SCIENCE

4-H COMMON MEASURES REPORT

2017-18

University of California
Agriculture and Natural Resources
4-H Youth Development Program

Introduction

4-H learning experiences are based on the principles and practices of Positive Youth Development. The structured learning, encouragement, and adult mentoring that young people receive through their participation in 4-H plays a vital role in helping them achieve future life success. Positive Youth Development views young people as vital resources with assets and potentials to be developed rather than as problems to be managed. 4-H staff and volunteers intentionally address youths' basic needs by intentionally integrating elements within 4-H experiences that create environments conducive to optimizing youth development.

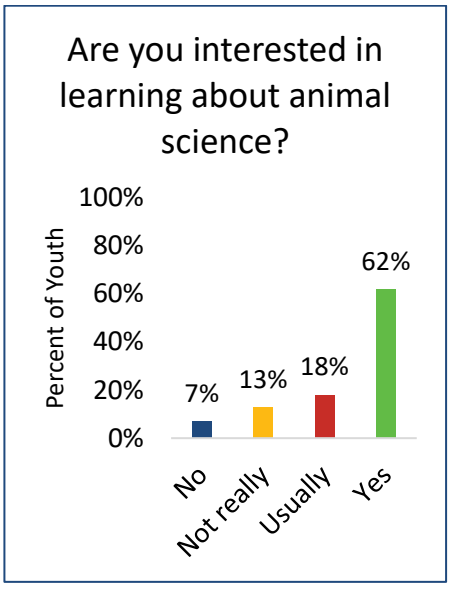
This report summarizes the impact of our 4-H Positive Youth Development programs on our youth.

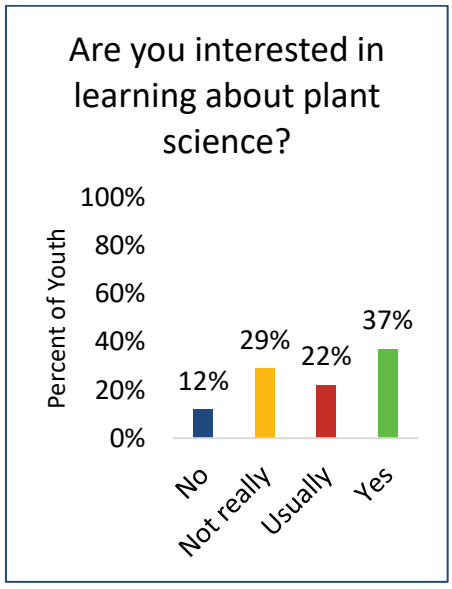
Participants' 4-H Experience

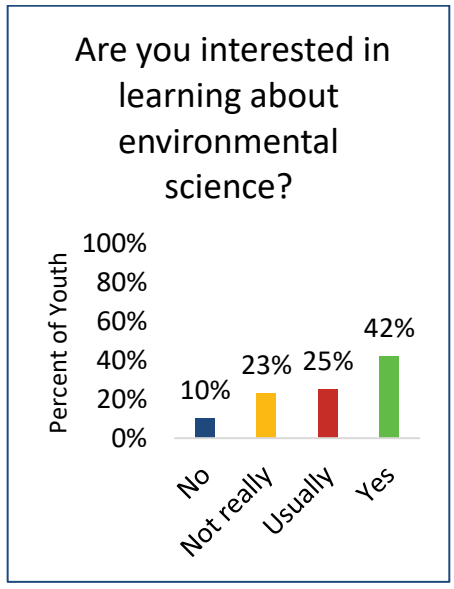
974 youth completed the Science survey during the 2017-18 program year. Youth were between the ages of 9 and 18, with the average age being 12.37 years (standard deviation= 2.43 years). The average number of years in 4-H was 4.03 (standard deviation=2.63). The sample was 66% female and 34% male. The racial breakdown of the sample was: 77% White, 1% African American, 3% Asian, 2% Native American, 0.5% Pacific Islander, 8% Multiple, and 7% Undetermined. 21% of youth were Hispanic. Youth lived in farm (21%), rural (22%), town (21%), suburb (21%), and city (15%) areas.

