**ACTIVITY: Observing fungi**

**Activity idea**

In this activity, students hone their observation skills and practise using the science capabilities ‘Gather and interpret data’ and ‘Interpret representations’.

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

* identify physical characteristics of fungal specimens
* learn and use scientific vocabulary in both te reo Māori and English
* practise using the science capabilities ‘Gather and interpret data’ and ‘Interpret representations’.

# For teachers

***Gather and interpret data***

Observation is key to scientific endeavours. Science knowledge is based on data derived from direct or indirect observations of the natural physical world – what you can see, touch, smell and/or measure. An inference is a conclusion you draw from observations – the meaning you make from observations.

With careful questioning, teachers can help students understand the difference between making an observation and making an inference. Making statements starting with “I see” are usually observations. Making statements starting with “I think” are usually inferences. For example, “I see brown gills” is an observation, whereas “I think this mushroom is bad to eat” is an inference.

***Interpreting representations***

While looking at images and/or diagrams, teachers can also help students practise the way they interpret representations. This can involve the introduction and use of scientific vocabulary and discussion about diagram features – titles, labels, arrows etc. For example, the fungal image cards contain more information than simply an image. They also have titles featuring the common names and scientific names and may show where the fungus lives or its host plant.

With these capabilities in mind, consider how you can support students while they observe physical fungi specimens and/or observe fungi images.

***Resources to aid with vocabulary and content knowledge***

Use the article [*Ngā Hekaheka o Aotearoa*](https://www.sciencelearn.org.nz/resources/2673-nga-hekaheka-o-aotearoa-kuputaka) – kuputaka to find vocabulary in te reo Māori and English and links to helpful articles.

***Safety considerations***

If you want students to handle or smell the fungi while making observations, use mushrooms from a supermarket or mushrooms collected by an expert. If other types of fungi are used, keep them in a sealed container for visual observation only.

***Extension idea***

As a means of formative assessment, use this activity before and after working with the *Ngā Hekaheka o Aotearoa* resources. Take note of student improvement in their understanding and use of the science capabilities as well as content knowledge.

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## What you need

* Mushrooms from the supermarket or collected by a local expert
* Observation devices (hand lenses, digital microscope, table with camera, ruler, kitchen scale etc.)
* Student handout
* Fungal image cards
* Paper for recording ideas

# For students

***Observing fungi***

Discuss the following or write your answers.

1. Observe the fungi with your eyes. What words can you use to describe what you see?
2. Observe the fungi with an observation device like a hand lens, or take a photo and enlarge it. Describe what you see now.
3. Find other ways to observe the fungi to gather data. Can you measure its size? Can you find its weight? Record the data.
4. When you recorded the data, how did you know if what you recorded was an observation or an inference?
5. If you have a variety of fungal specimens, make comparisons between them. Discuss this with a partner or write down a few observations.
6. Sketch your observation. Add a title and label the parts of the fungus.

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***Observing fungal images***

Discuss the following or write your answers.

1. What do you see on the cards?
2. Observe the fungal image on one card. What words can you use to describe what you see?
3. What comparisons can you make between two of the fungal images?
4. When you recorded the information, how did you know if what you recorded was an observation or an inference?
5. Can you use the images to collect other data about the fungi?
6. What information do the cards give you that you may not get while using real fungal specimens?

1. If you were a scientist, what are the advantages and disadvantages of working with images rather than a real fungal specimen?

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