of Primary Industries website (link: <https://www.dpi.nsw.gov.au/>), the Queensland Department of Agriculture and Fisheries (link: <https://www.daf.qld.gov.au/>) and the Australian Department of Agriculture (link: <http://www.agriculture.gov.au/>) websites also give an indication of how broad the industry is.

## Background information / resources

View the Paddock to Plate videos on the NSW DPI website (link:

<https://www.dpi.nsw.gov.au/education-and-training/school-resources/video-case-studies>).

Be explicit about the connection between human endeavour, and scientific and technological developments in food and fibre production. Use the examples highlighted either on your visit to Tocal or on the Tocal virtual farm resources. Examples include changes in cultivation, mechanisation of farm jobs like chaff cutting (think of the horse works), electricity, and refrigeration.

## Syllabus links:

Ste-3LW-ST / ST1-5LW-T / ST2-4LW-S / sT2-5LW-T / ST3-5LW-T

## Activity

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- View the milk production diagram available on Belgenny Farm's website [link: <https://www.flickr.com/photos/141554800@N03/25642012413/in/album-72157664499792613/>]. Help students to see the flow from production, processing, and consumption —with the origin being in agriculture.
- In the space provided in the workbook develop a mind map of the production process of a food of the students' choice. Can students identify the inputs or ingredients? E.g. for milk production: food for cows (pasture and grains), fertiliser, water; what is required to access the milk (time and labour, hand, mechanical or

robotic milking systems); how does it get to the factory; what happens at the factory; how are the other identified dairy products made?

- Ask students to arrange the items they identified above in order from raw materials to processed foods.
- Using the dairy activity as an example, students can research and draw a diagram of their understanding of the production process of a food product of their choice - from raw materials through to processed end products. Students may choose to use one of the other enterprises on Tocal eg beef or eggs or their favourite food. The Cotton Australia poster showing the production process from field to fashion (<https://cottonaustralia.com.au/assets/general/Education-resources/Posters/Field-to-Fashion-Primary-poster-ONLINE.pdf>) is a good example of a production diagram. This activity can be differentiated by the choice of food - keep this simple by using fresh fruit and vegetables - more complex processes would be highly processed foods like packets of chips or ice-cream.

# One Year at Tocal 2018

## Video synopsis

2 mins 8 secs

The video One Year at Tocal (<https://youtu.be/M8a5d5slvPE>) records visible changes from one view point on Tocal between June 2017 and May 2018. The images are taken at intervals of approximately one week.

On the left of the screen there are two scales shown. The orange/blue scale on the left shows the minimum and maximum temperatures measured at Tocal each week and the green scale on the right shows total rainfall measured each week.

Note also the two videos of One Day at Tocal – one in Autumn (<https://youtu.be/ITt1gOfJvng>) and one in Summer (<https://youtu.be/vsiZpOM5A4k>). Winter and Spring will be added over the next few months.

## What can you see?

The year starts out OK, it is fairly green and the dams are full. Lower than average rain had been received in the months before the video starts and very little rain was received from July through to October.

A small amount of rainfall fell in October and November and the pasture greens up a little. But as the temperature extends up towards and beyond 40°C in January and February the pasture dries off leaving very little feed for stock and the dam water levels drop significantly. Tocal suffered this short but serious dry period with much of the Lower Hunter, but the effects were much worse in the Upper Hunter. This effect of this dry spell is particularly evident in the video from around 01:10min.

Some relief was felt in the Lower Valley with significant rains in late February (01:30min) and although you can see the pasture turning green almost immediately, there isn't a lot of feed available until April.

