Supplemental Material

CBE—Life Sciences Education

Beatty et al.

AUM Introductory Biology

Survey Flow

Standard: Block 6 (1 Question)

Block: Demographics (10 Questions) Standard: Science Identity (5 Questions)

Standard: Engagement in Biology (7 Questions)
Standard: Scientific Community Value (5 Questions)

Standard: Course Effectiveness (7 Questions) Standard: Diversity and Identity (5 Questions)

Page Break

Start of Block: Block 6

RESEARCH SUBJECT INFORMATION LETTER

Biodiversifying Introductory Biology: The integration of non-stereotypical scientists into course materials

This form provides essential information about the research study resulting from the survey you are being asked to complete. You are being invited to participate in this study because you are a student in the Introductory Biology course at Auburn University Montgomery Campus.

PURPOSE OF THE STUDY

The purpose of this research study is to improve teaching materials for introductory biology courses in an equitable and inclusive manner. Data will be used to enhance future teaching materials examining the intersection between science and society.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT

For this study, you will be one of many participants over the Fall of 2020 evaluating the teaching methods within the introductory biology curriculum. You will be asked to participate by completing a short survey four times over the course of the semester. It will take an estimated 10-25 minutes of time to complete the survey.

RISKS, BENEFITS AND COSTS

There are no expected risks associated with your participation in this survey. You can stop answering survey questions at any time and are not required to answer any questions that make you upset or uncomfortable. If you find that you leave the survey feeling upset about any of the content, an administrator can provide you with the names of counselors that are available. If 80% of the class completes the survey, each student in the class will be awarded 2 bonus points. A survey administrator will be on site and will be available during the survey administration to answer any questions you may have. The administrator will explain the study in detail prior to the first survey administration. At that time, you may ask any questions about your participation or the information provided in this letter. You may take home this form for future reference and discuss your participation with friends or family before choosing to participate.

CONFIDENTIALITY

No identifiable information will be collected through the survey. Your answers will be anonymous, with each survey being linked by random identifiers. In this case, that will be the first three letters of your mother's first name, and the first three number of your current address. This information is not known to administrators and is unlikely to be associated with a participant. Any raw survey data will be kept in a locked cabinet or safe. Findings from this survey may be used in peer reviewed publications or presentations. Anonymity will continue through publication.

VOLUNTARY PARTICIPATION AND WITHDRAWAL

Participation in this study is not mandatory; however, if you choose to participate, you may leave the study at any time without any consequences within or outside of the classroom.

QUESTIONS

If you have any future questions about participation in the study, available counseling, or questions you prefer to address privately, you can contact:

Abby Beatty, Principal Investigator (724) 993-5057 216 Rouse Life Sciences, Auburn University Aeb0084@auburn.edu

AND/OR

Human Research Protection Program (IRB) (334) 844-5966
115 Ramsay Hall, Auburn University
Auburn, Alabama 36849
irbadmin@auburn.edu

End of Block: Block 6

Start of Block: Demographics

Class Who is your instructor?

Identifier This information will be used to pair your survey responses over time, which maintaining anonymity.

Remember this information for following surveys.

