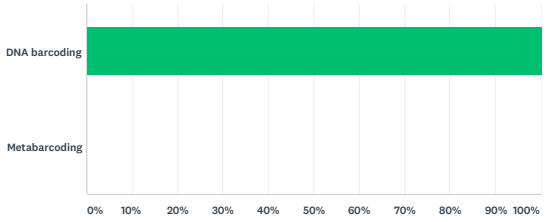
Q2 What kind of research project did you do in this class?

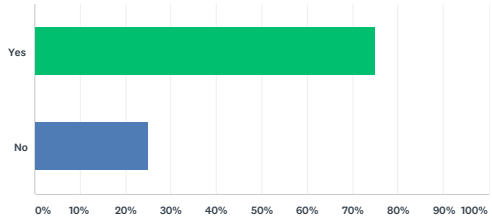
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
DNA barcoding	100.00%	8
Metabarcoding	0.00%	0
TOTAL		8

Q3 Is this the first time you've learned anything about DNA barcoding?

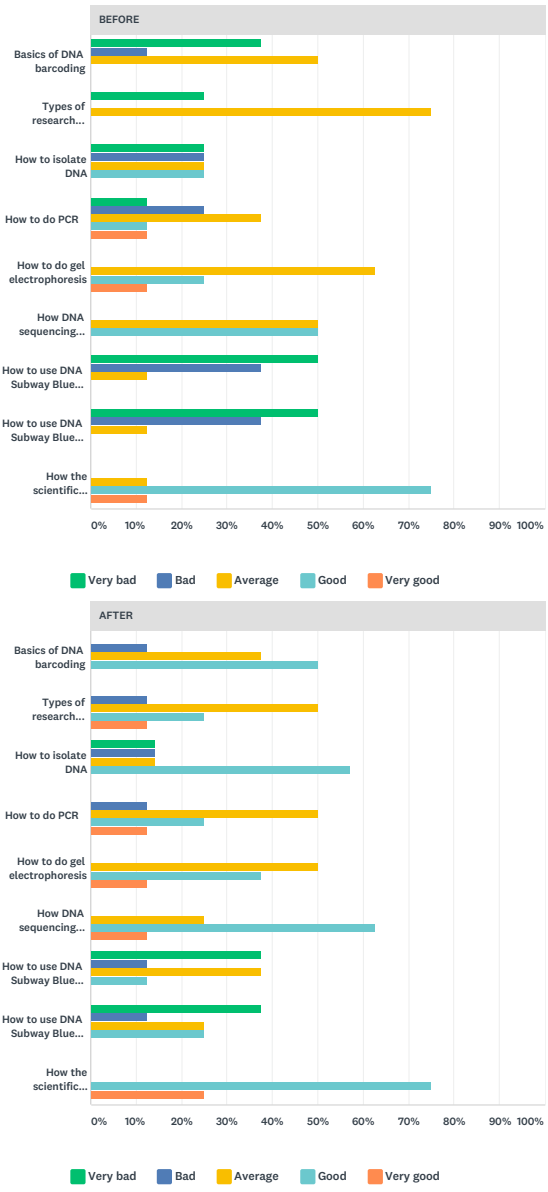
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	75.00%	6
No	25.00%	2
TOTAL		8

Q6 For each of the topics listed below, please rate your level of understanding both before and after completing your research this term:

Answered: 8 Skipped: 0



BEFORE

	VERY BAD	BAD	AVERAGE	GOOD	VERY GOOD	TOTAL
Basics of DNA barcoding	37.50% 3	12.50% 1	50.00% 4	0.00% 0	0.00% 0	8
Types of research questions DNA barcoding can answer	25.00% 2	0.00% 0	75.00% 6	0.00% 0	0.00% 0	8
How to isolate DNA	25.00% 2	25.00% 2	25.00% 2	25.00% 2	0.00% 0	8
How to do PCR	12.50% 1	25.00% 2	37.50% 3	12.50% 1	12.50% 1	8
How to do gel electrophoresis	0.00% 0	0.00% 0	62.50% 5	25.00% 2	12.50% 1	8
How DNA sequencing works	0.00% 0	0.00% 0	50.00% 4	50.00% 4	0.00% 0	8
How to use DNA Subway Blue Line to identify species	50.00% 4	37.50% 3	12.50% 1	0.00% 0	0.00% 0	8
How to use DNA Subway Blue Line to construct phylogenetic trees	50.00% 4	37.50% 3	12.50% 1	0.00% 0	0.00% 0	8
How the scientific process works	0.00% 0	0.00% 0	12.50% 1	75.00% 6	12.50% 1	8