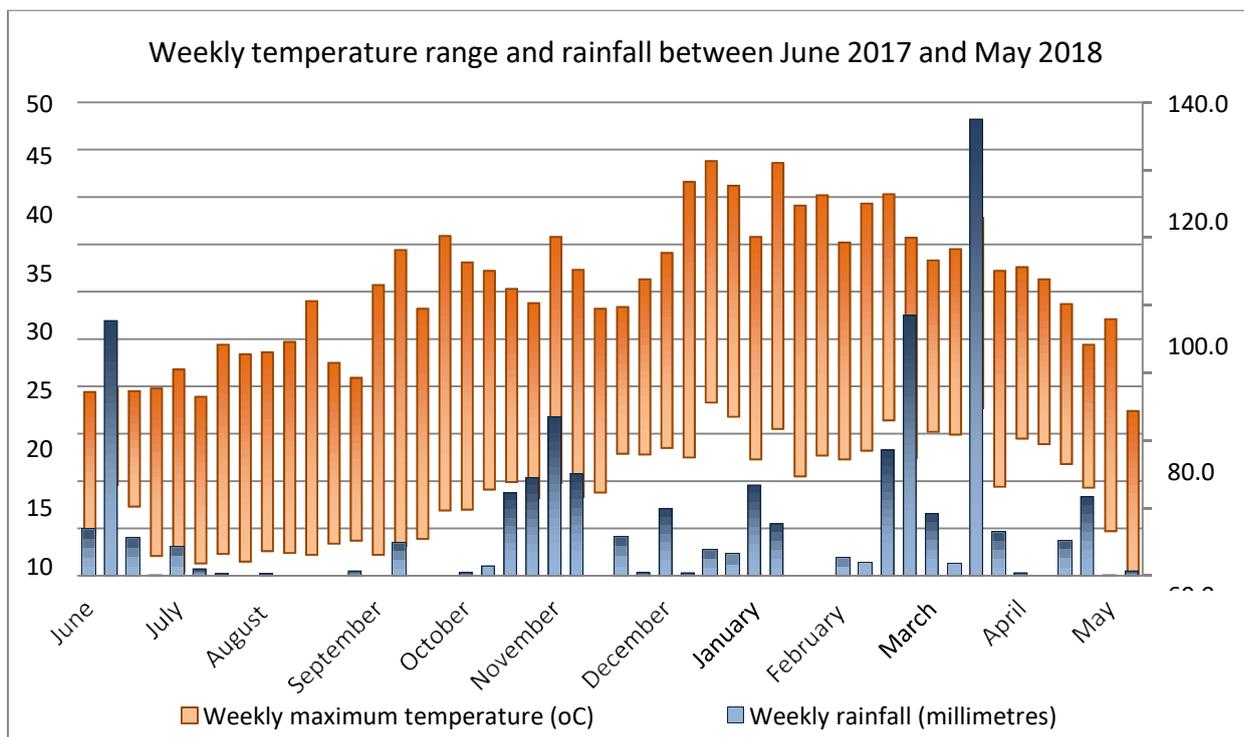
The rain that fell in March and April led to some minor flooding around the wetlands in the middle of screen. This can be seen at 01:42min.

By the end of May when this video ends you can see the pasture showing signs of the need for more rain.

## How does this 12 months compare to averages for Tocal?

Significantly less rainfall than average was received over this twelve months. The total rainfall received over the 12 months shown in the video was 676.8mm (source of this data is the Bureau of Meteorology site statistics for Paterson (Tocal) that can be found at: [http://www.bom.gov.au/climate/averages/tables/cw\\_061250.shtml](http://www.bom.gov.au/climate/averages/tables/cw_061250.shtml)). Historically Tocal receives and average annual rainfall of 920.0mm.

The graph below shows the records for weekly minimum and maximum temperature and total rainfall for the period shown in the video.



The impact of receiving lower than average rainfall is increased in the period December to March where temperatures were regularly over or near to 40°C.

More information about weather and climate at Tocal including historic records is available in the Weather and Climate at Tocal document available on the Tocal Virtual Farm (<https://www.dpi.nsw.gov.au/education-and-training/tocal-virtual-farm>) under the heading Property and Farm data.

## Syllabus links

STe-6ES-S / ST1-10ES-S / GE2-1 / ST2-10ES-S / GE3-1

# Changes on Tocal over time

View the Cultural heritage on Tocal story map [<https://arcg.is/0TKH0S>]. Discuss with students the changes that are described in the story map. The Tocal Homestead app available on iTunes and Google Play is designed to complement a visit to Tocal Homestead but it can also be used to provide you with a lot of information as you explore the site through the Cultural Heritage story map.

