

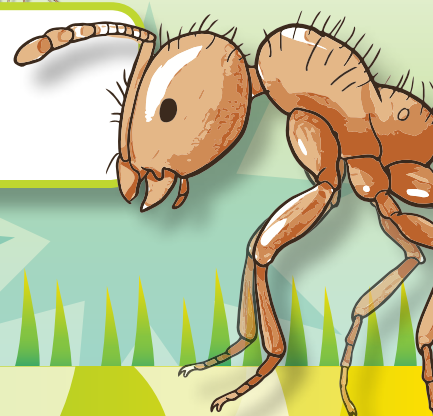
2016 Science and Technology Competition Guide



NSW Department of Primary Industries Schools Program

<http://www.tocal.nsw.edu.au/home/investigate>

Email: schools.program@dpi.nsw.gov.au



INVESTIGATE: fire ants

Acknowledgements

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- Biosecurity: Ainsley Seago (Technical Manager Insect Collection)

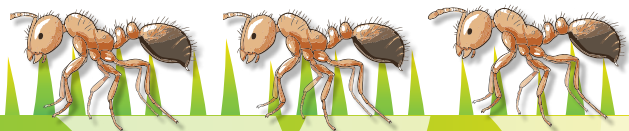
Disclaimer

The information in this document is based on knowledge and understanding at the time of writing (September 2015).

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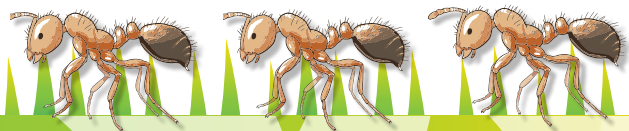
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INVESTIGATE: fire ants

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INVESTIGATE: Fire ants

Background and aims

The Investigate: fire ants science and technology competition is an initiative of the NSW Department of Primary Industries. The competition is open to all NSW Stage 3 students and teachers.

The aim of the competition is to stimulate an interest in science, technology and agriculture in young people and to promote the teaching of these subject areas in schools. Students will design and complete an investigation and create a communication product that aligns with outcomes from the NSW Science and Technology, English and Geography syllabuses. (See Investigate: fire ants teachers handbook and learning sequence for syllabus outcomes).

This year the focus is on an emerging biosecurity threat, the red imported fire ant, which was detected at Port Botany in November 2014. Fire ants can negatively affect our recreational spaces, agricultural production and out-compete native species.

Investigate provides authentic learning experiences to support students' development of science, technology and communication skills. Real-world content guides the application of these skills in a meaningful learning context. By participating in the Investigate competition students will understand the role that science plays in their everyday lives.

Investigate: fire ants competition entry

Investigate: fire ants involves designing and completing an investigation to check your school for fire ants. This guide will support you in preparing and submitting your competition entry.

You will learn about and research biosecurity measures and the red imported fire ant in order to design and test a lure to attract ants and fire ants. Analysing your results will enable you to determine whether fire ants are present in your school. Reporting on your results will involve creating a communication product to inform and educate others in your school about fire ants, your investigation method and results.

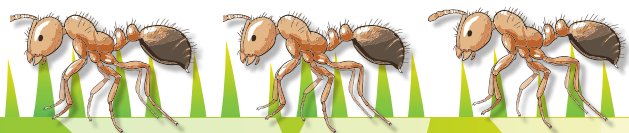
Submit your communication product as the competition entry for judging according to the criteria provided by Monday May 9, 2016.

Registration details

To register please complete the webform located on the Investigate: fire ants website <http://www.tocal.nsw.edu.au/home/investigate>

Conditions of entry

- Entries must be mailed or delivered to the contest venue by the close of business on Monday May 9, 2016. Late entries will not be judged.



INVESTIGATE: Fire ants

Entry classifications

Students may enter under one of the following entry classifications:

1. Whole class

Each student within the class contributes towards the investigation tasks and project entry.

One entry is submitted on behalf of the class.

2. Small groups

Classes are broken into small groups. Each group completes an investigation and submits a project entry.

Submissions are limited to a maximum of 3 submissions per class.

3. Individuals

Most suited to home schooled students or distance education students.

