



Nature Connection Activity #11:

Time:
60-120 minutes

Year Levels:
Years 4 – 8

Activity #11 Link:
*Download the activity that
corresponds to this guide -*
[Insect tracking and modelling](#)

Materials Needed:
Arts & crafts materials. Pens
and observation tables.
Magnifying glasses if
available

Curriculum Areas:
THE ARTS **SCIENCE**

Insect Tracking and Modelling

Haurapa ki ngā pepeke

Background:

This activity helps ākonga (students) to identify the behaviours of local insects and ask questions about how they fit into the ecosystem as a whole. This could incorporate predator/prey relationships, Linnean classification, life cycles and more.

Ākonga will also get to explore their creative side by modelling the insect they have observed. These models make an excellent introduction to adaptation features.

How to facilitate:

Start in the classroom:

1. Introduce the topic of bugs (ngāngara)

Ask what the class knows. What are bugs? What can we learn from bugs? How can we live with bugs?

This is a great resource to help with this discussion:

https://www.tepapa.govt.nz/sites/default/files/bug_lab_learning_resource_final.pdf

2. Optional media to include

These resources may help to explain the points you want to focus on. We suggest you review these in advance to choose the most age-appropriate for your students and to find the snippets that work best)

- This explains what an insect is: <https://www.youtube.com/watch?v=YjOFjzLgY0M>
- This explains why insects are important: https://www.youtube.com/watch?v=KgZ_YdKPMdM
- This video shows how young tamariki have developed a love of bugs: <https://www.youtube.com/watch?v=e43CHWoLJcE>

3. Share Māori perspectives of insects

In te ao Māori, 'te aitanga pepeke' refers to the insect world. Insects are connected through whakapapa (genealogy) to Tāne Mahuta and the world of the forest.

A pūrākau helps give the ākonga meaning to the activity they are about to perform. A good story could be on the origin of insects and the battle between Tāne and Whiro:

<https://teara.govt.nz/en/te-aitanga-pepeke-the-insect-world/>

An animated video of this story could be shown:

<https://www.youtube.com/watch?v=lezlVq--Gn0>

Question students about the meaning of this pūrākau.





Take students outside for the activity

4. Start with a karakia

Open the activity with a karakia. An appropriate karakia that acknowledges Tāne mahuta, God of the Forest in which insects live, is written below. ([See video to assist pronunciation](#)). Otherwise, you could use a school karakia if you have one.

E tū, e tū e Tāne e
Te pae o waho, mahuta e
E tū, e tū e Tāne e
Te pae o roto, toko rangi e
E tū, e tū e Tāne e
Ngāngā te ora, hei ora eee
Tihei mauri ora

*Stand oh Tāne,
as the outer transitions to forest
Stand oh Tāne,
as the inner holds up the atmosphere
Stand oh Tāne,
as you breathe and sustain life*

Reference: Tūpuna Wisdom: Karakia Part 1, Che Wilson

5. Start tracking

Find an appropriate place at school to track the insects. Suggest that the ākonga remain silent and as still as possible during the tracking time. Depending on the class, 10 minutes should be adequate, but longer is better if the class can maintain their focus. This could be done multiple times with different insects.

6. Note down observations

Have the students fill in the table with their observations (on student worksheet). This will help their memories for the modelling and provoke further questions. Encourage them to think about the questions on the worksheet as they make their observations.

7. Get creative

Build models of the tracked insects. How this session will be run will depend on time and craft resources available and is very flexible.

8. Question time

Ask ākonga about the features of their ngāngara (insects). This can lead into one of the topics suggested in the extension activities below, depending on their learning needs and interests.

Links to curriculum:

Level 1-4 Science | Level 1-4 The Arts





Extension activities:

For additional learning, any of the worksheet questions could be extended into a research project. Some examples could be:

- ID the insects and teach the Linnean classification system
- Look at insect lifecycles – larvae and nymph stages, metamorphosis etc
- Create a food web looking at what interactions the insects have – what do they eat, and what eats them?
- Build insect habitats to encourage insect life in the school
- Look at getting beehives for the school

The observation part of this activity is easily repeatable – this could be used regularly to get pictures of the ecosystem and behaviors at various times of the day, the year, weather conditions etc.

Related resources:

Resource Area	Integration with Activity	Link
Science learning hub – insect resources	A large range of activities, webinars and resources based on NZ insects	https://www.sciencelearn.org.nz/resources/2252-living-world-insects
Science learning hub – bush resources	NZ bush ecosystem activity	https://www.sciencelearn.org.nz/resources/1173-new-zealand-bush-ecosystems
DOC forest ecosystem activity	Whole class roleplay of ecosystem interdependence – includes several insects	https://www.doc.govt.nz/get-involved/conservation-education/resources/forest-ecosystems/
DOC invertebrate resources	Exploring invertebrates in your green space – a large resource with a number of additional activities	https://www.doc.govt.nz/get-involved/conservation-education/resources/experiencing-invertebrates-in-your-green-space/
Backyard bees	Hire a beehive for the school, observe the lives of the bees, receive honey from the hives	http://www.backyardbees.nz/
Bug hotel construction	Build bug hotels to encourage insect life in your school and allow easy observation	https://www.craftionary.net/diy-bug-hotels-material-instructions-to-attract-bugs/





Ngā kupu

Ngārara - insect

Rō – stick insect

Whē – caterpillar / grub

Pepeke – beetle

Ngaro – fly

Airenga – cricket

Kapowai – dragonfly

Namu - sandfly

Te aitanga pepeke – the insect world

Papatūānuku – the earth mother

Tohu – environmental signs