How do these changes represent the changes in focus of the property? Consider include as the property changed hands the new owners had different goals and needed to change or add buildings and infrastructure. An example is the changes that have been made to the Stone Barn or the change in use of the Barracks. Of course, the establishment of these buildings represents the biggest change from the way that Aboriginal people, on this site the Wonnarua, lived and used the resources to a colonial farm site with stone buildings and fenced paddocks.

With older students you can discuss how the changes represent changes in society. Things to consider include the development of new technologies. For example tractors replacing horses and moving now to increasingly automated farm equipment shown in the older stables and changes to the stone barn; transport of food out of season or from further away due to the development of refrigeration and more efficient transport systems – evidenced by the earlier establishment of buildings like the slaughterhouse, milk room and butchers shop, buildings that were unused or repurposed in later years; communications – notice the bell on the stone barn used for colonial workers to meals and importantly the grinding grooves in the centre of the yard that tell use of the many thousands of years that the site has been used by the Wonnarua people.

## Background notes - THE HISTORY OF TOCAL

Tocal has a long and proud history, during which it has become established as one of the foremost agricultural institutions in Australia. Tocal is on part of the land of the Wonnarua people. The name 'Tocal' is a Koori word meaning 'plenty'.

Its involvement with European-style agriculture began in 1822 when James Webber took up the property as one of the first land grants in the Paterson Valley. Webber must have been an innovative and farsighted man, as he set about finding out the types of agriculture that could be supported in the district. Tobacco, hops, grapes, beef and dairy cattle, horses and merino sheep were all grown in these early years.

In 1834, Webber sold Tocal to Caleb Wilson and his son, Felix, who became sole owner on his father's death in 1838. Felix built the Homestead in 1841 and it is one of the classic houses of Australia. It is the centrepiece of a set of buildings that is subject to a Permanent Conservation order and registered in the National Estate.

Charles Reynolds leased the property in 1844. During the next 82 years, Charles, and subsequently his widow Frances, his son Frank and grandson Darcie, ran Tocal as one of the most important Hereford, Devon and Thoroughbred studs in the country. Frank Reynolds purchased Tocal from the Wilson family in 1907.

In 1926, Tocal was purchased from the Reynolds family by Jane Alexander. The Alexander family at Tocal consisted of Jane (known as Jean), Isabella, Robert, and Charles. By 1939 only Charles remained and he invited his two nieces, Myrtle and Marguerita Curtis to reside with him at Tocal. They were daughters of his late sister Margaret. Following Charles' death in 1947, they lived at Tocal until their death just five days apart in 1985, at the ages of 95 and 97 respectively.

When Charles Alexander died in 1947, he left a very large estate and a particularly detailed and complex will.

His intention was that his estate be used to help orphan and destitute children by training them for agricultural careers. However, because of the will's complexity, an acceptable proposal for the use of the estate did not come before the Equity Court until 1963.

In 1963, the Presbyterian Church was awarded Alexander's Estate under a proposal designed by Edward Alan Hunt, law agent for the Church. Hunt's association with the College became his dominant work and passion during the last twenty years of his life. The Church commissioned architects Ian McKay and Philip Cox, to design the College buildings.

In 1965, the College buildings gained the Sulman and Blakett Awards for Architecture, the first fifteen students were enrolled, and Sir Robert Menzies opened the CB Alexander Presbyterian Agricultural College.

The Church managed the College until 1970 when it was transferred to the State of NSW as the CB Alexander Agricultural College, Tocal. This coincided with the passing of the CB Alexander Foundation Act, 1969.

The Tocal property has increased through various land purchases since the College commenced - Athcourt Farm, Glendarra, Bona Vista, Dunnings Hill, Clements Farm and Numeralla. It is now 2,200 hectares.

Key advances have been admittance of female students to the College in 1972, additional buildings in 1974, 1987, 1994, 1996, 1997, 2001 and 2010, the inaugural Tocal Field Days in 1984, adoption of a problem-based learning curriculum in 1985, public access to Tocal

Homestead in 1987, the launch of the Tocal Agricultural Centre and the Tocal Visitor Centre (allowing regular weekend access to Tocal Homestead) in 2002 and designation as a Centre of Excellence in Agricultural Education in 2003. The CB Alexander Agricultural College consolidated with Murrumbidgee College of Agriculture to become one Registered Training Organisation in 2006, known as Tocal College. The College now operates as the Murrumbidgee Rural Studies Centre at Yanco and the CB Alexander campus at Tocal.