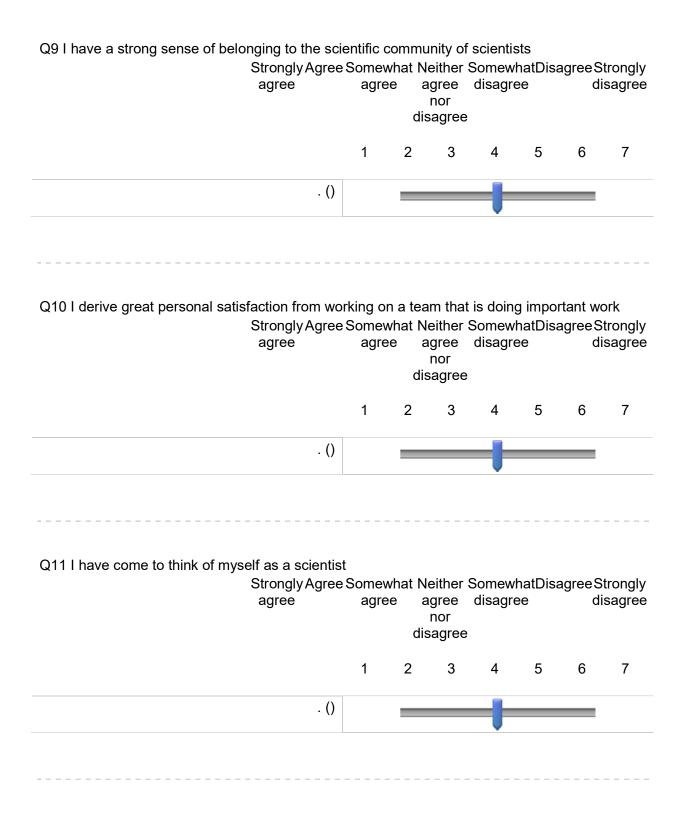
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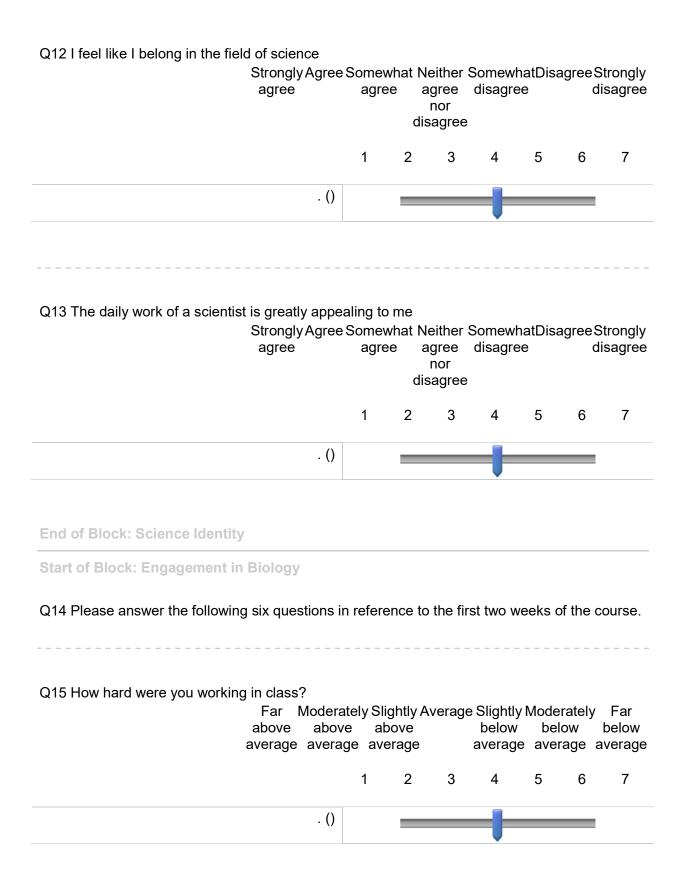
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Q1 Age: What is your current age?	18	70
Click to write Choice 1 ()		
Q2 Ethnic origin: Please specify your ethnicity.		
O Hispanic or Latino (1)		
Black or African American (2)		
Native American or American Indian (3)		
Asian/Pacific Islander (4)		
○ White (5)		
Other (6)		
Q3 How many credits have you completed?		
O-30 (Freshman) (1)		
31-60 (Sophomore) (2)		
O 61-90 (Junior) (3)		
O 91-120 (4)		

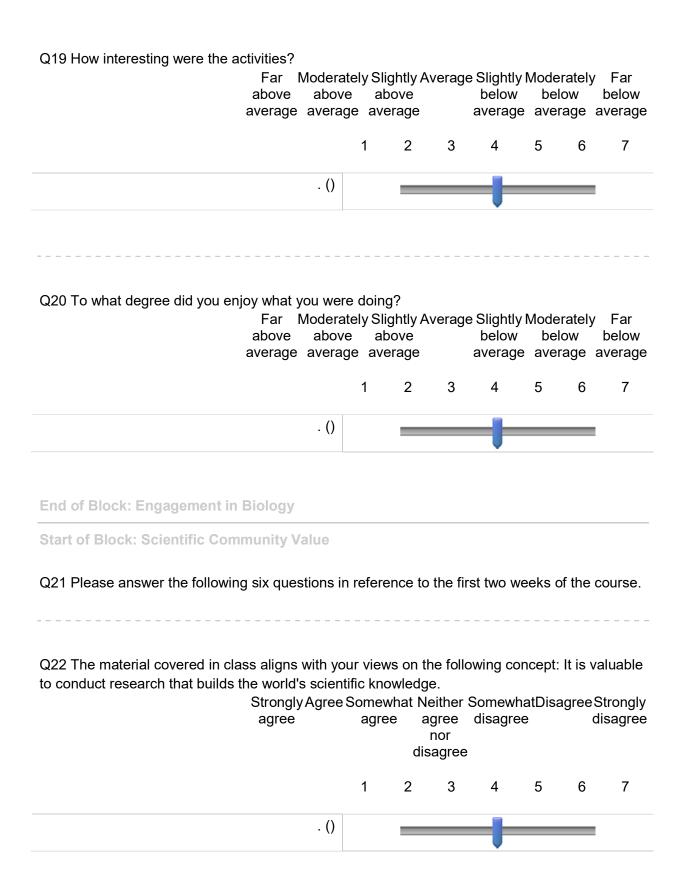
Q4 What is your major?
O Biology (1)
○ Science, but not biology (2)
O Non-science field (3)
O Undecided (4)
Q5 What gender do you identify as? Please choose all that apply.
Male (1)
Female (2)
Transgender (3)
Gender neutral (4)
Agendered (5)
Other (6)
Prefer not to Respond (7)
Q6 Are you a first generation college student?
○ Yes (1)
O No (2)
O Not sure (3)