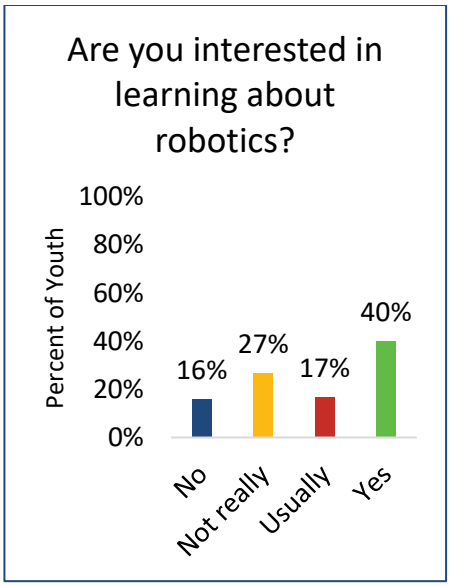
Youth were asked a number of questions about what they may have learned during this program. Results are shown in the figures that follow. These results are based on youth who had permission to use their data. (Percentages may add up to 99% or 101% due to rounding.)

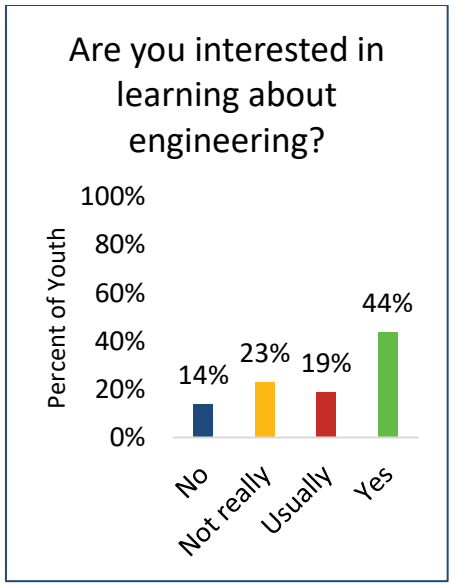
Science Interest and Thinking

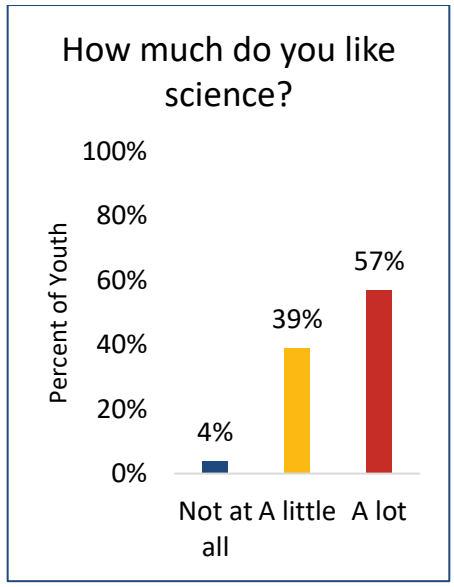


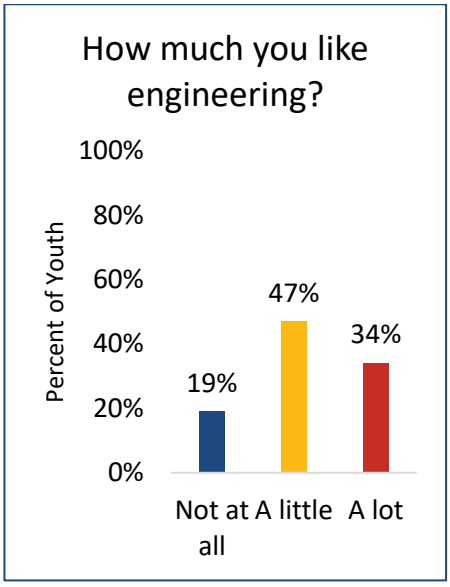


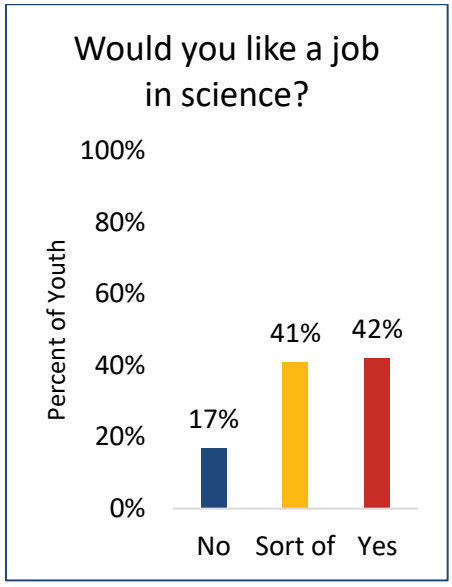