NSW Department of Primary Industries operates the College assisted in many different ways by the CB Alexander Foundation, Tocal College Advisory Council, Friends of Tocal, Tocal Students Association, Tocal Ex-students Association, Tocal Field Days Association, and the College Advisory Council.

The Friends of Tocal was formed in 1992 and incorporated in 1993. The Friends have a special role as volunteers assisting and supporting events and activities at the Homestead.

## Syllabus links

GE1-1 / GE1-2 / GE2-2 / HT1-1 / HT1-2 / HT1-3 / HT1-4 / HT2-2 / HT2-4 / HT3-2

## Activity:

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The changes shown in the cultural heritage map represent changes in the focus of the property, to the extent that they are considered different eras on the property. There is space in the workbooks to record the changes that are shown in the Cultural Heritage story map and how those changes are represented on the site. Consider the infrastructure required for different farm enterprises. The buildings at Tocal (and represented on the app) are named for their purpose, the approximate construction date and uses is also described.

The following pages includes some images from the collections of the Tocal residents as well as images of changing technology in different agricultural industries. Sequencing these images from earliest to most recent is an exercise in historical inquiry. Work with students to decide what age the images of people are (look at clothes and hairstyles) and comparing them to the history of Tocal described above, who do you think they are?

Early stage 1 students are asked to simply sort the images into older and newer – you can use them all or focus on a particular theme.

Stage 1 students could also write about how the changes in technology might have influenced the daily lives of people living at Tocal.

Stage 2 are asked to choose some images and sequence them into a timeline, it doesn't need to state specific date but rather a sequence of events or technology. For each

image describe what impact the changes might have had on the people or the landscape.

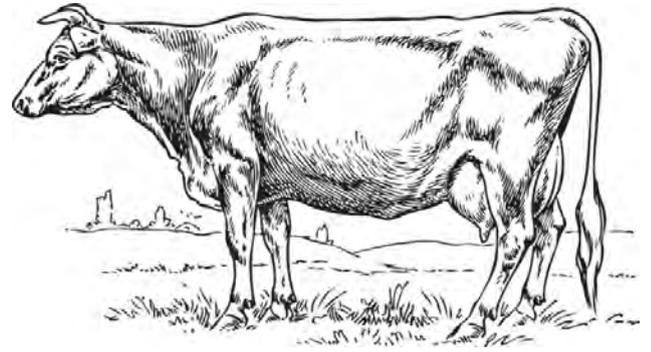
Stage 3 are asked to consider how the changes they have used represent different perspectives of the site and how they might have impacted others in the area. Examples of significance change are the impact on the Wonnarua of the arrival of James Webber, the impact on the Curtis sisters or local residents of the establishment of Tocal College or the impact of motorised farm equipment on the Reynolds.

**For all stages** remember that we have much more documentary evidence of the history of Tocal since European occupation (sourced from the Mitchell Library and various other archives including newspapers and paperwork in the care of family descendants of those who lived here) and in physical evidence found on site. This is a reflection of the way information was recorded and stored in colonial Australia compared to the oral traditions of Aboriginal peoples.

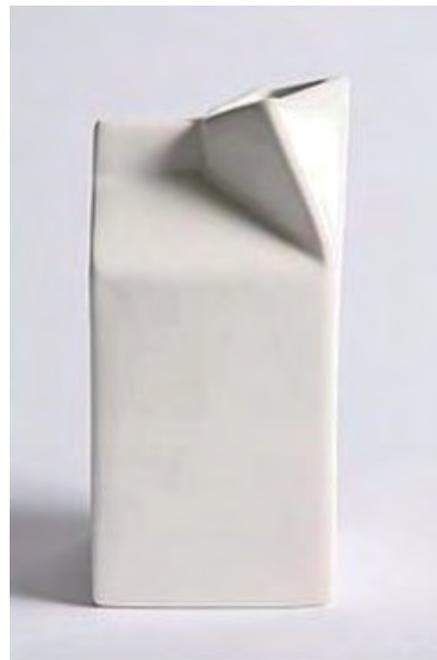
Tocal has a long history beginning with many thousands of years of Aboriginal habitation. The site includes lands of the Wonnarua people and some Worimi land as well. We have some evidence on the property of the long-term use of the site by Aboriginal people including grinding grooves at the Homestead and on the dairy. This history should be included in student responses.