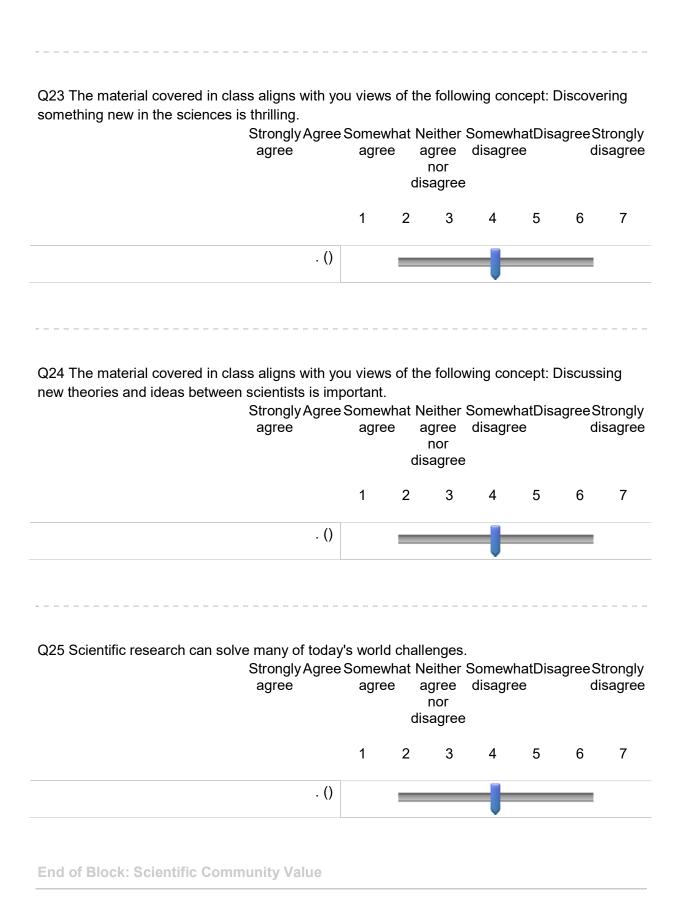
Q7 Place of birth							
O North America (1)							
Central America (2)							
O South America (3)							
C Europe (4)							
O Africa (5)							
O Asia (6)							
O Australia (7)							
O Pacific Islander (8)							
Caribbean Islands (9)							
Other (10)							
O Prefer not to say (11)							
Q8 How likely are you to pursue a career in biolo ExtremelyModera likely likel	atelyS	likely	Neither S likely u nor unlikely				remely
	0	1	2	4	5	6	7
Click to write Choice 1 ()		=					
End of Block: Demographics							
Start of Block: Science Identity							





Q16 How well were you concentrating? Far Moderately Slightly Average Slightly Moderately Far above above above below below below average average average average 1 4 5 7 2 6 3 . () Q17 How important was what you were doing in class to you? Far Moderately Slightly Average Slightly Moderately Far above above below above below below average average average average 1 2 5 7 3 6 . () Q18 How important was this lesson to your future? Far Moderately Slightly Average Slightly Moderately Far above above above below below below average average average average 1 3 5 6 7 . ()





Start of Block: Course Effectiveness

Q26 Please answer the following six questions in reference to the first two weeks of the course. When asked about the intersection of Biology with Societal issues, some examples of societal issues include topics such as politics, gender identity, racism/diversity, human experimentation, human rights, etc. Q27 To what degree has this course peaked your curiosity? Far Moderately Slightly Average Slightly Moderately Far above above above below below below average average average average 1 7 2 4 5 6 3 . () Q28 To what extent is the material taught in this course engaging? Far Moderately Slightly Average Slightly Moderately Far above above above below below below average average average average 1 5 6 7 . () Q29 To what extent is the material offered in this course more meaningful or valuable that that presented in the textbook? Moderately Slightly Average Slightly Moderately Far above above below below above below average average average average 1 2 3 4 5 7 6



