

'Observations' vs 'Inferences'

Scientists use methods based on observation and experimentation to explain the natural world and the roles organisms play in it

What do you see?

- There are 6 black and yellow insects flying around a yellow flower.

This is an **observation** — what you can see, hear, touch, taste, smell or measure. Scientists use words (qualitative) or numbers (quantitative) to describe what they observe.

What do you think?

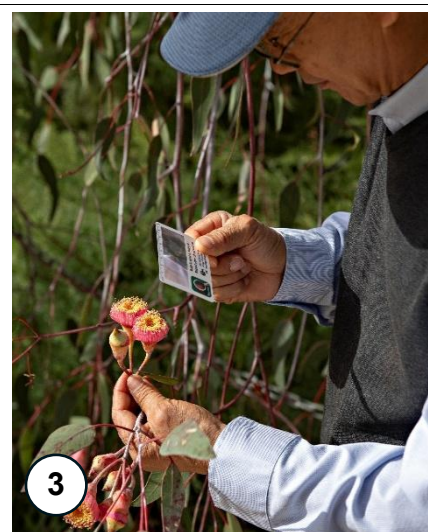
- There are 6 bees collecting pollen and nectar from a dandelion flower to take back to their hive.

This is an **inference** — a guess made based on what you've observed and already know. It's putting clues together to figure something out using logic, reasoning, and experience. For example, if you see the ground is wet, you might infer that it probably rained.

We observe the world and make guesses based on what we notice. To check if our guesses (or inferences) are right, we look at photos, read books and search online, using information to help us learn more.

Can you tell the difference?

Look at the images below and read the statements. Decide which is an observation or an inference. You'll find the answers at the bottom of the page.



- 1
- A. Ripe yellow lemons fell on the ground
B. The person picks lemons to dump them in the rubbish

- 2
- A. Goldfish in waterways are pests to native fish
B. The man caught a heavy orange goldfish in the lake

- 3
- A. This man is looking at eucalyptus plants
B. This man is a scientist checking for plant diseases

Activity

Your Observations and inferences help us identify pests. They also help us notice when pests aren't present, and that is just as important!

For example if you report a common Australian carpet beetle, we can safely assume the harmful [Khapra beetle](#) isn't present in that location. Why? Because both beetles are pests of stored food products, but you found the harmless species.



Australian carpet beetle (*Anthrenocerus australis*)



Khapra beetle
(*Trogoderma granarium*)

Every report helps scientists detect pests and diseases early and also confirms when harmful species are not present—which is just as important!

Why reporting matters

Your reports give scientists real evidence to show that Western Australia is free of damaging pests and diseases. This helps protect our ability to export fruit, grain, and other goods because other countries need proof that our products are pest-free before they'll buy them.

Make a report

To learn more about the organisms in your area, download the MyPestGuide® Reporter app and report what you see.

Upload photos, describe your observations, and share your best guess about what might be happening.



Report your observations

MyPestGuide® Reporter
via app or online
mypestguide.dpir.d.wa.gov.au



Photo credits: 'Bees on a flower'- Wong Sze Fei, AdobeStock; 'Can you tell the difference?' - DPIRD; 'Carpet Beetle' DPIRD; Khapra beetle' - Thomasz Klejdysz, AdobeStock.

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