The images are grouped by era in the following pages – to assist you in supporting students!

# Beef



# Dairy



## Chickens and eggs



# Sheep





## People

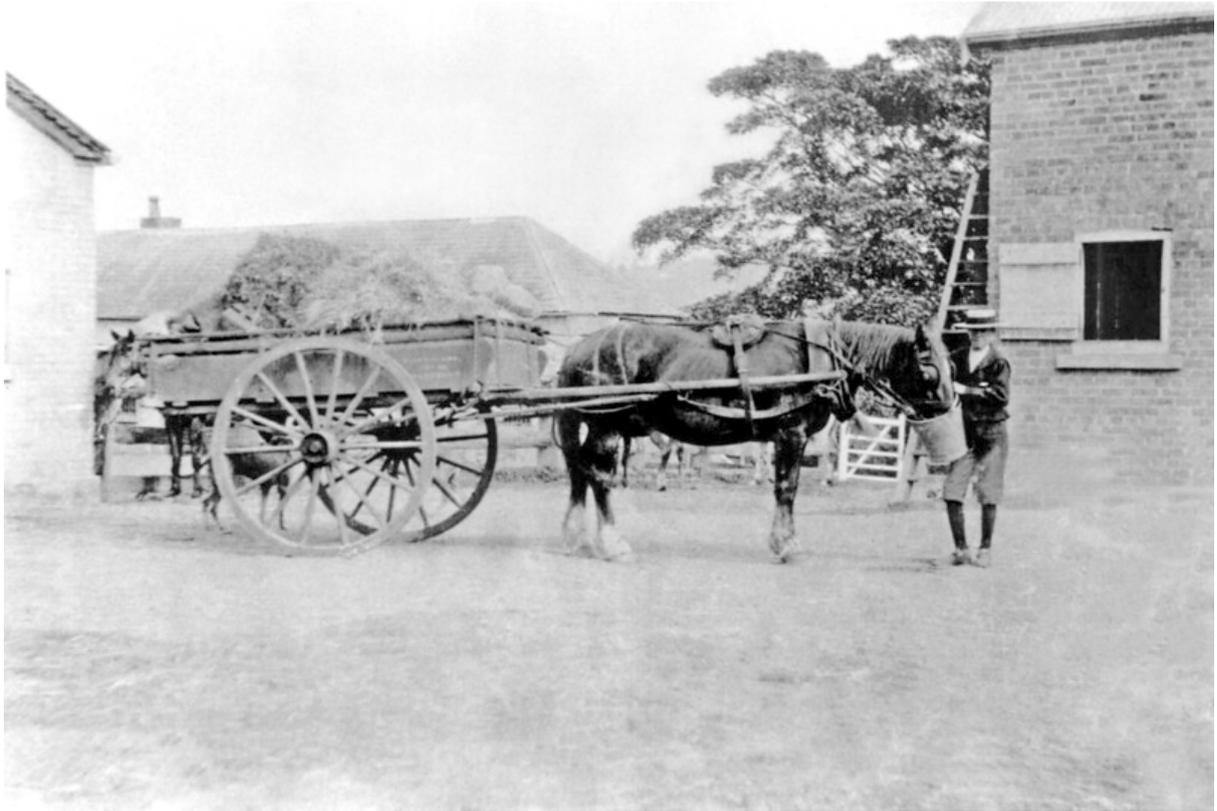
James Webber (taken some years after he left Tocal)



The images on the following pages are historic images supplied by a number of people to Tocal College for our archives. These and many more are available on our Flickr pages <https://www.flickr.com/photos/tocalcollege/albums/with/72157664513318258>

*Reynolds photos from Tocal*









Alexander / Curtis photos







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Early College photos (E A Hunt collection)



45.