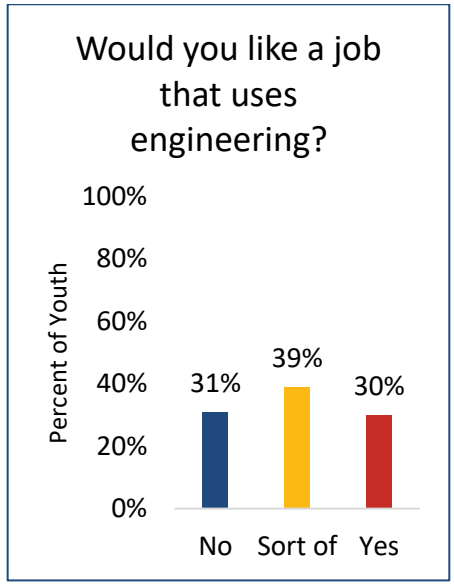

Are you interested in learning about robotics?
Percent of Youth
100%
80%
60%
40%
20%
0%
16%
27%
17%
40%
No
Not really
Usually
Yes

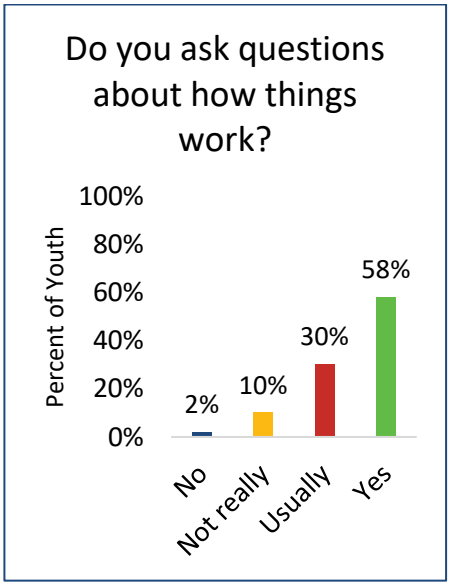

Are you interested in learning about engineering?
Percent of Youth
100%
80%
60%
40%
20%
0%
14%
23%
19%
44%
No
Not really
Usually
Yes

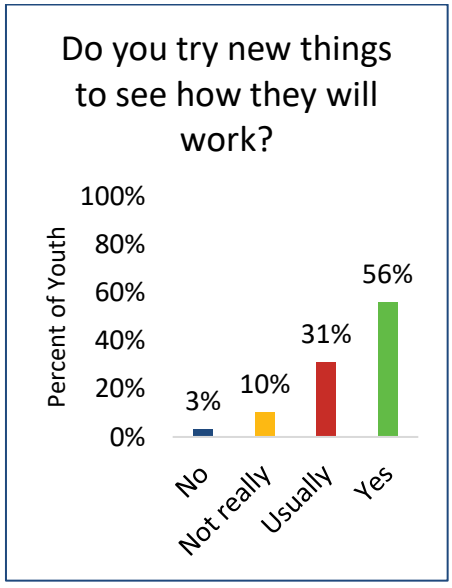

How much do you like science?
Percent of Youth
100%
80%
60%
40%
20%
0%
4%
39%
57%
Not at all
A little
A lot

