

WOLBACHIA WARRIORS PROGRAM



Hermit Park State School is working with Eliminate Dengue Townsville on a world-first school program. The Wolbachia Warriors program offers students of all ages an opportunity to take part in a real-life applied science project, contributing to international research as part of Eliminate Dengue's broader Townsville field trial.

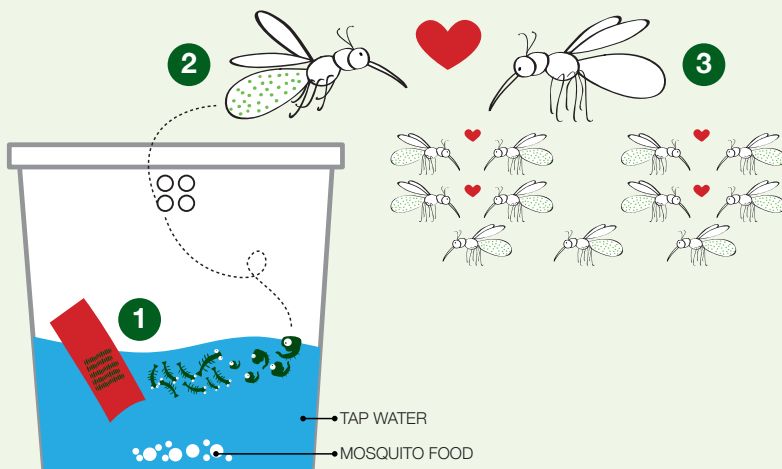
The Wolbachia Warriors program is a voluntary, extra-curricular program that will take place over nine weeks during Term 3. By carrying out research at home, students will learn about science in a fun, hands-on way that complements their in-class learning.

This is an exciting opportunity for students to be part of a world-first program. The Wolbachia Warriors program at Hermit Park State School is leading the way for similar programs around the world.

What will Wolbachia Warriors do?

Participating students will rear and release mosquitoes with *Wolbachia* - naturally occurring bacteria that, when present in the *Aedes aegypti* mosquito, reduce its ability to transmit dengue between people. It is hoped that the Wolbachia Warriors program will contribute to the establishment of *Wolbachia* in the local mosquito population, which we expect will reduce local dengue transmission.

How a mosquito release container works



- 1 *Wolbachia* mosquito eggs hatch and develop into adult mosquitoes.
- 2 Adult *Wolbachia* mosquitoes fly out into the environment.
- 3 *Wolbachia* mosquitoes breed with other mosquitoes and pass on *Wolbachia* to future generations.

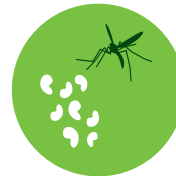
Participating students will receive the following tools to carry out the experiment:



A mosquito release container



Wolbachia mosquito eggs



Mosquito food



A project activity booklet



A magnifying glass



A Wolbachia Warrior water bottle

More information

The Wolbachia Warriors program is part of Eliminate Dengue's broader Townsville field trial, which involves releases of *Wolbachia* mosquitoes across a number of suburbs. For information about Eliminate Dengue and the Townsville field trial, please visit eliminatedengue.com/townsville

JOIN THE CONVERSATION



Eliminate Dengue Townsville

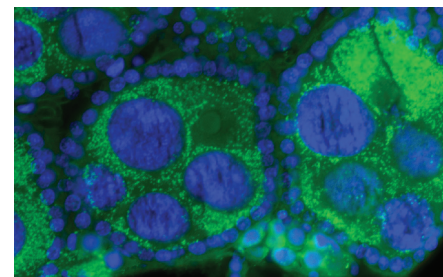


@eliminatedengue

Our research

The Eliminate Dengue research program is developing a natural and safe method to reduce the spread of dengue.

Eliminate Dengue is using naturally occurring bacteria called *Wolbachia* that reduce the ability of mosquitoes to pass dengue between people. It has been shown the approach reduces dengue transmission when the bacteria are introduced into mosquitoes in the laboratory. Eliminate Dengue is now conducting trials with dengue-affected communities in Australia, Vietnam, Indonesia, Brazil and Colombia.