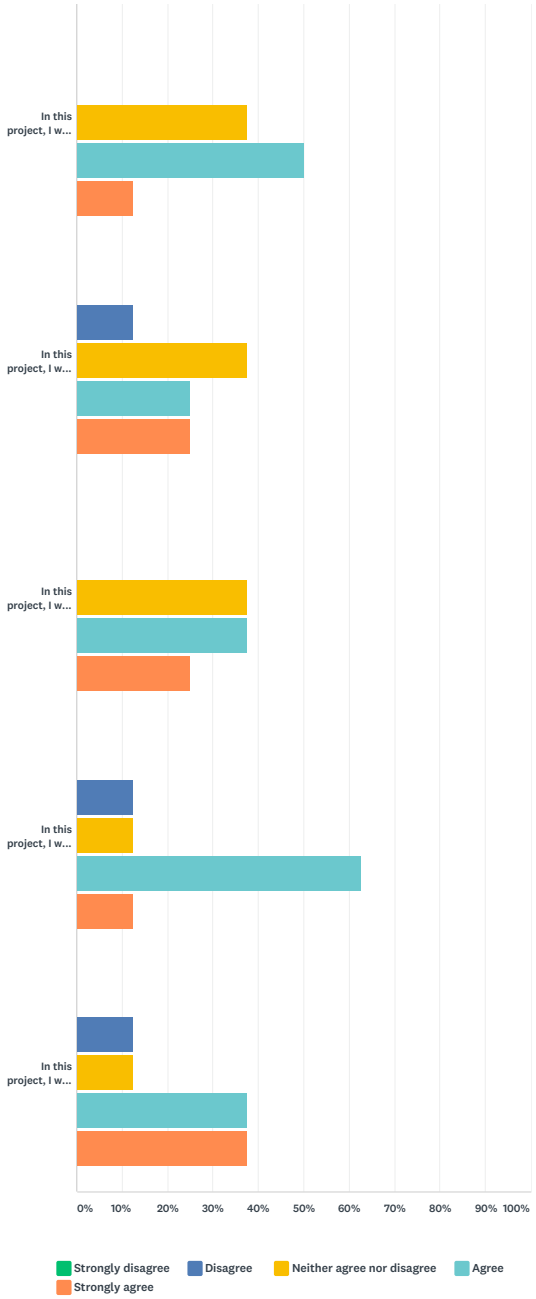
AFTER

	VERY BAD	BAD	AVERAGE	GOOD	VERY GOOD	TOTAL
Basics of DNA barcoding	0.00% 0	12.50% 1	37.50% 3	50.00% 4	0.00% 0	8
Types of research questions DNA barcoding can answer	0.00% 0	12.50% 1	50.00% 4	25.00% 2	12.50% 1	8

How to isolate DNA	14.29% 1	14.29% 1	14.29% 1	57.14% 4	0.00% 0	7
How to do PCR	0.00% 0	12.50% 1	50.00% 4	25.00% 2	12.50% 1	8
How to do gel electrophoresis	0.00% 0	0.00% 0	50.00% 4	37.50% 3	12.50% 1	8
How DNA sequencing works	0.00% 0	0.00% 0	25.00% 2	62.50% 5	12.50% 1	8
How to use DNA Subway Blue Line to identify species	37.50% 3	12.50% 1	37.50% 3	12.50% 1	0.00% 0	8
How to use DNA Subway Blue Line to construct phylogenetic trees	37.50% 3	12.50% 1	25.00% 2	25.00% 2	0.00% 0	8
How the scientific process works	0.00% 0	0.00% 0	0.00% 0	75.00% 6	25.00% 2	8

Q8 How much do you agree with the following statements?

