

Hughes and 4-H: Fostering the STEM Leaders of Tomorrow

Overview:

Hughes Network Systems, LLC, an EchoStar company, is an innovator in satellite and multi-transport technologies and networks for over 50 years. The company's flagship broadband service, HughesNet®, connects millions of people across the Americas. Fueling this industry leadership positioning are more than 1,000 Science, Technology, Engineering and Math (STEM) professionals on the Hughes team. STEM is at the core of everything the world-class team at Hughes has ever engineered and continues to develop, including the company's newest satellite, JUPITER™ 3, the world's largest commercial satellite ever, launching later this year.

Since 2014, Hughes, through its HughesNet brand, has been a proud supporter of 4-H, the largest youth development organization in the US, to inspire and educate the STEM leaders of tomorrow. HughesNet and 4-H have together produced content for a free, online learning platform geared toward 5- to 18-year-olds. The hub was called 4-H at Home until 4-H relaunched it as CLOVER in 2023.

In 2021—a year into the pandemic—HughesNet fed the 4-H content hub with new online STEM activities to meet the needs and preferences of students, parents and educators for digital experiences. This included activities such as [Solar Oven S'mores](#), [Code Your Communication](#), [Wonderful Wetlands](#), [Science Bug](#), and [Slippery Stuff: Dancing Pepper](#), generating thousands of views and new users.

In 2022, HughesNet-sponsored STEM education efforts raised the bar for 4-H, with all-digital and immersive content experiences: [“How Do Satellites Communicate?”](#) an augmented reality (AR) experience, and [“Space Exploration,”](#) a two-part interactive “mission.”

Strategy:

Driven by the move toward virtual environments and at-home learning, paired with the federal government's push for access to STEM education for all, HughesNet supported 4-H in developing high-quality STEM resources to supplement a virtual K-12 curriculum during the pandemic and beyond. Seeking to break down the barrier educators, parents and students face in accessing no-cost, quality STEM content, we work together to create highly engaging, hands-on activities that can be done with little to no materials from anywhere with internet access.

Building on the success of [“Space Exploration,”](#) the first-ever 4-H at Home programming that shifted beyond one-off activities to an all-digital, comprehensive learning management system, we launched the landmark [“How Do Satellites Communicate?”](#) AR experience in November 2022. In this activity, viewable on both mobile and desktop devices, viewers explore an animated model of a satellite to learn how it connects people to the internet. Artificial intelligence, AR and similar emerging technologies are becoming a prominent fixture in STEM and the world. We are helping to prepare the next generation of STEM leaders and global citizens by introducing these technologies in a fun, manageable way during their developmental years.

Additionally, HughesNet proudly sponsors the [4-H Youth in Action](#) STEM Pillar award, which recognizes exceptional 4-H'ers—like [2022's winner Dhruv Rebba](#) and [2023's Nicole Cash](#)—who have overcome challenges and used the knowledge they gained in 4-H to create a lasting impact in their community. The winners were recognized during the Ignite by 4-H teen summit in Washington, DC. This year, an engineering executive from Hughes volunteered to mentor a group of approximately 40 young people during the event. She discussed her career at Hughes and led a group, made up of high school and college students with a wide variety of interests, through a problem-solving STEM activity.

Results:

The pioneering HughesNet and 4-H programming influenced the shift to a comprehensive learning management system that helped reach thousands of youth in every U.S. state by engaging students in fun STEM activities from anywhere with an internet connection. Supporting these efforts, Hughes launched a robust public relations and social media campaign that complemented the communications efforts of 4-H to draw in new users. HughesNet-sponsored content on 4-H's education platform united high-quality resources with universal availability to supplement at-home curriculum with engaging learning projects and a virtual community of peers and positive adult mentors.

The Hughes and 4-H nationwide campaigns in 2022 yielded high engagement and strong visibility, as noted by these successes:

- A 24% increase in 4-H at Home traffic from 2021 to 2022
- 528,502 pageviews and 242,305 sessions on the 4-H education platform, with HughesNet sponsored content driving 49% of the total traffic for the year
- 46,172 unique visits to the HughesNet-sponsored "Space Exploration" and "How Do Satellites Communicate?" augmented reality experience pages, including a high volume of visits stemming from users rurally located, a key demographic in need of access to STEM resources
- Promotional campaigns achieved 4,959,571 impressions
- Social posts for the Space Exploration and "How Do Satellites Communicate?" augmented reality experiences reached 174,081 Facebook, Twitter and Instagram users