What is Dengue? [deng-gee]

Dengue is a human virus transmitted primarily by the *Aedes aegypti* mosquito. The mosquito does not naturally have dengue - it has to pick it up from a person who has the virus. Dengue is passed between people when a mosquito bites a person who is infected with dengue and then bites another person, passing the virus on.

Dengue fever usually lasts about two to seven days followed by a long recovery period. Typical symptoms include: fever, headache, muscle and joint pain, vomiting, diarrhoea and extreme fatigue. Currently there is no effective vaccine or specific medication for treatment of dengue.

Dengue is ranked by the World Health Organization as the most important mosquito-borne viral disease in the world, with an estimated 390 million dengue infections each year and up to 25,000 deaths. Dengue is an exotic disease in Australia, and seasonal outbreaks generally occur in northern Queensland when travellers with dengue bring the virus into the area. When local mosquitoes bite these people, dengue can then be passed on to others.

What is *Aedes aegypti*? [ayee-deez, ae-jeep-ty]

The *Aedes aegypti* mosquito (pictured top left) is responsible for transmitting dengue viruses between people. *Aedes aegypti* originated in Africa but can now be found globally in tropical and subtropical regions. They live around homes and gardens, usually breeding in man-made containers that hold water. The female *Aedes aegypti* bites people to acquire blood, to help produce her eggs. They can live up to a month and usually travel just 50-200 metres in their lifetime.

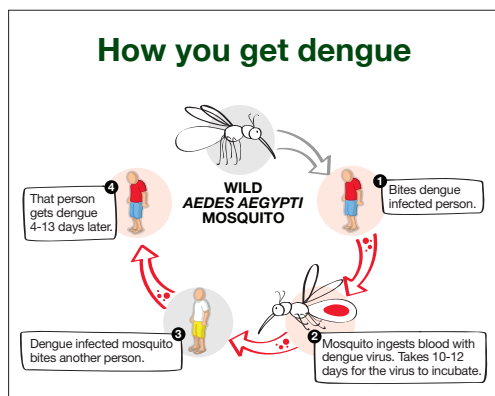
What is *Wolbachia*? [wol-bak-ee-uh]

Wolbachia (pictured top right in green) is a type of natural bacteria present in up to 60% of all the different species of insects in the world including butterflies, dragonflies and moths. *Wolbachia* is only found in the cells of insects and is passed from one generation to the next through the insect's eggs. *Wolbachia* cannot be passed to from mosquitoes to other insects, people, mammals, reptiles or birds.

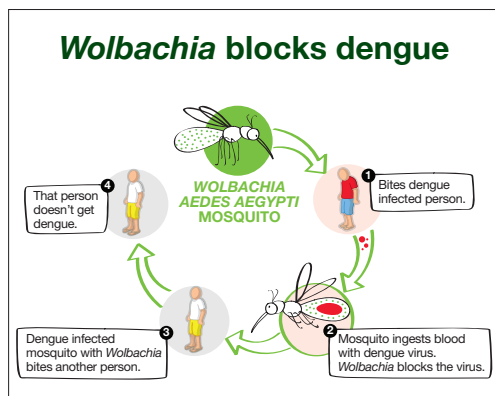
How can *Wolbachia* reduce dengue?

Wolbachia reduces the ability of insects to become infected with viruses, including the dengue virus. If mosquitoes cannot become infected with dengue, they cannot transmit the virus between people. Eliminate Dengue release *Aedes aegypti* mosquitoes that carry *Wolbachia* into the environment where they breed with the wild mosquitoes. Over a few generations it is hoped all the *Aedes aegypti* mosquitoes carry the bacteria and are unable to transmit dengue.

How you get dengue



Wolbachia blocks dengue



ELIMINATE
DENGUE
OUR CHALLENGE

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