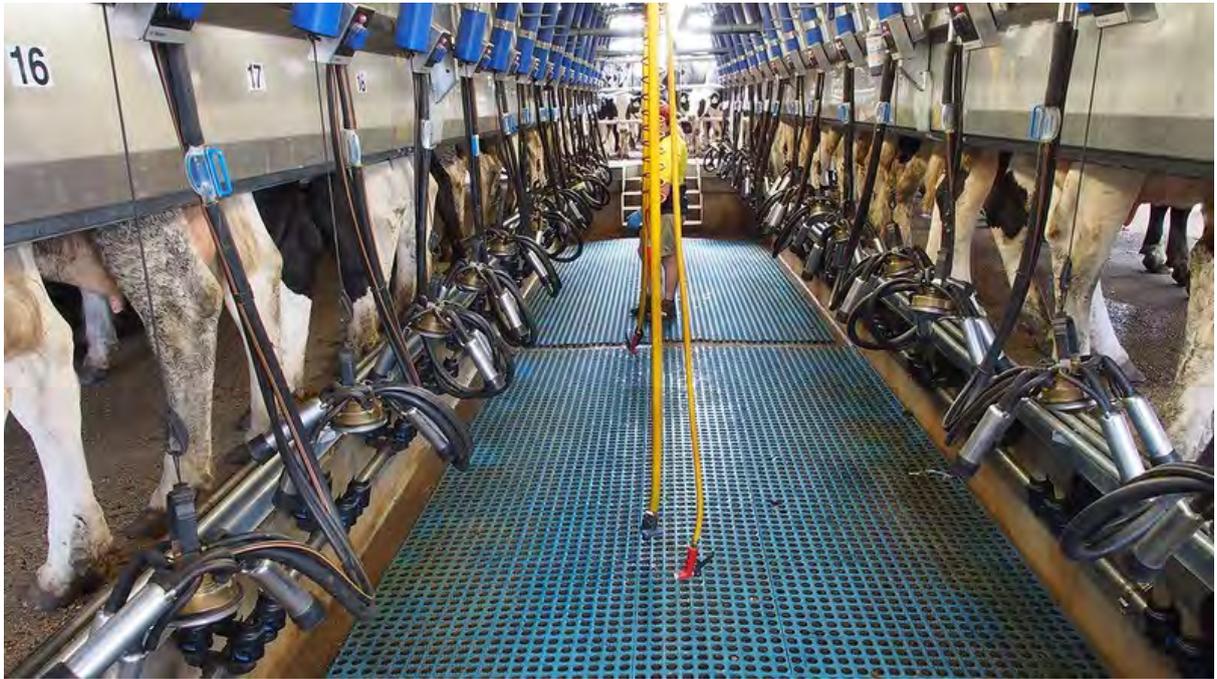


Recent college images











# Review options

## Early stage 1

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Some ideas for follow up activities:

- Discuss with students what sort of food each of the sections on Tocal contribute to and group them accordingly.
- Creative writing / video journal / collage. There are a number of options, you can choose to complete one or more of the following using a mode of your choice, as a joint or independent construction.
  - Why are farms important places?
  - What is produced at Tocal?
  - How do staff at Tocal care for the animals?
  - My exploration of Tocal recount.

## Stage 1

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Some ideas for follow up activities:

What evidence have students seen of past land management or uses of Tocal by different groups of people on their recent exploration of Tocal? Examples include

- Tocal Homestead and the outbuildings
- The regeneration of the wetlands
- Cleared land
- Grinding grooves
- Shearing shed
- Dairy
- Calving yards
- The campus buildings
- Were there other visitors to the site that day?
- What did we see on Tocal?

Creative writing / video journal / collage - There are a number of options, you can choose to complete one or more of the following using a mode of your choice, as a joint or independent construction.

- Who are the different people on Tocal now? Which parts of the property do they use?
- How do people care for the spaces on Tocal? How do you care for spaces at school or home?

## Stage 2

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Some ideas for follow up activities:

Creative writing / video journal / collage / digital text / graphic novel - There are a number of options, you can choose to complete one or more of the following using a mode of your choice, as a joint or independent construction.