One entry is submitted per student.

Awards and prizes

- All entries will be recognised with a certificate.
- Projects may be awarded a prize of 1st, 2nd, 3rd or Highly Commended.
- Projects awarded 1st, 2nd, 3rd or Highly Commended receive a cash prize presented to their school and a certificate in recognition of students efforts.
- All prizes are awarded at the judges' discretion.

Safety and ethical considerations

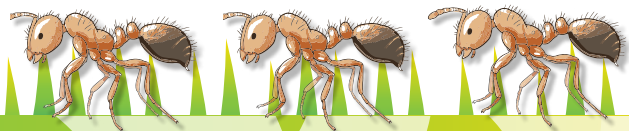
Safety policies are of particular relevance to the activities in this unit. Students and their supervising teachers or parents should ensure that their science investigations are conducted in a responsible and safe manner. It is essential that student activities are conducted according to procedures developed through appropriate risk assessments at the school.

Teachers should implement the following safety guidelines:

- Supervising adults are responsible for any handling of ants.
- Ants are treated humanely, without undue stress or anxiety.
- Correct cleaning and hygiene practices are followed prior to and following handling of foods, ants and field work.
- Foods used as bait lures are handled according to food safety standards as described on the NSW Food Authority website.
- It is not expected that any fire ants will be detected in the science investigation; however, other stinging/biting insects may be encountered in the course of the investigation and this possibility should be allowed for.

What should I do if I get stung?

Apply ice to relieve the swelling and pain. Gently wash the area with soap and water and leave any blisters intact. People who experience an allergic reaction after an ant sting should seek medical attention immediately.



INVESTIGATE: Fire ants

Preparing your entry

Presentation

Your communication product may be presented using any of the formats below, or a combination of these:

- Hard copy (word processed or neatly hand written documents, stapled, bound or presented in a display folder)
- Posters (printed or handwritten texts on cardboard or digitally designed posters)
- Electronic files (compatible with Microsoft software and saved to a USB drive, CD or portable drive)
- Digital formats (please make sure any usernames and/or passwords required to access your work are supplied)
- Video/DVD/CD (please ensure sound quality is clear)

Submitting your entry

Entry checklist

☐ **Registration**

Register online at <http://www.tocal.nsw.edu.au/home/investigate> by Saturday February 13, 2016. For late registrations please contact us.

☐ **Investigate: fire ants entry surveys**

Complete the teacher and student entry surveys available at <http://www.tocal.nsw.edu.au/home/investigate> prior to beginning the competition learning sequence.

☐ **Deed of release form for photographic and moving images**

For competition entries containing photos or media of students or adults a deed of release form for each student or adult must accompany your entry.

☐ **Communication product**

Digital presentations must be compatible with Windows programs. Access details (e.g. Login details and passwords) where required must be provided for judges to access your competition entry.

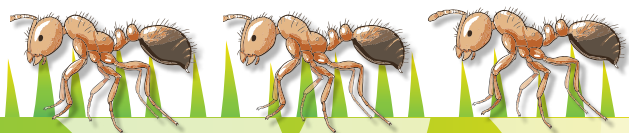
☐ **Each submission must be labelled with class or group name and school name.**

☐ **Investigate: fire ants entry submission form**

Completed submission form with students details filled in clearly and precisely (these details will be used for certificate and/or award presentations). This form must be submitted with your competition entry.

☐ **Investigate: fire ants exit survey**

Complete the teacher and student exit surveys available at <http://www.tocal.nsw.edu.au/home/investigate> on completion of the competition learning sequence.



INVESTIGATE: fire ants

Delivery options

Post or deliver Investigate: fire ants entries to:

Schools Program – Investigate Entries
C/O Jess Fedorow
NSW Department of Primary Industries
Locked Bag 21
Orange NSW 2800

Electronic presentations should be saved to a portable drive or disk (CD/DVD) for postage with the required documents.

