

leading lights

Experimentally experimental

From edible water bottles to food-powered boats, the ideas at the BASF Kids' Lab Experiment Challenge 2018 will make you love chemistry after all, writes **Kelly Ho**

There aren't many places where you'll find actual bubbles of bubble tea, a food-powered boat, and an edible water bottle all in one place, but the BASF Kids' Lab Experiment Challenge 2018 is one of them.

More than 100 students from 22 secondary schools in Hong Kong entered the contest last November, submitting their ideas for a fun and original classroom experiment.

The entrants were given three themes to choose from when designing their experiment: urban living, smart energy, and food.

The winning idea came from Helia Wong Hei-yat and Phoebe Yeung Lok-yi, who were inspired by a drink that has a special place in the hearts of Hongkongers - bubble milk tea.

They used it to illustrate the process of spherification - turning liquids into squishy

spheres - using sodium alginate and calcium lactate.

Their experiment will now be included in BASF Kids' Lab educational chemistry programme throughout the Asia-Pacific region.

Speaking to *Young Post*, the students, who are from Christian Alliance SC Chan Memorial College, explained that spherification is commonly used in molecular gastronomy, a type of cooking style which combines food and science create unusual dishes. They hope that their experiment will spark children's interest in both areas.

"You can use different liquids in our experiment," said Phoebe. "We know that some kids are picky eaters, but if they're able to be creative with their food, they may be more willing to try different things." The Form Five student added the chemicals used in the

experiment, such as the sodium alginate which is found in brown algae, are naturally-occurring and can be safely ingested.

Third place runners-up Huey Lee Hiu-ye and Elizabeth Law Suet-yi, from St Paul's Convent School, also focused on the process of spherification for their experiment. The environmentally conscious duo said their experiment was inspired by the London-based creators of the Ooho, an edible bubble which can be used to hold water instead of a plastic bottle.

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"We wanted to create a more environmentally friendly, disposable, and biodegradable water bottle to replace the existing plastic bottles," said Huey.

The Form Four students admitted they still needed to figure out how to preserve the water spheres, because they currently only last for a day before they harden and become inedible.

"Hopefully, we'll eventually be able to promote them for use by the general public," Elizabeth said.

Coming in at second place at the event was the HKUGA College team with their "food powered boat" experiment, a twist on the traditional "volcano" experiment using baking soda and vinegar. The Secondary Four students put the chemical ingredients into a water bottle, resulting in a reaction which produces carbon dioxide and propels the bottle through the water.

Team members Austin Tan Ching-hsi and Kenneth Hilton both discovered their love for science at a young age. Kenneth, who took part in the Kids' Lab programme when he was younger, said it felt good to give back by coming up with an experiment for a new generation of children to enjoy.

His partner Austin added their experiment can be done easily at home, and all the materials can be bought at any supermarket. It did, however, take some time to find the right water bottle for the test. The pair eventually settled on a Watsons bottle, which is both large enough to fit a lot of "fuel", and is streamlined enough to go through the water.

"The little dent in the bottle also prevents the baking soda from sliding into the vinegar at the bottom before we put the bottle in the water," Austin explained.

The 15-year-olds have dreams of becoming software engineers so that they can pursue their interest in science. They also want to pass on their curiosity and thirst for knowledge to others.

"Ever since I was a kid, I've been desperate to find reasons to explain everything around me," said Austin. "I want to live in a world where there is no such thing as the unknown."

Edited by Charlotte Ames-Etridge



Above: Runners-up Huey Lee and Elizabeth Law created edible water bubbles. Right: Austin Tan (left) and Kenneth Hilton earned second place for their a food-powered boat. Photos: Kelly Ho



Helia Wong (left) and Phoebe Yeung won last year's BASF Kids' Lab Experiment Challenge with their bubble tea experiment