End of Block: Course Effectiveness
Start of Block: Diversity and Identity
Q33 In the next two minutes, name all the scientists you can think of.
Q34 How does science impact social perspectives and problems?
Q35 Name one scientist with whom you personally identify and describe why. The example can come from inside or outside of this course.
Q36 Name your favorite scientist and explain why they are your favorite.
Q37 What was your favorite topic covered in the course and why?
End of Block: Diversity and Identity

AUM Introductory Biology - PostCourse

Survey Flow

Standard: Block 6 (1 Question)

Block: Demographics (10 Questions)
Standard: Science Identity (5 Questions)

Standard: Engagement in Biology (7 Questions)
Standard: Scientific Community Value (5 Questions)

Standard: Course Effectiveness (6 Questions) Standard: Diversity and Identity (5 Questions)

Standard: Valuing STEM (11 Questions)

Standard: The Ugly Truth Module (5 Questions)

Standard: Representation in STEM Module (5 Questions) Standard: Science and Identity Module (5 Questions) Standard: Henrietta Lacks Text Questions (7 Questions)

Standard: Final Thoughts (1 Question)

Page Break

Start of Block: Block 6

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AND/OR

Human Research Protection Program (IRB) (334) 844-5966 115 Ramsay Hall, Auburn University Auburn, Alabama 36849 irbadmin@auburn.edu

End of Block: Block 6

Start of Block: Demographics

Abby Beatty (2)

Identifier This information will be used to pair your survey responses over time, which maintaining anonymity. Remember this information for following surveys.

Please create a pin consisting of the first three letters of your mothers first name and the first three numbers of your street address. (Example: ROX1010)

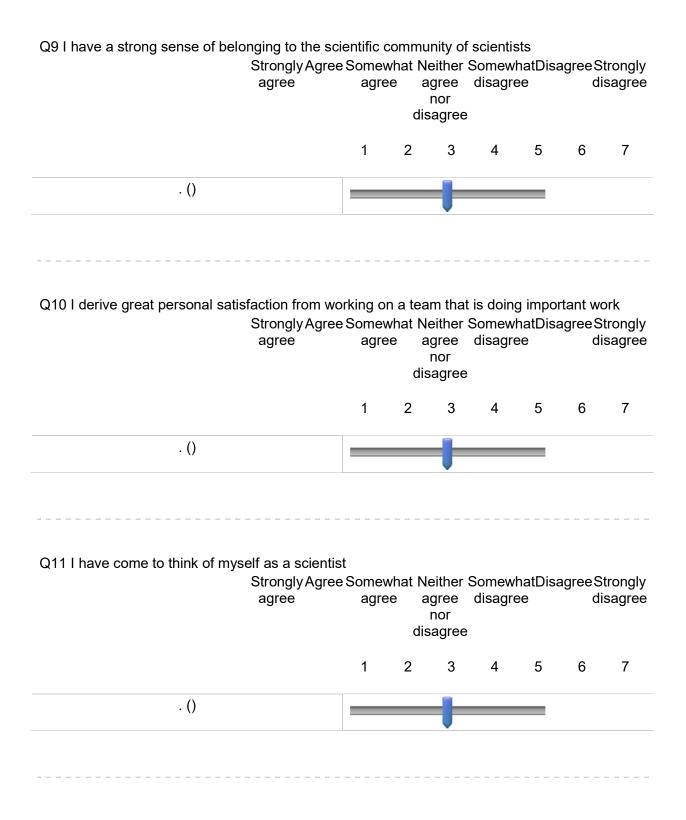
Class Who is your instructor?

