**Student overview – using SOLO taxonomy**

Student overview using SOLO (structure of observed learning outcomes) taxonomy (grouping based on similarities). SOLO is a model with five levels of cognitive complexity.

|  |  |  |  |
| --- | --- | --- | --- |
| **Kaitiakitanga o** **te moana** | | **Start of topic** | **My progress** |
| **Ako: Learn about what kaitiakitanga is and what it means to you** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I don’t know much about kaitiakitanga yet. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can identify that people may feel differently about land and resources. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can describe the concept of kaitiakitanga. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can use key words to explain the concept of kaitiakitanga o te moana. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can use my understanding of biosecurity and the concept of kaitiakitanga o te moana to see how I/my school/local scientists/local iwi/the council together play a role in protecting Aotearoa New Zealand’s marine environments from the impacts of pest species. |  |  |
| **Ako: Learn about ecology and biodiversity** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I am not sure about what biodiversity is. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I know there are many different types of living things and that they are all related. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can use my knowledge about marine organisms and ecology to draw food webs to show how living things affect and rely on each other. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I know that living things affect each other and that their environments impact them. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand that the marine ecosystem consists of many living things. These living things depend on each other forming a delicate ecosystem. When humans or pests interfere with these ecosystems, stressors are added, and native New Zealand species may become endangered. |  |  |
| **Ako: Learn about how humans classify living things** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I am not sure about how living things are grouped. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I know living things are divided into different groups such as animals and plants. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand that there are different ways to groups living things. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand that grouping living things can be tricky and I can name some of the issues related to classification/taxonomy. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can explain how using DNA can overcome some of the issues associated with taxonomy. |  |  |
| **Ako: Learn about DNA and inheritance** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I am not sure about what DNA is and how inheritance works. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I have a basic understanding of the structure of DNA. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand that some DNA is considered a taonga (treasure) and requires tikanga when handled. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can explore how our understanding of DNA has changed over time. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand how the discoveries of the structure of DNA and DNA sequencing are important for us today. |  |  |
| **Ako: Learn about biosecurity and pest management, and how eDNA can be used as a pest detector** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I am not sure what biosecurity is/means. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can give a simple definition of biosecurity. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I understand what biosecurity is, what eDNA is and can list some New Zealand pests. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can compare and contrast how different organisations deal with biosecurity, and I can explain how eDNA can be used in pest management and as a biosecurity tool. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can hypothesise how scientists may use eDNA to assess whether a marine pest may have entered my local area of interest. |  |  |
| **Ako: Learn how to communicate as a scientist** | | | |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I find scientific language and images difficult to understand. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can interpret, use or draw a diagram to illustrate my understanding of one scientific idea. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can interpret scientific knowledge from a variety of sources and list my new facts. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can interpret scientific knowledge and summarise what is being discussed in a larger text/video and can explain my learning in an attractive and compelling way. |  |  |
| http://pamhook.com/wp-content/uploads/2011/12/OGSOLO.png | I can justify my choice of presentation for a specific target audience and ensure that others can learn from my findings. |  |  |

**Acknowledgement:**This resource was written by Gerd Banke, Nayland School and is part of [Kaitiakitanga o te moana – a context for learning](https://www.sciencelearn.org.nz/resources/3384-kaitiakitanga-o-te-moana-a-context-for-learning).