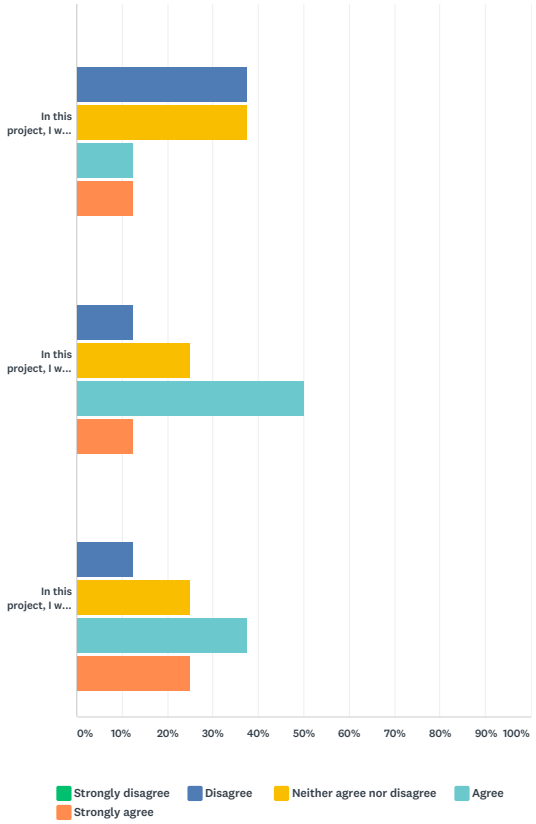
Answered: 8 Skipped: 0



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL
In this project, I was expected to understand the theory and concepts guiding my research project.	0.00% 0	0.00% 0	37.50% 3	50.00% 4	12.50% 1	8
In this project, I was expected to formulate a research question that could be answered with data.	0.00% 0	12.50% 1	37.50% 3	25.00% 2	25.00% 2	8
In this project, I was expected to identify limitations of research methods and designs.	0.00% 0	0.00% 0	37.50% 3	37.50% 3	25.00% 2	8
In this project, I was expected to figure out the next step in a research project.	0.00% 0	12.50% 1	12.50% 1	62.50% 5	12.50% 1	8
In this project, I was expected to understand the relevance of research to my course work.	0.00% 0	12.50% 1	12.50% 1	37.50% 3	37.50% 3	8

Q9 How much do you agree with the following statements?

