

Lesson Plan for Pacific Invasive Ant Toolkit Lesson 2 – The 5 worst invasive ants in the pacific. (1hr 30mins)

Prior Skills and Knowledge:

- Identify an ant as a living thing.
- Understand that not all ants are invasive.
- List the positive and negative impacts of ants on our environment.

Instructional Objectives:

At the end of the lesson, students will able to:

- Understand the top five invasive ant pests, the problems they cause people, agriculture and the natural environment, where they come from and how they arrive in the country.
- Look out for ants that may have crossed the border.
- Use the skills of self-management, responsible decision-making and problem-solving and exhibit the values of care, respect and social-awareness.

Resource Preparation Guide		
Item no.	Description	Remarks
1.	Computer, Projector, Powepoint slides.	For showing of powerpoint slides / Slides to be printed out – 1 copy per 3 students if computer/projector not available
2.	Board or Paper and markers	To use for recording student – teacher interactions during brain storming.
3.	Annex 1 - Icons	To print the icons for students to share. 1 per group.
4.	Annex 2 – Mind Map Template	For teacher’s use only, can be printed to use as an example or template. Free from https://www.template.net/design-templates/print/mind-map-template/
5.	Annex 3a - Ant Life-Cycle Exercise Annex 3b - Ant Life-Cycle Exercise solution	Annex 3b for teacher’s use only

Est Time	Learning and Development	Resources
5 mins	<p><u>Tuning in</u></p> <p>Slide 1 - 2: Teacher to introduce the lesson and the lesson outcomes for the day.</p>	Computer, Project, Slides

	<p>Slide 3: Teacher to ask the question(s):</p> <ol style="list-style-type: none"> 1) Are all ants invasive? Why do you say so? 2) Can you recall what are some of the positive impacts and negative impacts of ants? <p>Teacher to recap with the class the last lesson.</p> <ul style="list-style-type: none"> - An Ant is a living thing, it is an insect it needs air, food and water. It has 3 body parts and 6 legs, in the same family as wasps and bees and the queen can lay thousands of eggs a day. - Not all ants are invasive. Some of them are useful to humans because they have in decomposition, - But others are harmful to us because they harm our agriculture, wild life and environment. 	
10 mins	<p><u>Introduction</u></p> <p>Slide 4: Teacher to ask the question(s):</p> <ol style="list-style-type: none"> 1) Do you think there is anything different or unusual about the five ant species pictured? 2) Are you able to tell just by looking if they are good or bad for our environment? <p>Teacher introduces the top five worst invasive ants in the Pacific. Looking at these pictures it is difficult to see what makes them any different or any worse from other ants.</p> <hr/> <p>Slide 5: Teacher introduces the 6 red icons – Bites, Sprays acid, Stings, Harms crops, Harms people and Harms wildlife.</p> <p>Teacher to ask the question(s):</p> <ol style="list-style-type: none"> 1) What can you tell me about these icons or words? Do they look scary? 2) How do you feel when you hear these words? <p><i>Note: Teacher may make use of the Board or paper and markers to record the responses of the students.</i></p>	Computer, Project, Slides, Annex 1, Board/Paper and markers
30 mins	<p><u>Development 1</u></p> <p>Slide 6: Teacher uses icons to illustrate the problems each ant species causes.</p>	Computer, Project, Slides, Annex 1, Annex 2, Board/Paper and markers

	<p>Slide 7: Teacher to share a short 2 minute video on Youtube on Little Fire Ants by SPREP. If internet is not available or slow please play the video file - <i>Invasive Species Full 1080p 03-1</i></p> <p>Slide 8: Using the icon sheets (Annex 1), divide the class into small groups and facilitate their discussion on the effects each of the five ants has on people, agriculture and the environment. Groups to record discussion in a mind map (Example in Annex 2)</p> <p>With the last 5 mins, get the class to show their work and perform a gallery walk sharing:</p> <p>Begin At their first station, groups will read what is posted and students are welcomed to add on their comments and points.</p> <p>Rotate After 1 minute, have the groups rotate to the next station. Students read and discuss the previous group's response and add content of their own. Repeat until all groups have visited each station.</p> <p>Note: As the teacher, it is important to monitor the stations while the students participate. You may also need to clarify or provide hints if students don't understand or misinterpret what is posted at their station.</p> <p>Source: http://www.theteachertoolkit.com/index.php/tool/gallery-walk</p>	
40 mins	<p><u>Development 2</u></p> <p>Slide 9: Teacher introduces the life-cycle and structure of ants.</p> <ul style="list-style-type: none"> - Ants are “social insects”. This means that they divide egg production and other tasks such as foraging for food, tending young and defence between different castes. - It is important to note that only queens lay eggs, and while they can fly for short distances they are not capable of making the flight between Pacific Island nations. 	Computer, Project, Slides, Board/Paper and markers

	<p>Slide 10: Teacher to go through some simple instructions and safety rules.</p> <ol style="list-style-type: none"> 1) Always take care of one another. 2) Take care not to damage any other parts of nature. 3) If in doubt, always ask the teacher. 4) Be back to the classroom on time. <p>Slide 11: Teacher to ask the students to look for some ants and perform the following tasks:</p> <ul style="list-style-type: none"> - Follow them back to their nest. - Dig up the nest and look for the different life stages (make sure the ants don't sting or bite first though)! - Count the number of different life stages and different types of adults (queens, workers, males). <p>Teacher to facilitate discussion once back in the classroom talk about why there were so many more workers than other life stages and types of adults.</p> <p><i>Note: Teacher may make use of the Board or paper and markers to record the responses of the students.</i></p>	
5 min	<p><u>Conclusion</u></p> <p>Slide 12: Teacher to recap the lesson key points:</p> <ul style="list-style-type: none"> • There are 5 worst invasive ants in the pacific. • Collectively, they bite, spray acid, sting, harm crops, harm people and harm wildlife. • The ant goes through a 4 stage life-cycle similar to a butterfly. • Ants are social creatures and they live in colonies where they have specific roles <p><u>Extension:</u></p> <p>Slide 13: Teacher to ask the students to go back home and share at least 2 ways the invasive ants are harmful. They can use the red icons to guide them. Students will also receive an Ant Life-Cycle Exercise to complete at home.</p>	Computer, Project, Slides, Annex 1 and 3a

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Adapted from:

http://piat.org.nz/uploads/PIAT_content/pdfs/learning_teaching/Invasive%20Ants%20Lesson%20plan%20new%202.pdf