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Observation How to Observe

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Nau mai ki tēnei akoranga on Observation: How to Observe.

In this lesson we are learning to:

- Describe what makes a strong observation.
- Explain the difference between objective and subjective observations.

He rangi tā Matawhāiti, he rangi tā Matawhānui.

The person with a narrow vision sees a narrow horizon, the person with a wide vision sees a wide horizon.



What is Observation?

Have you ever found yourself looking around at something, and then completely forgetting what it looks like a few seconds later?

This is because 'seeing' is not the same as observing!

Observation is an important skill that helps to collect new information. It supports us to understand the world better and answer questions about how or why things work.

Observation: The process of carefully noticing and gathering information using the senses or tools to understand the world.





Did you know that observation is an important skill that scientists use every day?

Observations can lead scientists to discovering new information about a range of topics!

For example, they investigate plants, animals, weather and even space!

- 1. Paying close attention, looking carefully to notice important details and gather information.
- 2. Recording details using clear, specific words, including scientific language.
- 3.Using your five senses sight, touch, smell, taste (when safe), and hearing.
- 4. Using modern tools like a microscope, to help you look even more closely.

Let's find out how our senses help us notice all the amazing things around us!

Observing in science means









<u>Scientist</u> - A person who asks questions, investigates the world, and uses evidence to understand how things work.

<u>Senses</u> - Five ways we experience and gather information from the world through sight, hearing, touch, smell, and taste.



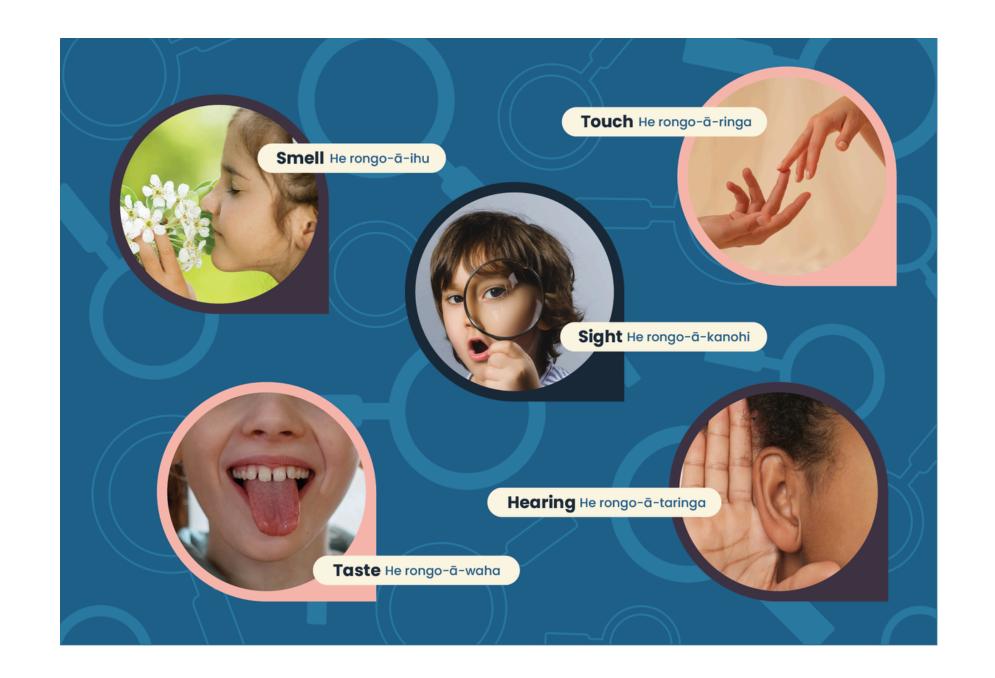
Scientists use their five rongo (senses) to explore and gather information about the world around them.

We use our rongo every day, often without realising it.

Whether it is noticing the smell of dinner cooking, feeling the wind on your skin or hearing the manu (birds) chirp outside. Our senses of hearing, sight, smell, touch, and even taste (when safe) are all vital when carrying out an observation.

Let's find out how scientists use their senses to ask questions and learn about the world.

The more we practice intentionally observing, the better our observation skills become—and the more we can learn and discover!



<u>Vital</u> - means very important or necessary.

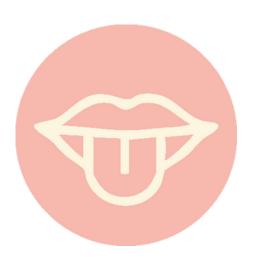
<u>Intentionally</u> - Doing something on purpose, not by accident or mistake.