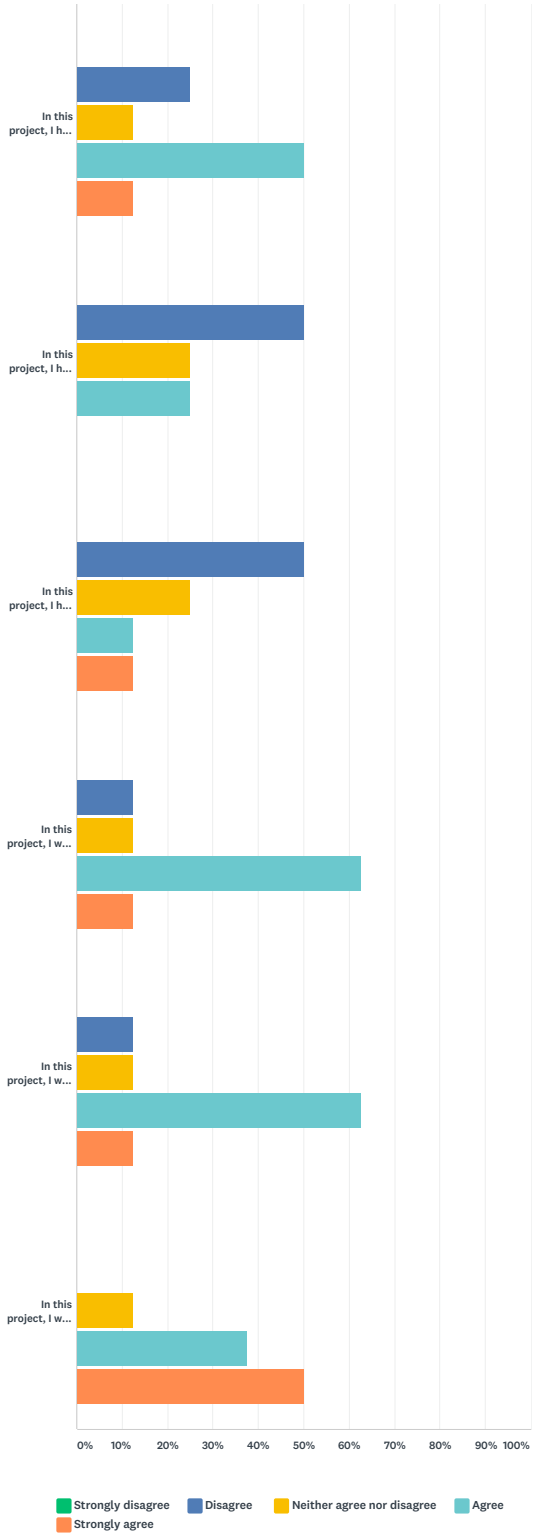
Answered: 8 Skipped: 0



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL
In this project, I was expected to formulate my own research question or hypothesis to guide an investigation.	0.00% 0	37.50% 3	37.50% 3	12.50% 1	12.50% 1	8
In this project, I was expected to conduct an investigation to find something previously unknown to myself, other students, and the instructor.	0.00% 0	12.50% 1	25.00% 2	50.00% 4	12.50% 1	8
In this project, I was expected to generate novel results that were unknown to my teacher/mentor and that could be of interest to others outside of the class.	0.00% 0	12.50% 1	25.00% 2	37.50% 3	25.00% 2	8

Q10 How much do you agree with the following statements?

Answered: 8 Skipped: 0

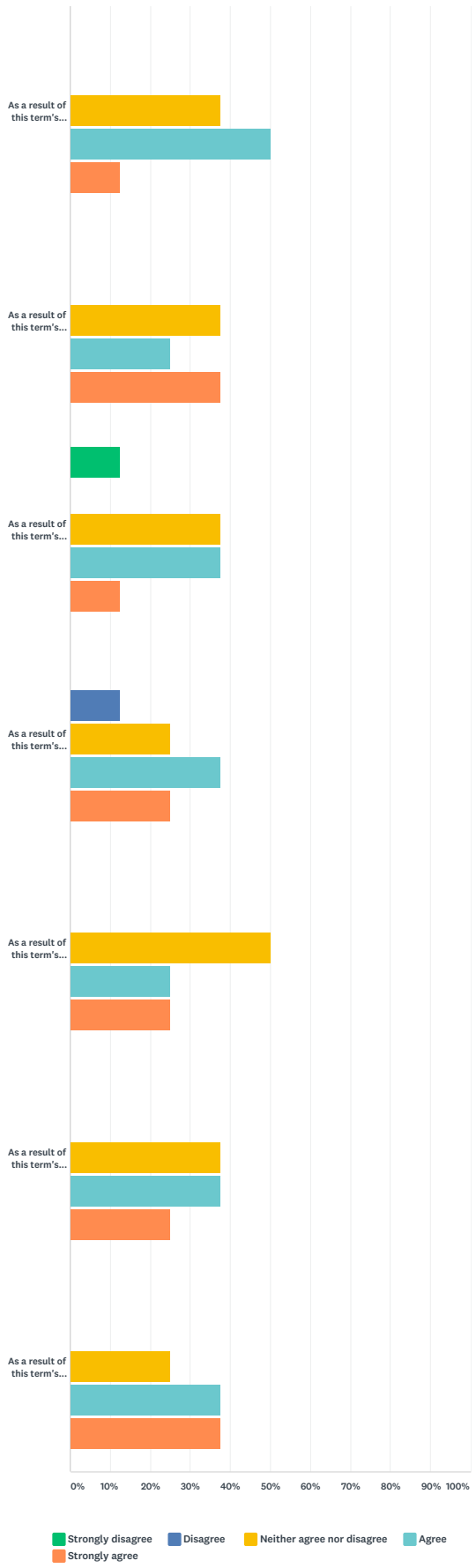


	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL
In this project, I had time to collect and analyze additional data to address new questions or further test hypotheses that arose during the investigation.	0.00% 0	25.00% 2	12.50% 1	50.00% 4	12.50% 1	8
In this project, I had time to revise or repeat analyses based on feedback.	0.00% 0	50.00% 4	25.00% 2	25.00% 2	0.00% 0	8
In this project, I had time to revise drafts of papers or presentations about my investigation based on feedback.	0.00% 0	50.00% 4	25.00% 2	12.50% 1	12.50% 1	8

In this project, I was encouraged to contribute my ideas and suggestions during project discussions.	0.00% 0	12.50% 1	12.50% 1	62.50% 5	12.50% 1	8
In this project, I was encouraged to help other students collect or analyze data.	0.00% 0	12.50% 1	12.50% 1	62.50% 5	12.50% 1	8
In this project, I was encouraged to reflect on what I was learning.	0.00% 0	0.00% 0	12.50% 1	37.50% 3	50.00% 4	8

Q11 How much do you agree with the following statements?