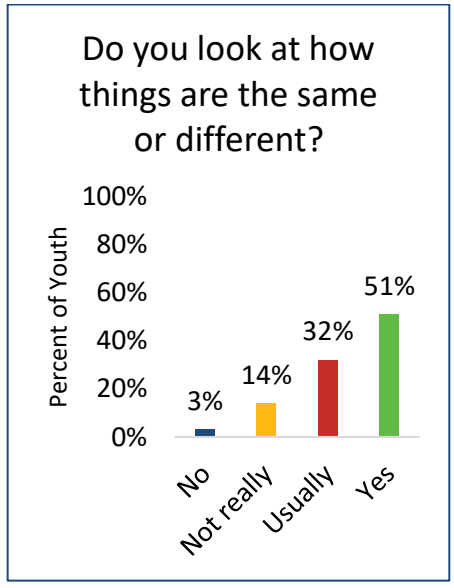

How much you like engineering?
Percent of Youth
100%
80%
60%
40%
20%
0%
19%
47%
34%
Not at all
A little
A lot


Would you like a job in science?
Percent of Youth
100%
80%
60%
40%
20%
0%
17%
41%
42%
No
Sort of
Yes

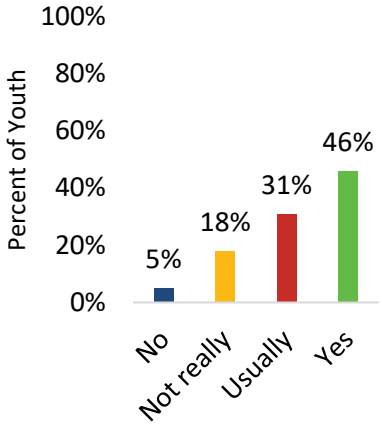

Would you like a job that uses engineering?
Percent of Youth
100%
80%
60%
40%
20%
0%
31%
39%
30%
No
Sort of
Yes


Do you ask questions about how things work?
Percent of Youth
100%
80%
60%
40%
20%
0%
2%
10%
30%
58%
No
Not really
Usually
Yes

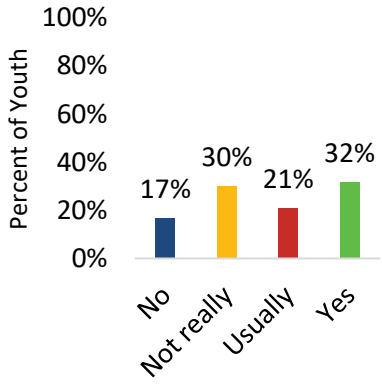

Do you try new things to see how they will work?
Percent of Youth
100%
80%
60%
40%
20%
0%
3%
10%
31%
56%
No
Not really
Usually
Yes


Do you look at how things are the same or different?
Percent of Youth
100%
80%
60%
40%
20%
0%
3%
14%
32%
51%
No
Not really
Usually
Yes

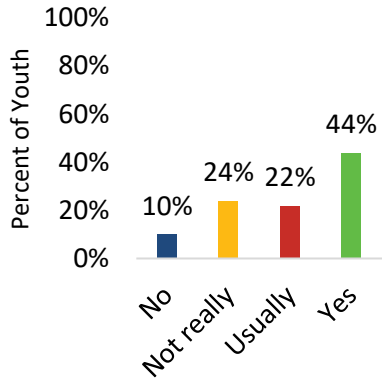
Do you compare how different things work?



