



## BUILDING SCIENCE LITERACY AND FUTURE STEM PROFESSIONALS

**186,370**

Michigan 4-H youth experiences related to science, technology, engineering and math in 2018-2019

**3,006**

adult participants engaged in Michigan 4-H science, technology, engineering and math programs in 2018-2019

## PRIORITY

### A R E A S

Michigan State University (MSU) Extension's 4-H Youth Development programs excite youth about future science, technology, engineering and math (STEM) careers and build critical STEM skills. These programs seek to increase:

- Aspirations and attitudes toward science.
- Interest and engagement in science.
- Skills in critical thinking, problem solving and decision making.

The experiential inquiry-based learning process is offered through a variety of science experiences ranging from animal science to robotics and biology to consumer science.

For more information about MSU Extension's science programs and resources, contact [4Hscience@msu.edu](mailto:4Hscience@msu.edu) or visit [www.canr.msu.edu/science\\_engineering](http://www.canr.msu.edu/science_engineering).

## IMPACTS

As a result of Michigan 4-H science activities, thousands of Michigan youth are more likely to recognize the relevance of science and see themselves pursuing a related career, as well as more equipped with cutting-edge STEM skills in high demand. Of those surveyed in 2019:



**89%**

of youth like to see how things are made or invented.



**94%**

of youth like experimenting and testing new ideas.



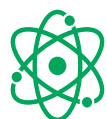
**89%**

of youth get excited about new discoveries.



**79%**

of youth want to learn more about science.



**69%**

of youth said they would like to have a job related to science.

**“ I learned a lot about science, how to teach it and how it can be fun! ”**

-Adult 4-H volunteer who participated in a Michigan 4-H science program



## CULTIVATING CODERS AND CREATORS

In summer 2019, MSU Extension hosted the first 4-H Spartan Coding Camp, a five-day camp on MSU's campus that engaged high school-aged students in learning coding and designing applications to solve a technical problem they care about. MSU Extension partnered with CodeNow, a leader in computer bootcamp instruction for high school students, to use their course content and manage the online work. In addition to providing critical STEM skills and knowledge, this MSU pre-college program provided youth the opportunity to experience college life as they lived and learned on campus, meeting people from across Michigan.

As a result of the camp, 16 Michigan youth learned about new coding languages and concepts, increased their appreciation of opinions different from their own, and through the common language and interest in coding, found the camp a safe place to express themselves and be respected. In particular:



Participants raved about the experience:

***“I really enjoyed the collaborative efforts of the camp. My biggest highlight would have to be the first time I coded in CSS and was able to see my work reflected on the webpage.”***

***“Camp was awesome! Learning the languages and working with the teams was a blast! I plan to use this knowledge to great effect in the future.”***

***“Working with the team on creating our own ideas was the best part of the camp (other than the coding itself). I'd like to use the new coding knowledge on developing more games/apps in the future!”***

**94%**

of campers learned new coding language and were able to implement it on their team application projects.

**100%**

of youth increased their appreciation of opinions different from their own throughout the week of camp.

**100%**

of youth felt safe expressing themselves through daily team-building exercises.

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