Answered: 8 Skipped: 0

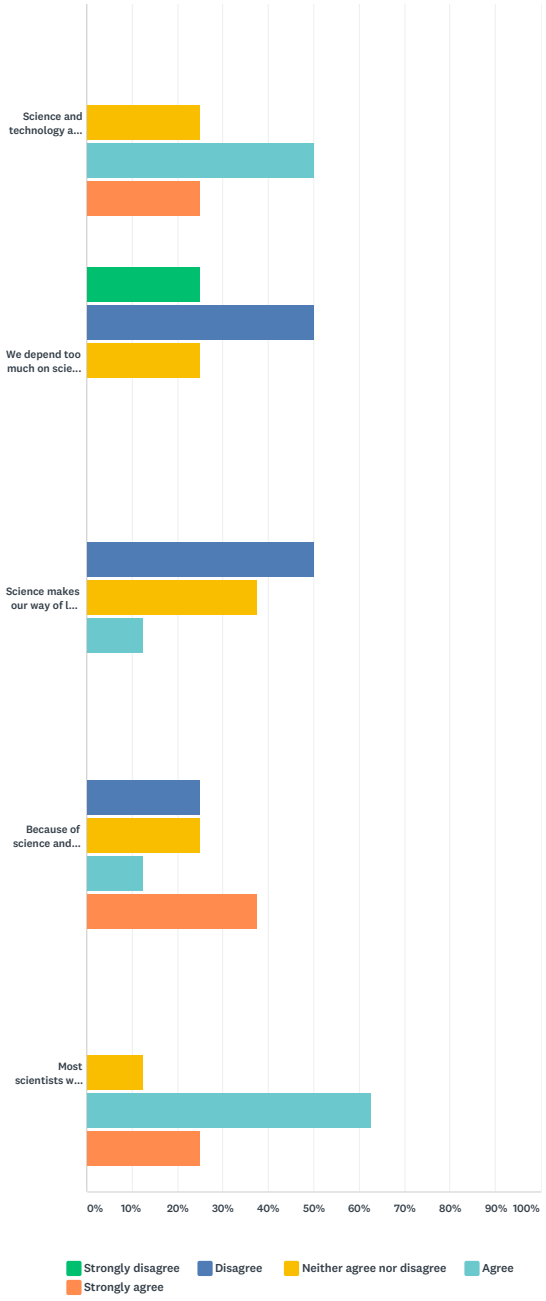


Student Post-Research Survey (DNA Barcoding & Metabarcoding)

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL
As a result of this term's barcoding research, I have become more interested in technology and bioinformatics.	0.00% 0	0.00% 0	37.50% 3	50.00% 4	12.50% 1	8
As a result of this term's barcoding research, I have a better understanding of the importance of technology in modern biology research.	0.00% 0	0.00% 0	37.50% 3	25.00% 2	37.50% 3	8
As a result of this term's barcoding research, I am more likely to pursue bioinformatics and technology in college than I was before.	12.50% 1	0.00% 0	37.50% 3	37.50% 3	12.50% 1	8
As a result of this term's barcoding research, I have become more interested in studying science in general.	0.00% 0	12.50% 1	25.00% 2	37.50% 3	25.00% 2	8
As a result of this term's barcoding research, I am more likely to study science in college than I was before.	0.00% 0	0.00% 0	50.00% 4	25.00% 2	25.00% 2	8
As a result of this term's barcoding research, I feel I am capable of going further in science.	0.00% 0	0.00% 0	37.50% 3	37.50% 3	25.00% 2	8
As a result of this term's barcoding research, I have become more interested in studying biology.	0.00% 0	0.00% 0	25.00% 2	37.50% 3	37.50% 3	8

Q12 How much do you agree with the following statements?