Contact

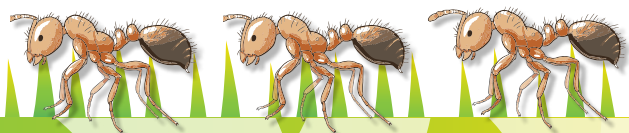
Jess Fedorow

NSW Department of Primary Industries

Email: schools.program@dpi.nsw.gov.au

Phone: (02) 6391 3201

NO RESPONSIBILITY WILL BE ACCEPTED FOR DAMAGED OR LOST ENTRIES



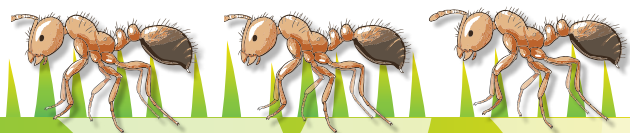
INVESTIGATE: Fire ants

Judging criteria

Performance level	Performance level	Performance level	Performance level	Marks
Fire ants and biosecurity				
3	2	1	0	/9
Accurate presentation of what fire ants look like and 3 identifiable features evident	Good presentation of what fire ants look like and 2 identifiable features evident	Some presentation of what fire ants look like and 1 identifiable feature evident	Very little to no presentation of what fire ants look like and no identifiable features evident	/3
The potential impacts of fire ants on 3 aspects of everyday life ¹ are identified	The potential impacts of fire ants on 2 aspects of everyday life ¹ are identified	The potential impacts of fire ants on 1 aspect of everyday life ¹ are identified	No potential impacts of fire ants on aspects of everyday life ¹ have been identified	/3
Includes 3 recommendations to reduce the spread of fire ants by humans	Includes 2 recommendations to reduce the spread of fire ants by humans	Includes 1 recommendation to reduce the spread of fire ants by humans	No recommendations to reduce the spread of fire ants by humans have been included	/3
Survey completion				
6	4	2	0	/6
100% of the class or group completed both the entry and exit surveys and teacher surveys completed	50% or more of the class or group completed both the entry and exit surveys and teacher surveys completed	A minority of the class or group completed both the entry and exit surveys and teacher surveys completed	No entry or exit surveys were completed by the class or group and the two teacher surveys were not completed	
Communication product				/15
Creativity: The overall originality of the communication product; use of original ideas, illustrations and style.				/5
Suitability: Suited to capturing the attention of your school and local community; appropriate format for informing and educating others, use of persuasive language and clarity of the message.				/5
Quality: The overall quality of the communication product; students have made the best use of the chosen method of communication and the quality of the format, design, and presentation are excellent				/5
Total marks and comments				/30

¹Aspects of everyday life:

- ecosystems
- production systems
- human society



INVESTIGATE: fire ants

Investigate: fire ants entry submission form

Complete and include this form in your entry submission. This form is available to download and complete on screen from our [website](#). The details from this form will be used for certificates and awards so accuracy is important.

School details

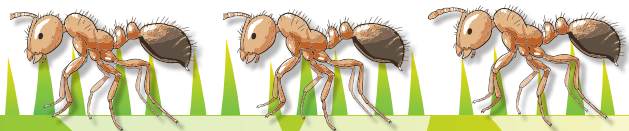
School			
School address			
Suburb		Postcode	
Postal address			

Staff member details

Name			
Salutation	<input type="checkbox"/> Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms <input type="checkbox"/> Miss <input type="checkbox"/> Dr <input type="checkbox"/> Other:		
Email			
Telephone			

Class / Group details

Class / Group name			
Year level of participants		Number of participants	
Participant names Write each participants name on a separate line			
First name	Last name	First name	Last name
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	
11.		12.	
13.		14.	
15.		16.	



INVESTIGATE: Fire ants

First name	Last name	First name	Last name
17.		18.	
19.		20.	
21.		22.	
23.		24.	
25.		26.	
27.		28.	
29.		30.	
31.		32.	

Entry and attachments

Method of entry submission	<input type="checkbox"/> Email <input type="checkbox"/> Post
Outline the number of attachments with your submission and a brief description of each attachment	
<input type="checkbox"/> Item 1	
<input type="checkbox"/> Item 2	
<input type="checkbox"/> Item 3	

Entry checklist

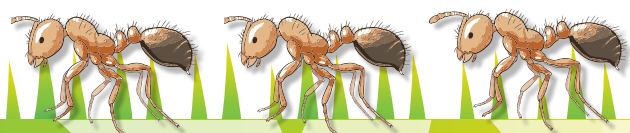
Mark off each component of the entry checklist to ensure your submission meets the necessary criteria.

