**Activity: Easy care sheep traits – three-level reading guide**

In this activity, students use a three-level reading guide to locate information about easy care sheep traits, interpret what the author means and apply the information to consider the frequency of these traits in local flocks.

By the end of this activity, students should be able to use a three-level reading guide to:

* focus on the actual information in the text (level 1)
* think through the information, making links between ideas and interpreting the author’s intent and thoughts (level 2)
* consider the implications of the ideas, making generalisations and critically evaluating the arguments (level 3).

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**Introduction/background**

A three-level reading guide should be used as an activity to generate discussion among your students. It provides a structured strategy for students to give their views and justify what they say by referring back to the text. For this reason, this strategy is not appropriate for use as a homework exercise or test.

The best approach to the three-level reading guide strategy is for students to consider each of the three levels individually and then to discuss their responses with a partner so that they can confer and check their own ideas closely with the text.

**What you need**

* Access to the article [Finding easy care sheep traits](https://www.sciencelearn.org.nz/resources/822-finding-easy-care-sheep-traits)
* Copies of the [Reading about easy care sheep traits](#reading)

**What to do**

1. Have students read the article [Finding easy care sheep traits](https://www.sciencelearn.org.nz/resources/822-finding-easy-care-sheep-traits).
2. Hand out copies of [Reading about easy care sheep traits](#reading) and have students answer the questions related to the information in the article.
3. When students have completed their responses, have them compare and discuss responses with a partner and share the reasons for their choices using the ideas from the reading.
4. Have students consider a way they might investigate the frequency of one of the traits on a nearby farm and plan a method they could use to gather evidence. (It will be important to provide support to students as they plan their method to ensure that it could lead to valid and reliable data on frequency of easy care sheep traits in the local area and relate the information to breeds. This data could be shared with the scientist(s) working on finding out more about easy care sheep traits in New Zealand.)

**Reading about easy care sheep traits**

Read the article [Finding easy care sheep traits](https://www.sciencelearn.org.nz/resources/822-finding-easy-care-sheep-traits) and answer the following questions.

***Reading on the lines***

When reading ‘on’ the lines, you use/select factual statements from the text.

1. List the sheep breeds referred to in this information.
2. What were the three easy care sheep traits that researchers/scientists found easiest to locate?

***Reading between the lines***

When reading ‘between’ the lines, you use ideas that are suggested by the text.

1. Why was the bare belly trait harder to locate and breed into a flock?
2. Why did scientists want to breed bare backside sheep?

***Reading beyond the lines***

When reading ‘beyond’ the lines, you link ideas that are either suggested in the text and/or from your own understanding of the topic.

1. Why is observing and knowing more about the locating of particular genetic traits that can lead to breeding easy care sheep important for New Zealand’s future as a meat and wool-producing country?

**Reading about easy care sheep traits – answers**

1. List the sheep breeds referred to in this information

*Finnish Landrace, Cheviot, Border Leicester, East Friesian, Wiltshire, Texel.*

1. What were the three easy care sheep traits that researchers/scientists found easiest to locate?

*Short tails, bare heads and legs, then bare backsides*

1. Why was the bare belly trait harder to locate and breed into a flock?

*Different breeds demonstrated different amounts of shedding of wool, and also many breeds do shed wool, but the desire was just for a bare belly (to reduce the need for crutching).*

1. Why did scientists want to breed bare backside sheep?

*They wanted sheep that did not accumulate dags around their tails and as a result would not be so prone to flystrike.*

1. Why is observing and knowing more about the locating of particular genetic traits that can lead to breeding easy care sheep important for New Zealand’s future as a meat and wool-producing country?

*The student responses could include but are not restricted to ideas such as:*

* *The ability to farm easy care sheep would reduce health risks for sheep and mean lower management costs for farmers.*
* *If there is not a demand for wool due to greater reliance on synthetic fibres, the growing and harvesting of wool is no longer a priority. Therefore if sheep shed their wool, it would lower farmers’ costs by reducing the need for annual shearing.*