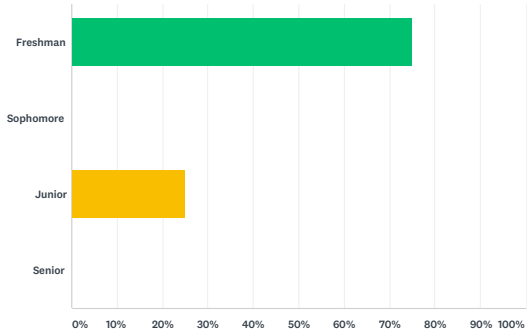
Answered: 8 Skipped: 0



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL
Science and technology are making our lives healthier, easier, and more comfortable.	0.00% 0	0.00% 0	25.00% 2	50.00% 4	25.00% 2	8
We depend too much on science and not enough on faith.	25.00% 2	50.00% 4	25.00% 2	0.00% 0	0.00% 0	8
Science makes our way of life change too fast.	0.00% 0	50.00% 4	37.50% 3	12.50% 1	0.00% 0	8
Because of science and technology, there will be more opportunities for the next generation.	0.00% 0	25.00% 2	25.00% 2	12.50% 1	37.50% 3	8
Most scientists want to work on things that will make life better for the average person.	0.00% 0	0.00% 0	12.50% 1	62.50% 5	25.00% 2	8

Q16 What is your current year in school?

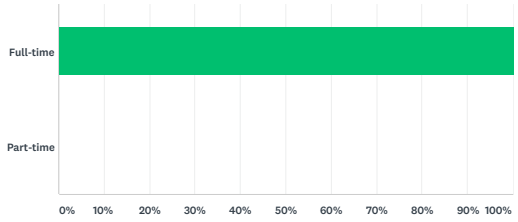
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Freshman	75.00%	6
Sophomore	0.00%	0
Junior	25.00%	2
Senior	0.00%	0
TOTAL		8

Q17 Are you a full-time or part-time student?

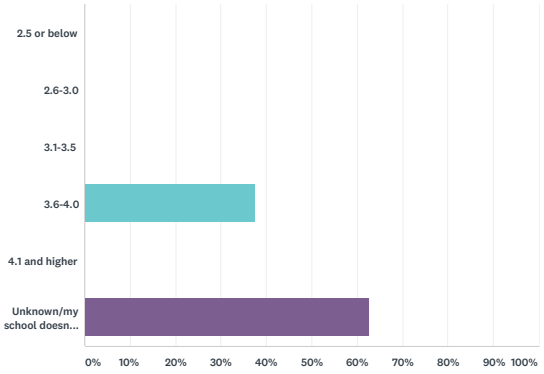
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Full-time	100.00%	8
Part-time	0.00%	0
TOTAL		8

Q18 What is your current GPA?

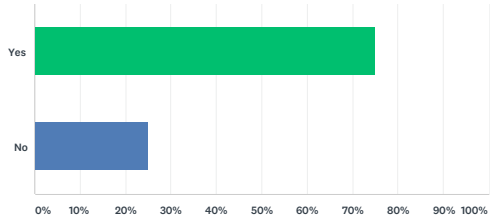
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
2.5 or below	0.00%	0
2.6-3.0	0.00%	0
3.1-3.5	0.00%	0
3.6-4.0	37.50%	3
4.1 and higher	0.00%	0
Unknown/my school doesn't provide a GPA using this scale	62.50%	5
TOTAL		8

Q19 Have you declared your major yet?

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	75.00%	6
No	25.00%	2
TOTAL		8

Q20 You indicated that you have already declared your major. Please write your major in the box below.

Answered: 6 Skipped: 2

#	RESPONSES	DATE
1	Computational and Systems Biology	11/30/2019 7:20 PM
2	Environmental Science	11/28/2019 4:43 PM
3	Chemistry	11/26/2019 10:08 PM
4	Molecular and Cellular Developmental Biology	11/26/2019 9:45 PM
5	biology	11/26/2019 9:29 PM
6	Microbiology, Immunology, and Molecular Genetics	11/26/2019 7:44 PM

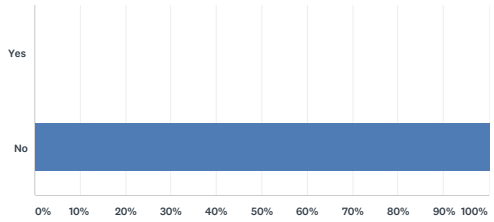
Q21 You indicated that you have not yet declared your major. If you have an idea of what you might major in, please write it in the box below. If you don't know, please leave the box blank.