Touch

- The texture of an object.
- How does it feel?
- Is it rough, smooth, wet, or dry?
- Is it heavy or light?



Taste

- Used only when it is safe, like in food science!
- Is it hot, cold, spicy or sweet?
- Is it smooth, crunchy, soft, or gritty?



Hear

- What sounds can you hear?
- Are they loud or soft?
- Can you tell what might be making the sounds?



Sight

- What colours, shapes, or movements do you see?
- Is there anything unusual or out of place?
- What details stand out when you look closely?



Smell

- What does it smell like?
- Is it a natural smell like flowers/soil or an artifical smell like plastic/paint?
- Does the smell change if you move closer or further away?



How are your observation skills?

Let's put them to the test! Āta titiro (Look carefully).

Look at this image for 10 seconds, then close your eyes and try to describe it as best as you can.

Write your answers down and then think about the following questions:

- What details did you notice first?
 Why do you think they were easier to remember?
- What was hard to remember?
- How could you observe more carefully next time?
- Did you miss anything?

Exercises like this are fun for our brain, helping us to focus and strengthen our observation skills.



Here's a fun fact for you!

We are more likely to remember the first thing we observe and the last thing we observe.

This is called the primacy and recency effect. Scientists and teachers use this idea to help people learn and remember important information.

That's why first impressions—and the last thing someone says or does—can really stick with us!



<u>Primacy and recency effect</u> - You are more likely to remember the first and last things you hear or see, and sometimes forget the stuff in the middle



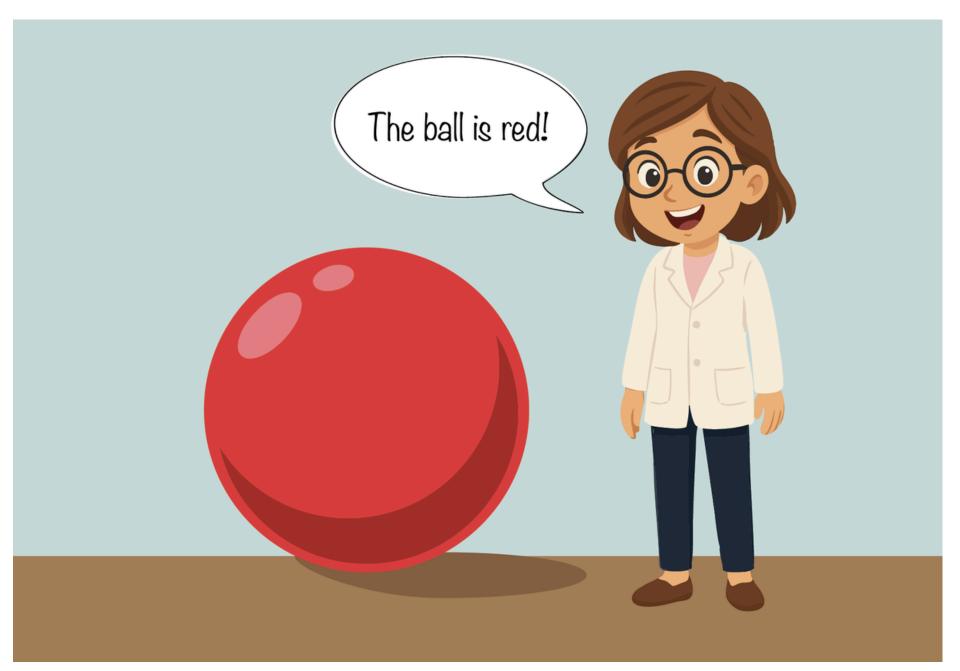
Types of observations like objective and subjective for example, are very important in science, but what is the difference between the two?

Understanding the difference between them helps us make clearer, more accurate observations.

Objective Observations

These are facts that anyone can observe and agree on. They describe things exactly as they are, without letting feelings or opinions get in the way.

For example: Saying "The ball is red" is an objective observation, because the ball is in fact red.



