



HughesNet® and 4-H Introduce STEM Lab to Inspire Next Generation of Science and Tech Leaders

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New online resource provides free access to fun, hands-on STEM activities for kids.

GERMANTOWN, Md., May 22, 2018 /PRNewswire/ -- [HughesNet](#) and National 4-H Council announce the launch of [STEM Lab](#) to inspire the next generation of scientists. A free resource to parents and teachers, STEM Lab is an online hub offering fun, hands-on STEM activities developed by top public universities and 4-H groups to spark kids' interest in science, technology, engineering and mathematics (STEM).



"Hughes and 4-H share a passion for increasing students' access to STEM activities no matter where they live," said Peter Gulla, senior vice president of marketing, Hughes Network Systems. "Through the activities we support with 4-H, like STEM at Summer Camp and National Youth Science Day, we've seen the powerful impact of the curriculums and programs created by 4-H and their university partners. With STEM Lab, we're excited to bring those world-class resources together in a learning hub that's accessible to kids everywhere."

STEM Lab features easy, hands-on STEM activities organized by age group for youth ages 4 to 16. Projects include easy-to-follow instructions and how long the project will take, an explanation of the foundational concepts at work, discussion questions and a list of necessary supplies – which most often consist of basic household items. There's even a project Messy Meter, ranging from "clean" to "mega mess," which helps activity leaders plan for their budding scientists' activity.

At launch, the website features some of the most engaging activities from 4-H's land grant universities and other educational partners across the country. An exercise in mechanical engineering by the University of California and the University of Nebraska encourages kids to create a simple robot that draws on paper. Younger students can play chemist by creating "Fizzy Foam" in a project presented by Ohio State University, or build a basic wind turbine with little more than paper cups, construction paper, paper clips and rubber bands. With HughesNet's support, 4-H will continue growing STEM Lab with exciting new activities and projects.

"Our aim is to ensure that all children, no matter where they live, have access to hands-on, experiential STEM learning," said Gulla. "It is a part of our company's larger commitment to bridging the technology divide. Kids who tap into their curiosity and enthusiasm for STEM now will grow into the leaders of tomorrow – ensuring our country stays competitive in the global economy and powering our connected future. "

Data from the U.S. Bureau of Labor Statistics (BLS) shows that occupations related to STEM are projected to grow 13 percent between 2012 and 2022, faster than the 11 percent projected for all occupations over the same period.*

"As the nation's largest youth development organization, 4-H prepares youth for the future, which includes opening doors to exciting potential careers in STEM fields," said Jennifer Sirangelo, president and CEO, National 4-H Council. "We know that 4-H youth, compared to their peers, are two times more likely to pursue STEM careers which is why we are excited to have HughesNet's support launching the new 4-H STEM Lab, where parents can share the excitement of STEM learning with their families."

HughesNet has worked with the National 4-H Council since 2014 to broaden access to STEM education in an increasingly technology-dependent world. In addition to the launch of STEM Lab, Hughes supports 4-H National Youth Science Day and the 4-H Youth in Action STEM pillar award.

To learn more about STEM Lab and to dive into STEM activities, visit 4-H.org/STEMLab.

ABOUT HUGHES NETWORK SYSTEMS

Hughes Network Systems, LLC (HUGHES) is the global leader in broadband satellite technology and services for home and office. Its flagship high-speed satellite Internet service is HughesNet®, the world's largest satellite network with over 1.2 million residential and business customers across the Americas. For large enterprises and governments, the company's HughesON® managed network services provide complete connectivity solutions employing an optimized mix of satellite and terrestrial technologies. The JUPITER™ System is the world's most widely deployed

High-Throughput Satellite (HTS) platform, operating on more than 20 satellites by leading service providers, delivering a wide range of broadband enterprise, mobility and cellular backhaul applications. To date, Hughes has shipped more than 7 million terminals to customers in over 100 countries, representing approximately 50 percent market share, and its technology is powering broadband services to aircraft around the world.

Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes operates sales and support offices worldwide, and is a wholly owned subsidiary of EchoStar Corporation (NASDAQ: SATS), a premier global provider of satellite operations. For additional information about Hughes, please visit www.hughes.com and follow @HughesConnects on Twitter.