Answered: 1 Skipped: 7

#	RESPONSES	DATE
1	Marine Biology	11/27/2019 8:12 PM

Q22 Prior to enrolling in your current degree program, did you complete another degree program (either at the same school or another school)?

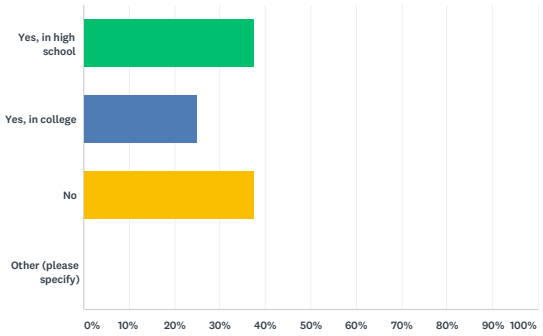
Answered: 2 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	100.00%	2
TOTAL		2

Q24 Before this semester, have you ever done any kind of science research? Select all that apply.

Answered: 8 Skipped: 0

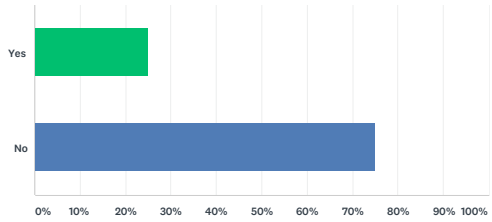


ANSWER CHOICES	RESPONSES	
Yes, in high school	37.50%	3
Yes, in college	25.00%	2
No	37.50%	3
Other (please specify)	0.00%	0
Total Respondents: 8		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q25 Did you take a gap year or any time off (more than a summer) before entering college?

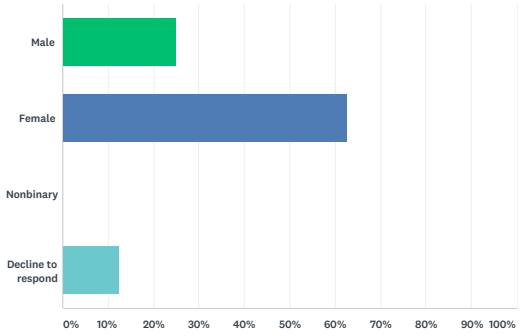
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	25.00%	2
No	75.00%	6
TOTAL		8

Q26 What is your gender?

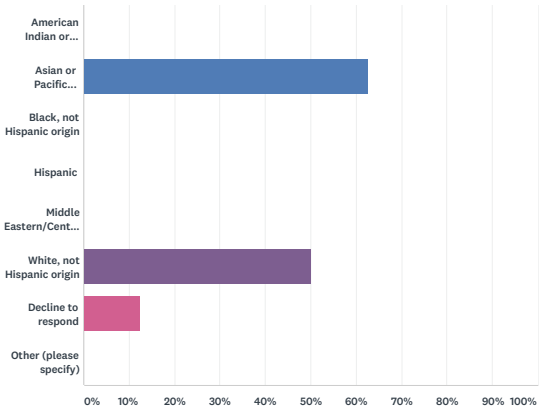
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Male	25.00%	2
Female	62.50%	5
Nonbinary	0.00%	0
Decline to respond	12.50%	1
TOTAL		8

Q27 Which of the following best describes your race/ethnicity? Select all that apply.

