



We've invented a device to keep mosquitoes How to Shake

by the
Northeast
High School
InvenTeam



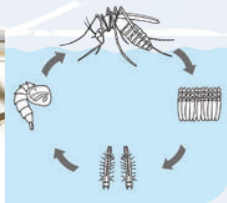
We like to invent and have fun. Often at the same time!

The Mosquito Problem

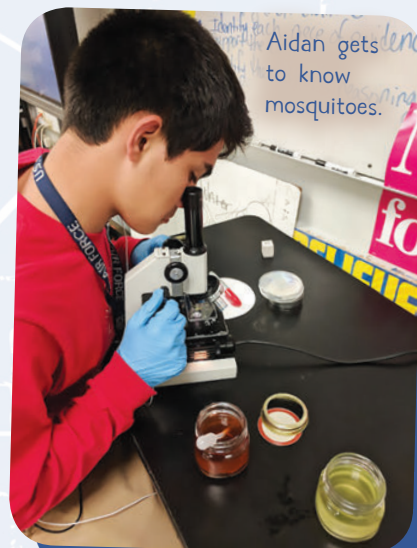
Most inventions start with someone trying to solve a problem or make something better. We'd seen a lot of stories in the news about Zika and other sicknesses carried by mosquitoes. Could we invent something to stop the mosquitoes that carry diseases?



Mosquitoes lay their eggs in water. The larvae breathe by clinging to the surface.



Research is my
favorite part.



Scientist



By looking and running experiments, I've learned that mosquitoes don't lay eggs in ripply water.

Inventor



I'm inventing a device to make water ripple to stop mosquitoes.

Scientists and Inventors

Scientists do basic research. They discover how things work and ask questions about the world.

Inventors and engineers use what scientists discover to build devices that solve problems.

We Become Mosquito Experts

If we wanted to stop mosquitoes, we had to learn more about them. We discovered:

- Mosquitoes are hard to get rid of!
- There are many species of mosquito.
- Mosquitoes lay their eggs in standing water.
- The water has to be still for the eggs to develop. No waves or currents.

That gave us an idea. Maybe if we could shake the water, that might stop mosquitoes from growing.

out of water. Want to see how we did it?

Up a Mosquito



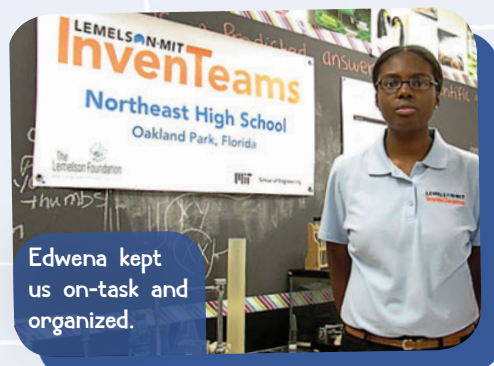
Idea Time

We made a list of what we wanted our device to do.

- It had to ripple the water.
- It should be simple, easy to use, and not cost much.
- It should run by itself for a long time without battery changes.
- It shouldn't pollute or disturb animals.



Anyone have a good idea?
Write it on the table!



Edwena kept
us on-task and
organized.

Has Anyone Already Done This?

We looked around to see what other ideas people had tried. Bubblers or fountains can ripple water, but they also stir up mud. There are small water wigglers that stand in birdbaths. We wanted to make something that could float and run by itself for a long time.



Motor Team

If we could make a floating box shake, that would ripple the water. But how to shake a box? Shifting weights, magnets, springs? We tried the little motors that vibrate cellphones, but they were too small to make ripples in a pond.

The classroom where we met had a big box of toy motors from old projects. One day someone taped a metal ball to a motor shaft. When the motor turned on and the shaft spun around, the weight made it wobble. Aha!

Got motors?



Motors spin around and around. Add a marble and they go wobble, wobble.



Test and Tweak

We tested a lot of different motors with weights stuck on in different ways. We finally chose a geared motor that could change speeds. It shook the most for the least amount of power.