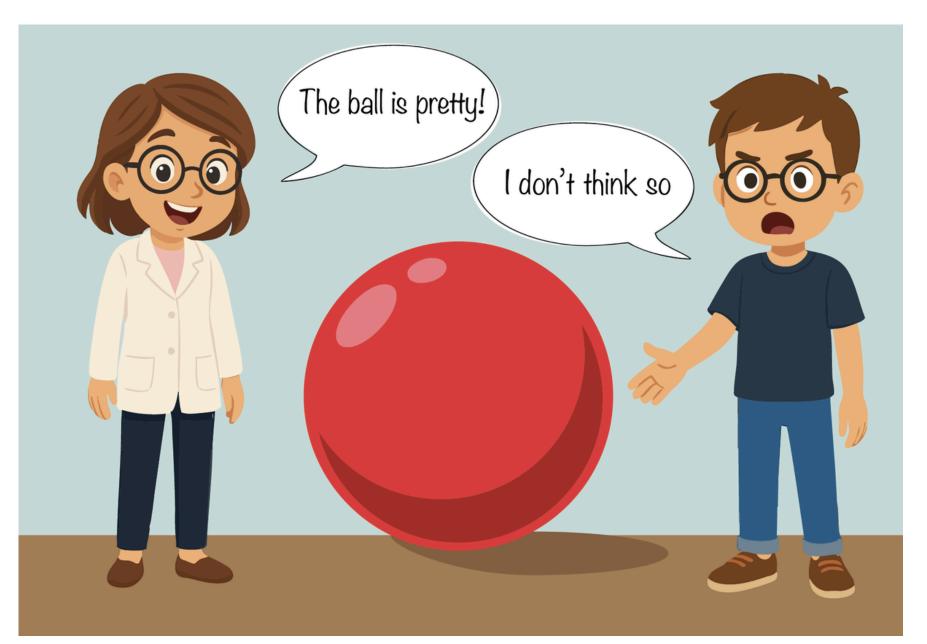
In science, objective observations are the most reliable and accurate.

When you are making observations, try to focus on the evidence rather than your whakaaro (opinions) or kare-ā-roto (feelings/emotions), which at times can be a little tricky.

Subjective Observations

These are based on personal opinions or feelings, our kare-ā-roto, which can be different for everyone.

For example: Saying "The ball is pretty" is a subjective observation, because someone else might not think the ball is pretty at all.



Activity

Test your objective and subjective observations skills.

Create two columns: Objective Observation.

Look around your environment, whether you're in the classroom or at home, and write down some examples of both types of observations.

Take a look at the example table for some ideas to get you started!

Questioning plays a big role in making good observations — let's find out how!

Objective Observation

There are 25 desks in the classroom.

The banana has a brown spot at the base of it, the size of a \$2 coin.

The soccer ball is black and white.

Subjective Observation

The classroom feels too crowded with so many desks.

Bananas are the worst fruit.

The soccer ball is too slippery to use today.

When scientists observe something, they naturally start asking pātai (questions) about what they notice.

These pātai (questions) **guide their investigations** and can lead to new discoveries.

Some of the **best scientific questions** are open-ended questions.

These are pātai that can't be answered with just 'yes/āe' or 'no/kāo', or a single word—instead they encourage deeper thinking and investigation.

Open-Ended Questions

What do you notice?

How does this work?

What patterns do you see?

What would happen if...?

How is this different from...?

Why do you think that?

What might happen next?

How can this be explained?

<u>Open-ended questions</u> - A question that has more than one possible answer and gets people talking or thinking.



Before you start observing, āta whakaaro,

think carefully about:

- What do I expect to see?
- What could change over time?
- How will I record my observations accurately?
- What open-ended questions can I ask to learn more?

Your pātai are powerful tools. Every great discovery started with a curious question.



Ka pai ākonga!

Here are a few things to take away from this akoranga:

- An observation is when we carefully look, listen, and use our other senses to find out more about the world around us. It helps us to understand things better.
- Scientists use their senses—sight, hearing, touch, smell, and sometimes taste (when it's safe)—to make observations and learn new things.
- Objective observations are facts that everyone can agree on. While subjective observations are based on what someone feels or thinks.
- Asking open-ended pātai (questions) help scientists think more deeply, ask better questions, and discover new things.



Glossary

Observation	The process of carefully noticing and gathering information using senses or tools, to understand the world.
Open-ended Question	Something that cannot be answered with a simple "yes", "no", or one word answer, and encourages a longer, more thoughtful response.
Senses	Five ways we experience and gather information from the world through sight, hearing, touch, smell, and taste.
Objective Observation	Describing something based on facts and what you can see or measure, without personal feelings or opinions.
Subjective Observation	Describing something based on personal feelings, opinions, or interpretations.

He mihi (Acknowledgements)

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