Answered: 8 Skipped: 0

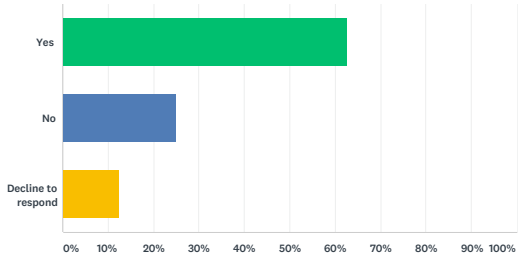


ANSWER CHOICES	RESPONSES	
American Indian or Alaskan Native	0.00%	0
Asian or Pacific Islander	62.50%	5
Black, not Hispanic origin	0.00%	0
Hispanic	0.00%	0
Middle Eastern/Central Asian	0.00%	0
White, not Hispanic origin	50.00%	4
Decline to respond	12.50%	1
Other (please specify)	0.00%	0
Total Respondents: 8		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q28 Were you born in the United States?

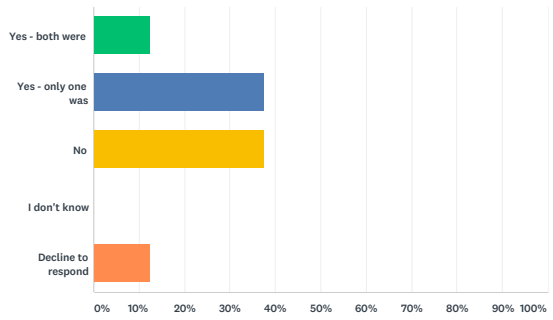
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	62.50%	5
No	25.00%	2
Decline to respond	12.50%	1
TOTAL		8

Q29 Were your parent(s)/guardian(s) born in the United States?

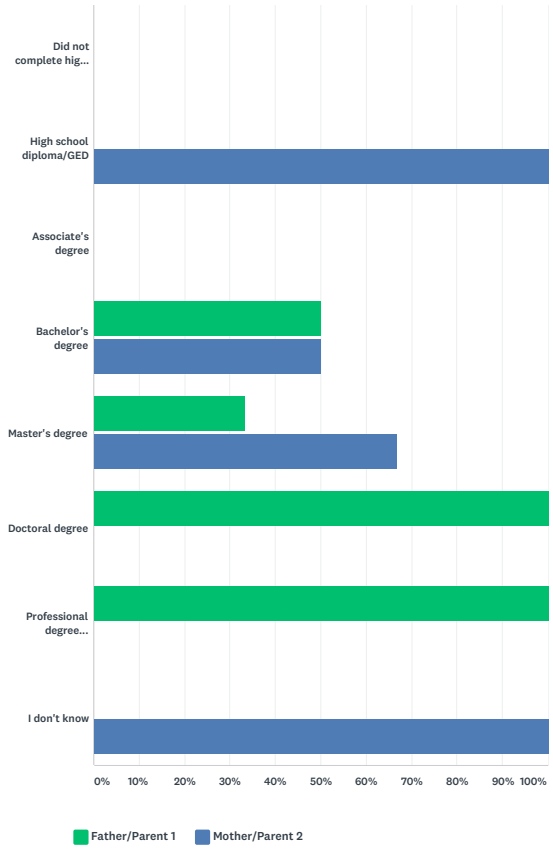
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes - both were	12.50%	1
Yes - only one was	37.50%	3
No	37.50%	3
I don't know	0.00%	0
Decline to respond	12.50%	1
TOTAL		8

Q30 What is the highest level of education attained by your parent(s)/guardian(s)?

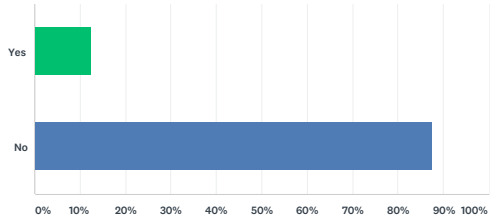
Answered: 8 Skipped: 0



	FATHER/PARENT 1	MOTHER/PARENT 2	TOTAL
Did not complete high school	0.00% 0	0.00% 0	0
High school diploma/GED	0.00% 0	100.00% 1	1
Associate's degree	0.00% 0	0.00% 0	0
Bachelor's degree	50.00% 2	50.00% 2	4
Master's degree	33.33% 1	66.67% 2	3
Doctoral degree	100.00% 2	0.00% 0	2
Professional degree (law/medicine)	100.00% 1	0.00% 0	1
I don't know	0.00% 0	100.00% 1	1

Q31 Are you a transfer student?

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	12.50%	1
No	87.50%	7
TOTAL		8