ABOUT 4-H

4-H, the nation's largest youth development organization, grows confident young people who are empowered for life today and prepared for career tomorrow. 4-H programs empower nearly six million young people across the U.S. through experiences that develop critical life skills. 4-H is the youth development program of our nation's Cooperative Extension System and USDA, and serves every county and parish in the U.S. through a network of 110 public universities and more than 3,000 local Extension offices. Globally, 4-H collaborates with independent programs to empower one million youth in 50 countries. The research-backed 4-H experience grows young people who are four times more likely to contribute to their communities; two times more likely to make healthier choices; two times more likely to be civically active; and two times more likely to participate in STEM programs.

Learn more about 4-H at www.4-H.org, find us on Facebook at www.facebook.com/4-H and on Twitter at <https://twitter.com/4H>.

* US Bureau of Labor & Statistics, [STEM 101: Intro to Tomorrow's Jobs](#)

The screenshot shows a webpage for a 4-H STEM Lab experiment. At the top, there is a navigation bar with a green clover logo and links for 'About 4-H', 'Parents', 'Members', '4-H Professionals', and 'Get Involved'. Below the navigation is a large image of a person in an orange lab coat creating a large amount of white foam in a bottle. The title 'FIZZY FOAM FUN' is overlaid on the image. Below the image, there are sections for 'About the Experiment', 'What You'll Need', and 'What to Do'. The 'About the Experiment' section includes a '4-H STEM LAB' logo and a 'HughesNet' logo. The 'What You'll Need' section lists 'Pantry Supplies' and 'Specialty Supplies'. The 'What to Do' section provides a numbered list of steps. There is also a 'Bonus Fun!' section with a small diagram and text.

About the Experiment

This 4-H STEM Lab experiment introduces kids to chemical reactions. They will learn how chemical reactions are impacted by a catalyst, a material that speeds up reactions but doesn't react itself. In this activity, yeast will create carbonated foam. Reaction by adding yeast to a chemical reaction.

Topic: Chemistry
Grade Level: 1-5
Estimated Time: 20 minutes
Safety: None

What You'll Need

Pantry Supplies

- 1. 1/2 cup warm water, heated and not hot
- 2. 1/2 cup yeast
- 3. Food coloring
- 4. 1 cup warm water
- 5. Small bowl
- 6. Funnel (or make one by rolling a sheet of paper)
- 7. Large rectangular baking pan (this keeps the foam steady)
- 8. Measuring cup

Specialty Supplies

- 1. 1 cup hydrogen peroxide, 6% or 9% solution (do not use solutions greater than 6%)
- 2. Funnel (or hot dog paper)

Optional Add-Ons

- 1. Additional 20 to 30 bottles of each 6% and 9% hydrogen peroxide can be used to make the project more challenging.

What to Do

1. Combine the warm water and yeast in a bowl and let settle for one minute.
2. Put the bottle in the baking pan (this helps to keep from creating a mess).
3. Using the funnel, pour the hydrogen peroxide into the bottle.
4. Add in a few drops of food coloring.
5. Add a couple scoops of hot water.
6. Use the funnel to pour the yeast/water mixture into the bottle.
7. Take the funnel out quickly and stand back and record your observations!

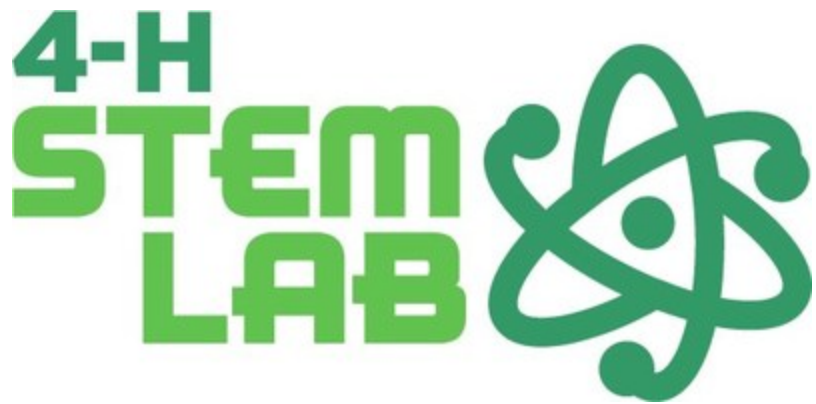
Bonus Fun!

Set up bottles using different colored dyes.

Experiment with different amounts of hydrogen peroxide (3% and 6%) and different amounts of yeast.

Make observations and compare the reactions!

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