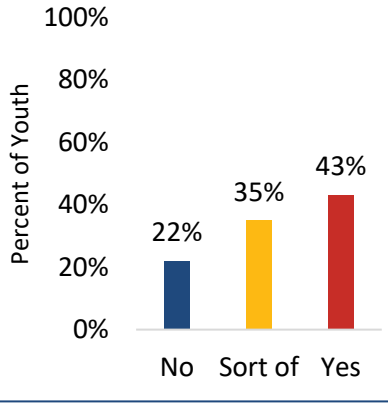
Do you take things apart to see how they work?



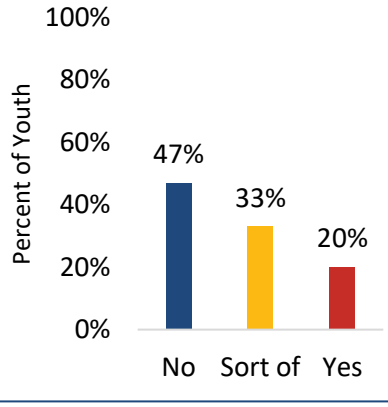
Do you come up with ideas for how to build new things?



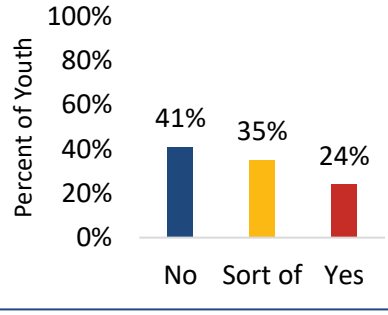
At 4-H, did you learn new things about science?



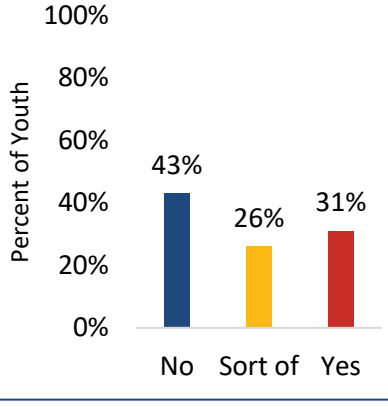
At 4-H, did you learn new things about engineering?



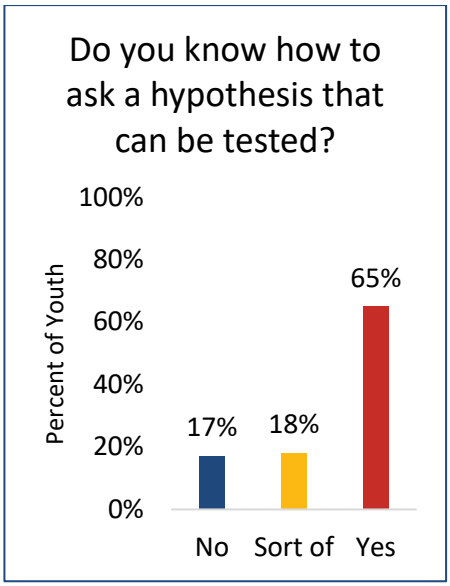
At 4-H, did you talk about how science can be used to help solve everyday problems?

