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**Title:** Georgia 4-H Hosts Statewide Middle School Conference

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**Summary:** The Junior 4-H Conference weekend event provides middle school 4-H members the opportunity to develop life skills and complete science-related workshops.

**Situation:** The National Child Traumatic Stress Network (NCTSN) research shows that compared to adults, children are more vulnerable to the emotional impact of traumatic events that disrupt their daily lives, such as a the COVID-19 pandemic. Child Trends (2020) indicated that children may struggle with significant adjustments to their routines (e.g., schools and child care closures, social distancing, home confinement), which may interfere with their sense of structure, predictability, and security. As Georgia 4-H emerges from the COVID-19 pandemic, it is important to offer traditional, face-to-face 4-H events that allow youth to find a sense of normalcy and interact with their peers. Furthermore, science, technology, engineering, and math (STEM) careers are the fastest growing sector of the job market (U.S. Bureau of Labor Statistics), but only 16% of American high school students say that they are interested in STEM and test proficient in math (U.S. Department of Education).

**Response:** Georgia 4-H has hosted Junior 4-H Conference, a weekend event for middle school 4-H students at Rock Eagle 4-H Center, for decades. This was the first large-scale state event for middle school youth since March 2020. During the November 2021 event, youth participate in a series of educational, recreational, and service opportunities. In December 2021, NASA launched the Artemis program, a robotic and human Moon exploration project with the goal of establishing the first long-term presence on the Moon to eventually send the first astronauts to Mars. As a way to offer exciting and real-world content, the 2021 Junior 4-H Conference focused on astronomy and space exploration. In addition to building STEM knowledge, youth develop important life skills, such as communication, cooperation, problem-solving, team building, and critical thinking. The event also features guest speakers that are experts within their given field, providing career exploration opportunities to participants. High school youth serving as teen leaders facilitate the lessons alongside adult leaders, giving them the ability to develop leadership skills and mentor younger 4-H members.

The 4-H youth participated in two space-related workshops. The first workshop allowed youth to compare/contrast Earth and Mars, including equatorial planet radius, number of moons, atmosphere, atmosphere average temperature, planet tilt, and chemical composition/cross-section. After exploring the similarities and differences among the planets, youth learned about Mars exploration. Then, youth assembled Mars Rover models, replicating robots that are used by NASA in real-world missions. The second workshop allowed youth to learn the physics of light by exploring the concepts of reflection, refraction, lenses, and mirrors with a light box. Youth learned about the history of telescope development, and then built model telescopes to use for observation. Additionally, Stephen Smith NASA Education Coordinator Space Center Houston, served as a workshop speaker, sharing with youth about NASA, the Artemis project, the James-Webb telescope, upcoming missions, and careers related to astronomy.

**Results/Impact:** Four-hundred ninety-seven youth, teen leaders, and adults participated in 2021 the Junior 4-H Conference event. Evaluation data collected from youth participants (n=261) suggested students developed STEM skills during the program. When surveyed, youth reported they developed certain life skills during the event: 97% learned to follow steps, 83% learned how to ask questions, 92% learned how to test ideas, 94% learned how to solve problems, 96% learned how to be creative, 91% learned how to communicate results, 86% learned how to use evidence to draw conclusions, and 94% learned how to work with their peers. Nearly 94% of respondents said they like science, technology, engineering, and mathematics. Of the respondents, 82% said they would like to continue learning about STEM as they get older. Over 70% of respondents indicated they would like a job in the STEM fields.

When asked what the best part of the event, one 4-H'er replied, "obviously building the Mars rovers," while another youth shared they enjoyed "trying to fix the rover when it wouldn't work right the first time." Participants were also asked why it is important to study STEM. One youth shared "because a little of each [subject] can be used everywhere," while another student shared "it is important because science helps to solve real world problems." Another student reported, "If I ever join NASA I could help them build another rover using the stuff I learned."



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The University of Georgia 4-H program is the largest youth leadership organization in the state.

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