Drones are coming to 4-H

By Shanna Abatti, 4-H Program Representative | Posted: Thursday, May 12, 2016 12:10 am

National 4-H Council and 4-H National Headquarters have announced the 2016 4-H National Youth Science Day Challenge: Drones. Developed by Cornell University Cooperative Extension, this exciting engineering design challenge will explore how remote sensing can be used to solve real-world problems while learning concepts like flight dynamics, forces of flight, basic computer coding, as well as following federal regulations while operating drones.

The 4-H National Youth Science Day is the premier national rallying event for year-round 4-H Science programming, bringing together youths, volunteers and educators from the nation's 109 land-grant colleges and universities and the Cooperative Extension System to simultaneously complete the National Science Experiment.

4-H National Youth Science Day seeks to spark an early youth interest and leadership in science. Currently, more than 5 million young people across the nation participate in 4-H STEM programming in topics as varied as robotics, agricultural science, rocketry, wind power, environmental science and alternative energy.

Each year, a new national science experiment is announced by National 4-H Council. Experiments from previous years have included topics such as water quality and climate change, alternative energy sources, robotics and water conservation. All youths in Imperial County are encouraged to join millions of young people across the nation as they complete the national science experiment on National Youth Science Day. The national science experiment may be completed anywhere — individually or within a school classroom, a 4-H or non-4-H club, an afterschool setting or any other type of group.

4-H STEM programs are hands-on, experiential learning opportunities that promote innovation and collaboration by exploring the borders of academic subjects. Offerings include LEGO programs, letterboxing/geocaching, robotics, leadership, engineering design process and animal science programs.

Here is a great hands-on activity you can do at home to explore a non-Newtonian fluid, better known as slime. Although the precise definition is somewhat complex, liquids that pour and behave like water, such as oil and alcohol, are called Newtonian fluids. Non-Newtonian fluids, as are many commonly found substances such as ketchup, slime, paint, blood and shampoo.

What you need to make slime

borax powder

water

4 ounces glue (e.g., Elmer's white glue)

teaspoon

bowl

bowl or measuring cup

food coloring (optional)

measuring cup

How to make slime

- Pour the glue into the bowl. If you have a big bottle of glue, you want 4 ounces or 1/2 cup of glue.

- Fill the empty glue bottle with water and stir it into the glue (or add 1/2 cup of water).

- If desired, add food coloring. Otherwise, the slime will be an opaque white.

- In a separate bowl, mix 1 cup of water into the bowl and add 1 teaspoon of borax powder.

- Slowly stir the glue mixture into the bowl of borax solution.

- Place the slime that forms into your hands and knead until it feels dry. (Don't worry about the excess water remaining in the bowl.)

The more the slime is played with, the firmer and less sticky it will become.

The following are questions you can ask while exploring the properties of slime (a.k.a. playing with the cool stuff). Describe how the slime reacts when you pull it apart with a quick forceful motion? Describe how the slime reacts when you let it drip between your fingers? Can you form a ball? What happens when you drop it on the table? Do other fluids (like water or ketchup) act the same way?

This is just one of the many hands-on activities 4-H members have the opportunity in which to partake. If you would like more information on 4-H or the National Youth Science Day, please contact Shanna Abatti at 760-352-9474 or smabatti@ucanr.edu