- ☐ Online registrations
- ☐ Investigate: fire ants entry surveys
- ☐ Deed of release forms for photographic and moving images completed for each supervisor and participant (if applicable to your entry)
- ☐ Communication product
- ☐ Each item is clearly labelled with school and class/group name
- ☐ Investigate: fire ants exit survey

Submitting your entry

Mail to: Schools Program – Investigate Entries
C/O Jess Fedorow
NSW Department of Primary Industries
Locked Bag 21
Orange NSW 2800

Email to schools.program@dpi.nsw.gov.au



Deed of Release Form for Photograph and Moving Images

Department	The Crown in right of the State of New South Wales acting through the NSW Department of Industry
Agency/Division	Department of Primary Industries
Department Contact Person	Jess Fedorow
Telephone	(02) 6391 3201
Email	schools.program@dpi.nsw.gov.au
Name of Production	Investigate: fire ants
Date of Participation	January 27, 2016 – June 3, 2016

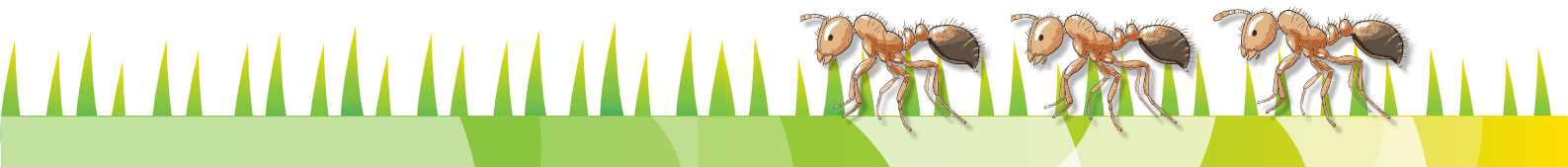
Participant _____

Participant's Address _____

I, the Participant, or if I am under 18 my parent or guardian:

- (a) grant(s) to the Department the right to make photographs or visual Images of me in relation to the Production ("the Images");
- (b) provide(s) consent to the Department to use my name, image, likeness and voice in connection with the distribution and promotion of the Images without any obligation to identify the Images;
- (c) agree(s) that all copyright in the Images will vest immediately in the Department;
- (d) agree(s) that the Images may be edited and used, in whole or in part, at the sole discretion of the Department, in all forms of media in perpetuity throughout the world;
- (e) grant(s) the Department a licence to use, and authorise others to use, all or parts of the Images including any material which I have supplied to the Department for the purposes supporting the Images or their promotion;
- (f) grant(s) the right to the Department to transfer the Images to other government agencies, media and other relevant organisations without further consent provided that the Images are only used in accordance with this Release;
- (g) waive(s) any right to inspect or approve the finished use of the Images;
- (h) hereby release(s) the Department from and against any claims by the Participant that may arise regarding the use of the Images including any claims of defamation, invasion of privacy, infringement of moral rights or rights of publicity;
- (i) understand(s) that there is no compensation for participation in the Production.

My details (name and address) or those details of the youth on whose behalf I am signing, and this Release are being provided by me voluntarily. I warrant that I have read and understood this form.



INVESTIGATE: Fire ants

I understand that:

- (i) the Department is collecting these details for the purposes of the Production;
- (ii) I do not have to provide name and address details but failure to do so may mean that I, or the youth on whose behalf I am signing, will not be identified in the Production;
- (iii) the details and Images will be held at the Department's offices at the address set out above; and
- (iv) I can contact the Contact Person listed above to access or correct the details at any time.

I am over the age of 18 and have the right to enter into this deed of release.

Signed as a deed poll by the Participant who is 18 or over or the parent/guardian of the Participant:

Signature _____

Name _____

Date _____

Before:

Signature of Witness _____

Name of Witness [must be over 18 years] _____

Address of Witness _____