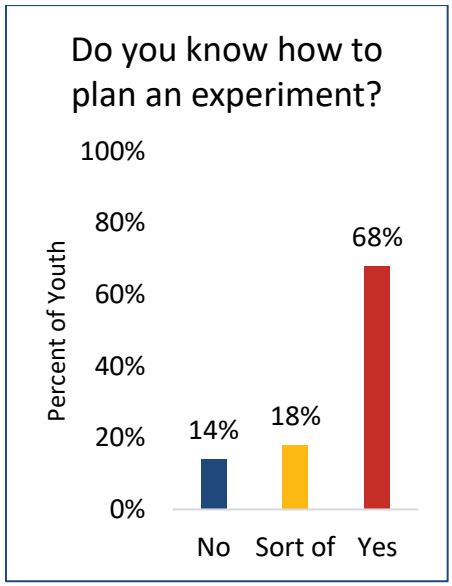


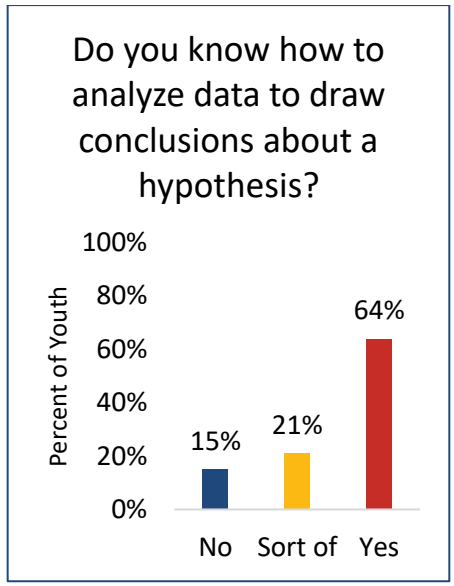
Have you shared your science-related projects with others?

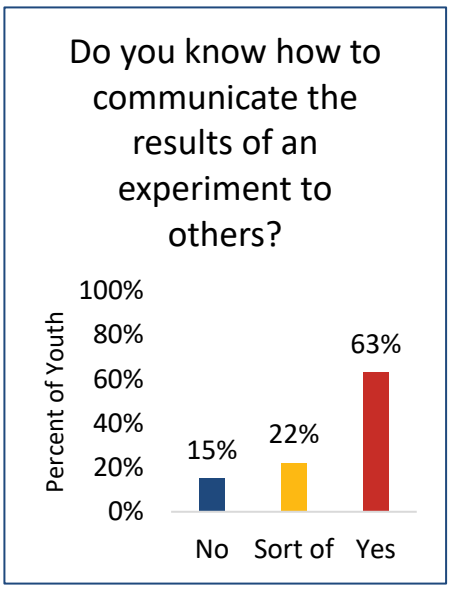


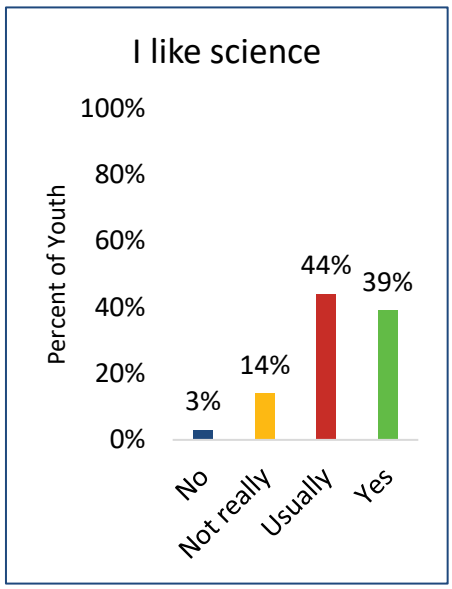
Science Skills and Attitudes (Grades 8 to 12 only)

