**ACTIVITY: Viruses and immunity – interpreting infographics**

**Activity idea**

In this activity, students observe and interpret infographics created by [The Science of Medicines – Whakatere Waka](https://www.sciencelearn.org.nz/resources/3263-the-science-of-medicines-whakatere-waka) project to aid student understanding of viruses and vaccines. The activity includes probing questions to help students make sense of the ways in which infographics present information.

By the end of this activity, students should be able to:

* develop literacy skills for interpreting the information in an infographic
* discuss the purpose of an infographic
* discuss how an infographic gets the message across
* discuss information they have gathered from an infographic of interest to them.

**For teachers**

***Introduction/background***

Science knowledge is often communicated through visual representations – graphs, diagrams and infographics. Each type of visual representation has literacy components that students may need support to understand. The science capability ‘Interpret representations’ encourages students to think about how data is presented, what the representation tells us and how it gets the message across.

Infographics are designed to tell a story and/or guide the reader to a particular conclusion. Infographics contain three components – the visual component, the content component and the knowledge component. The visual component includes things like graphics, colour, font and layout. The content component features information – for example, text, figures, lists and statistics. The knowledge component is the insight that comes from the information. Learn more about infographics in the article [Understanding infographics](https://www.sciencelearn.org.nz/resources/2964-understanding-infographics).

**An example of how visual and content components are used in an infographic**

The infographic [D-Bug Fun Facts: Vaccines & Antivirals](#Vaccinnes_and_antivirals) uses visual and content components to effectively communicate information about its subthemes:

* Vaccines are medicines that prevent infections by training our immune system.
* Antivirals are medicines that prevent and treat infections from viruses.

Visual components include:

* use of bold and coloured font to emphasise key vocabulary and messages
* the pathways of vaccinations – both physical and cellular
* visual representations of specific antibodies that can ‘grab’ onto antigens.

Content components include:

* text that provides succinct background information
* content vocabulary.

These components combine to inform us how vaccines and antivirals keep us safe from viral diseases – the knowledge component.

***Interpreting infographics***

Use the questions that follow to deepen student understanding of one or more of The Science of Medicines D-Bug Fun Facts infographics. The infographics are found in the [student handout](#bookmark=id.3rdcrjn)  or can be downloaded as PDFs:

* [D-Bug Fun Facts: Going Viral!](https://www.sciencelearn.org.nz/system/documents/files/000/001/240/original/D-Bug_Fun_Facts_%E2%80%93_Going_Viral.pdf?1692064517)
* [D-Bug Fun Facts: Deadly Looks](https://www.sciencelearn.org.nz/system/documents/files/000/001/241/original/D-Bug_Fun_Facts_%E2%80%93_Deadly_Looks.pdf?1692064696)
* [D-Bug Fun Facts: Transmission & Infection](https://www.sciencelearn.org.nz/system/documents/files/000/001/242/original/D-Bug_Fun_Facts_%E2%80%93_Transmission___Infection.pdf?1692064769)
* [D-Bug Fun Facts: The Immune System](https://www.sciencelearn.org.nz/system/documents/files/000/001/243/original/D-Bug_Fun_Facts_%E2%80%93_The_Immune_System.pdf?1692064867)
* [D-Bug Fun Facts: Vaccines & Antivirals](https://www.sciencelearn.org.nz/system/documents/files/000/001/244/original/D-Bug_Fun_Facts_%E2%80%93_Vaccines_and_Antivirals.pdf?1692064953)
* [D-Bug Fun Facts: Mutations](https://www.sciencelearn.org.nz/system/documents/files/000/001/245/original/D-Bug_Fun_Facts_%E2%80%93_Mutations.pdf?1692065037)
* [D-Bug Fun Facts: Defence Strategies](https://www.sciencelearn.org.nz/system/documents/files/000/001/246/original/D-Bug_Fun_Facts_%E2%80%93_Defence_Strategies.pdf?1692065206)
* [D-Bug Fun Facts: Community Immunity!](https://www.sciencelearn.org.nz/system/documents/files/000/001/247/original/D-Bug_Fun_Facts_%E2%80%93_Community_Immunity.pdf?1692065853)

***Questions to deepen student understanding***

Use the following questions to support students to develop literacy skills when interpreting infographics.

*Generic questions for all infographics*

* Who created the infographic?
* Who is the intended audience?
* Infographics have a central theme or message – what is this infographic trying to communicate?
* Are there subthemes within the infographic?
* Does the infographic show relationships or connections between the subthemes? How does it do this? (For example, through arrows, colour or repeated graphics/images.)
* What is the infographic communicating – general information, statistics, comparisons, processes or something else?
* Is there a starting point for reading the infographic?
* Does the infographic have a specific pathway that you need to follow? (For example, top to bottom, left to right as when reading text.)
* Does this affect the message?
* How is colour used to present information?
* How do the graphics present information?
* What makes the message credible?
* What might have been left out?
* What other information might you need to understand the infographic?
* Where can you find the information that might fill in these gaps?

*Questions for the* [*infographics from The Science of Medicines D-Bug Fun Facts*](#bookmark=id.3rdcrjn)

* How do the graphics help to place these infographics within an Aotearoa New Zealand context?
* How do the graphics help to illustrate or explain some of the terms/content vocabulary?
* How is font (size, colour, bold text, capital letters, spacing between letters) used to get messages across?
* How is humour used to get messages across? For example, seething in seawater and skulking in soil or the doge and humanoid viruses.
* What knowledge components/insights have you gained from viewing the infographic?
* Would this information have been as understandable without the graphics?
* Are there examples where the graphics provide better or easier-to-understand explanations than the text?

***Extension ideas***

These infographics were created as background information for tamariki and rangatahi who participated in [The Science of Medicines D-Bug Game Design Challenge](https://www.sciencelearn.org.nz/resources/3264-gaming-and-medicine-d-bug-game-design-challenge). Use the infographics to support ākonga in a similar activity: [Game design for viruses and vaccines](https://www.sciencelearn.org.nz/resources/3270-game-design-for-viruses-and-vaccines).

The activity [Using infographics](https://www.sciencelearn.org.nz/resources/2967-using-infographics) includes a simple framework for creating an infographic. Students can use this framework to create an infographic about an issue of interest to them.

**For students**

A poster with text and images

Description automatically generated

A poster with cartoon characters and text

Description automatically generated  
A poster with text and images

Description automatically generated

A poster with text and images

Description automatically generated

A poster with text and pictures of two people

Description automatically generated  
A poster of a virus

Description automatically generated

A poster with text and images

Description automatically generated  
A poster with cartoon people and text

Description automatically generated