- Prepare an information report or flyer about the value of farms and the role that farmers have in caring for the environment on their farm.
- Write a newspaper article or news report about the things that farmers do to be sustainable.
- What are some of the different perspectives for managing Tocal? How would Tocal be different if it was used for a different purpose?
- Write a play about a meeting between some of the different potential users, each needs to put forward a case for changing the landuse on Tocal.
- Write an account of what Tocal means or has meant to different people throughout its history including the Wonnarua Aboriginal people, James Webber and his convicts, the Reynolds, the Alexanders, the staff of Tocal from 1965 and current Tocal students. What do they love about Tocal? What is their favourite space on Tocal? Would they like to change anything? What would Tocal look like now if they were the current land managers?

## Stage 3

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Some ideas for follow up activities:

Evaluate students' learning in the unit including their own misconceptions before their exploration of Tocal and communicate this to a range of audiences.

- Have students watch a BTN episode (link: <http://www.abc.net.au/btn/>) or read newspaper articles to provide model texts. Give students a choice in the way they present their learning either in the form of a news story for television, a written article for a newspaper or magazine or a blogentry.
- Ideally students will consider where the misconception comes from and provide a way for those viewing their text to remember the facts of production.

- Model texts:
  - BTN: [www.abc.net.au/btn/](http://www.abc.net.au/btn/)
  - Sydney Morning Herald: [www.smh.com.au/](http://www.smh.com.au/)

Redesign a product eg only buy local fresh produce or reduce packaging

- Discuss with students parts of the production system in producing food and fibre. Are there aspects of the process that they would change or improve? Consider aspects like the packaging or transport of food to reduce environmental impact or the location of farm/ production activities in relation to threats of contamination or disease from residential and/ or industrial development (students may consider zoning areas or having buffer zones around one of the other).

Creative writing / video journal / collage - There are a number of options, you can choose to complete one or more of the following using a mode of your choice, as a joint or independent construction.

- Who are the different people on Tocal? Which parts of the property do they use?
- How do people care for the spaces on Tocal? How do you care for spaces at school or home?
- How do the spaces on Tocal change at different times of the day or year?
- Are the uses compatible or do they need to be planned so that they don't overlap?
- Consider each of the areas - natural, managed and constructed - that students visited while at Tocal. What are the purposes of the different areas and how are these different uses reflected in the way that they are managed?



|            | What are farms? | Features of Tocal | Water and weather on Tocal | Food and fibre at Tocal | Landscapes on Tocal | Food production at Tocal<br>- Know your dairy | Changes over time | One day / One year at Tocal |
|------------|-----------------|-------------------|----------------------------|-------------------------|---------------------|---|-------------------|-----------------------------|
| ST2-1WS-S  |                 |                   |                            |                         |                     |   |                   |                             |
| ST2-4LW-S  |                 |                   |                            |                         |                     |   |                   |                             |
| ST2-5LW-T  |                 |                   |                            |                         |                     |   |                   |                             |
| ST2-10ES-S |                 |                   |                            |                         |                     |   |                   |                             |
| GE2-1      |                 |                   |                            |                         |                     |   |                   |                             |
| GE2-2      |                 |                   |                            |                         |                     |   |                   |                             |
| GE2-3      |                 |                   |                            |                         |                     |   |                   |                             |
| HT2-2      |                 |                   |                            |                         |                     |   |                   |                             |
| HT2-4      |                 |                   |                            |                         |                     |   |                   |                             |
| HT2-5      |                 |                   |                            |                         |                     |   |                   |                             |
| ST3-4LW-S  |                 |                   |                            |                         |                     |   |                   |                             |
| ST3-5LW-T  |                 |                   |                            |                         |                     |   |                   |                             |
| ST3-10ES-S |                 |                   |                            |                         |                     |   |                   |                             |
| GE3-1      |                 |                   |                            |                         |                     |   |                   |                             |
| GE3-2      |                 |                   |                            |                         |                     |   |                   |                             |
| GE3-3      |                 |                   |                            |                         |                     |   |                   |                             |
| HT3-1      |                 |                   |                            |                         |                     |   |                   |                             |
| HT3-2      |                 |                   |                            |                         |                     |   |                   |                             |
| HT3-3?     |                 |                   |                            |                         |                     |   |                   |                             |
| HT3-5      |                 |                   |                            |                         |                     |   |                   |                             |