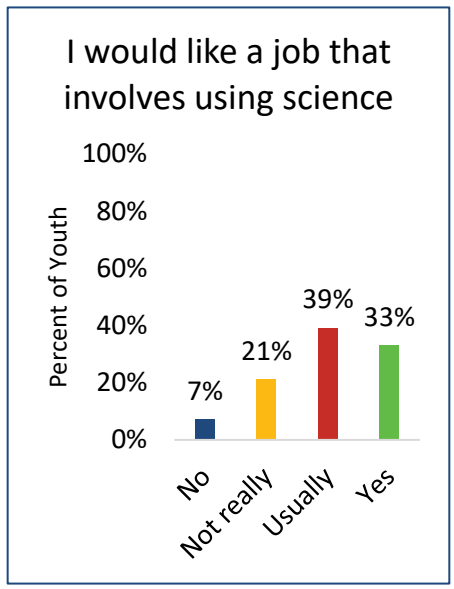


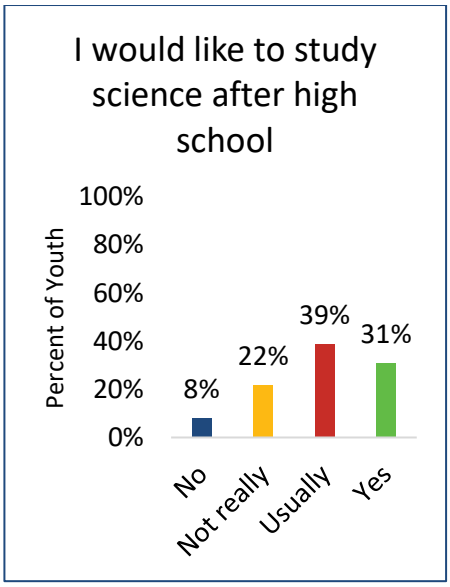




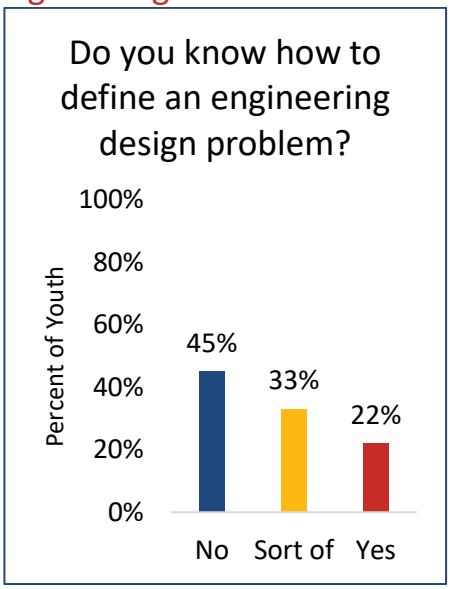


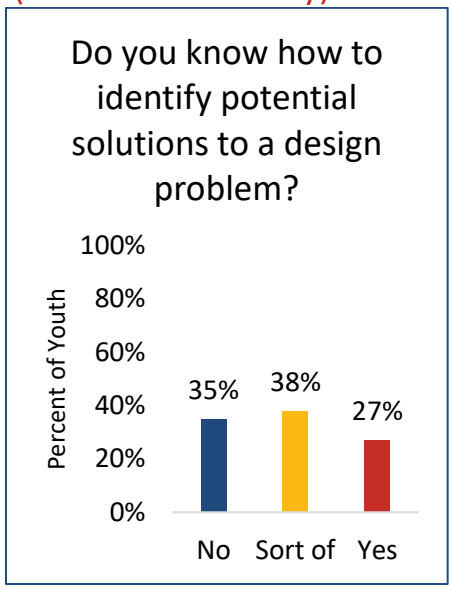


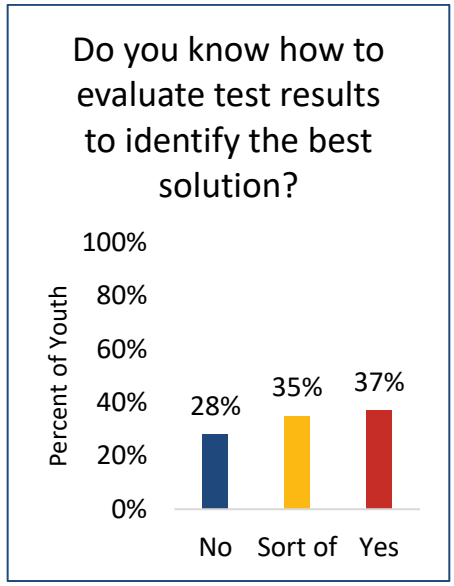


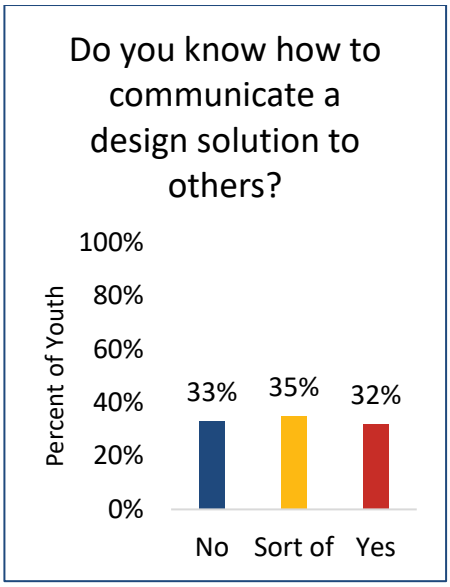


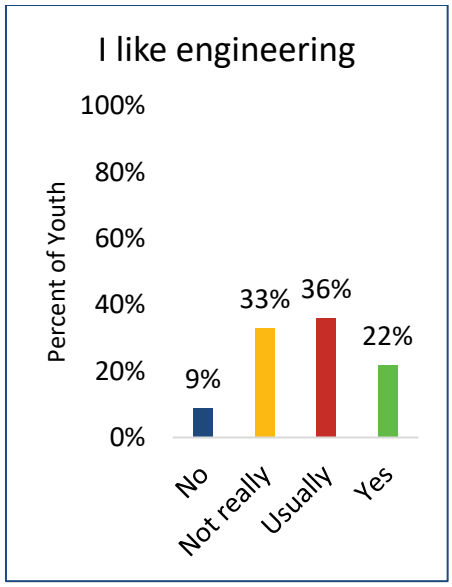
Engineering Skills and Attitudes (Grades 8 to 12 only)

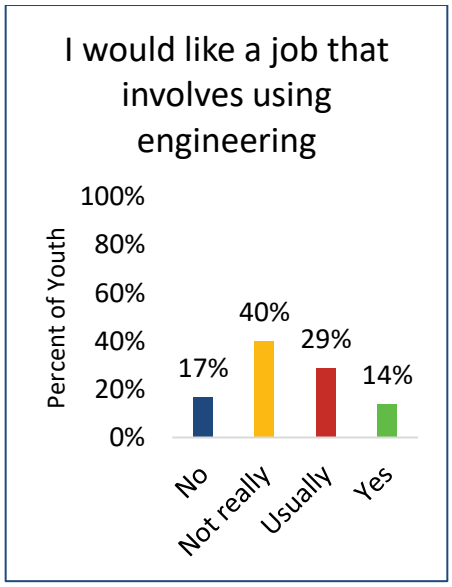


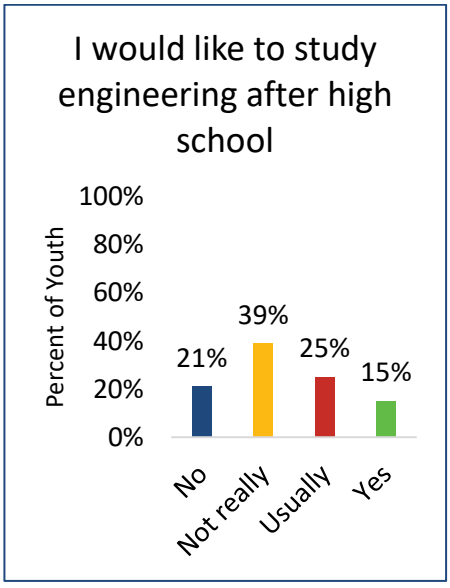












Conclusion

Youth-driven 4-H experiences provide young people access to safe learning environments; challenging experiences that build skills, competencies, and resiliency to address life's challenges and to actively contribute to society; and partnerships with caring adults to help meet youths' basic needs of belonging, mastery, independence, and generosity. Youth who participate in 4-H report better grades, higher levels of academic competence, and an elevated level of engagement at school. They are also nearly two times more likely to plan to go to college. The structured learning, encouragement and adult mentoring that young people receive through their participation in 4-H plays a vital role in helping them achieve future life successes.