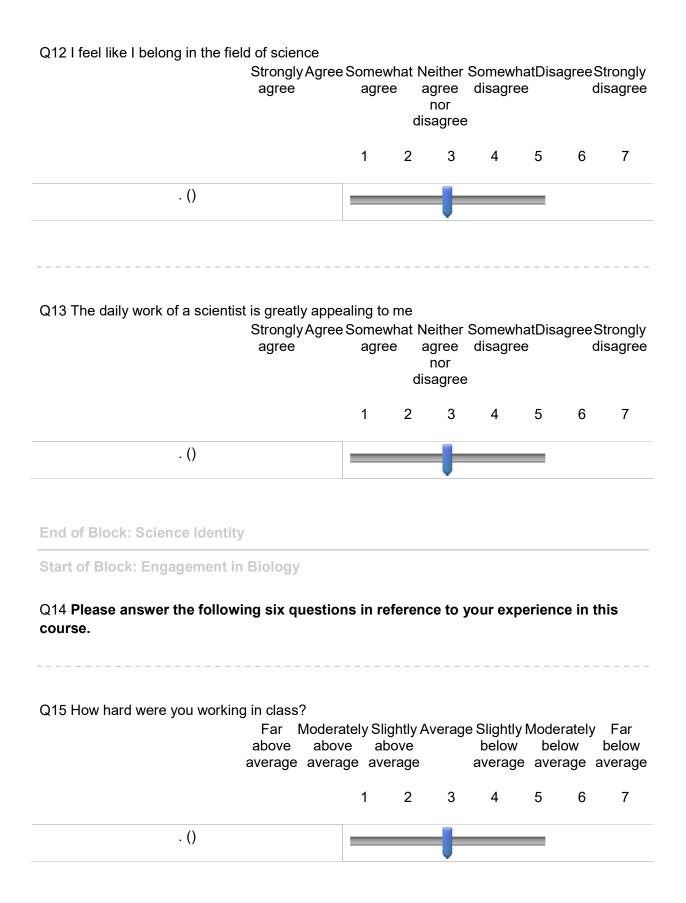
Amy Grilliot (1)

Q1 Age: What is your current age?	18	70
1 ()		
Q2 Ethnic origin: Please specify your ethnicity.		
O Hispanic or Latino (1)		
O Black or African American (2)		
O Native American or American Indian (3)		
Asian/Pacific Islander (4)		
○ White (5)		
Other (6)		
Q3 How many credits have you completed?		
O-30 (Freshman) (1)		
31-60 (Sophomore) (2)		
O 61-90 (Junior) (3)		
O 91-120 (Senior) (4)		

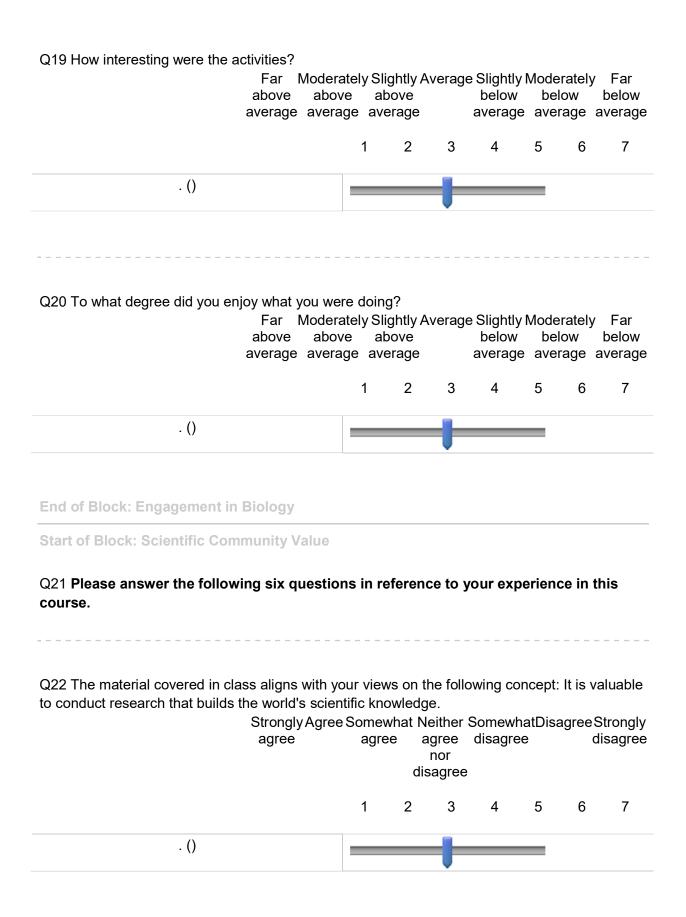
Q4 What is your major?
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O Science, but not biology (2)
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Male (1)
Female (2)
Transgender (3)
Gender neutral (4)
Agendered (5)
Other (6)
Prefer not to Respond (7)
Q6 Are you a first generation college student?
○ Yes (1)
O No (2)
O Not sure (3)

Q7 Place of birth							
O North America (1)							
Central America (2)							
O South America (3)							
C Europe (4)							
O Africa (5)							
O Asia (6)							
O Australia (7)							
O Pacific Islander (8)							
Caribbean Islands (9)							
Other (10)							
O Prefer not to say (11)							
Q8 How likely are you to pursue a career in biolo ExtremelyModer likely likel	atelySli	kely	NeitherS likely u nor unlikely				remely
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End of Block: Demographics							
Start of Block: Science Identity							



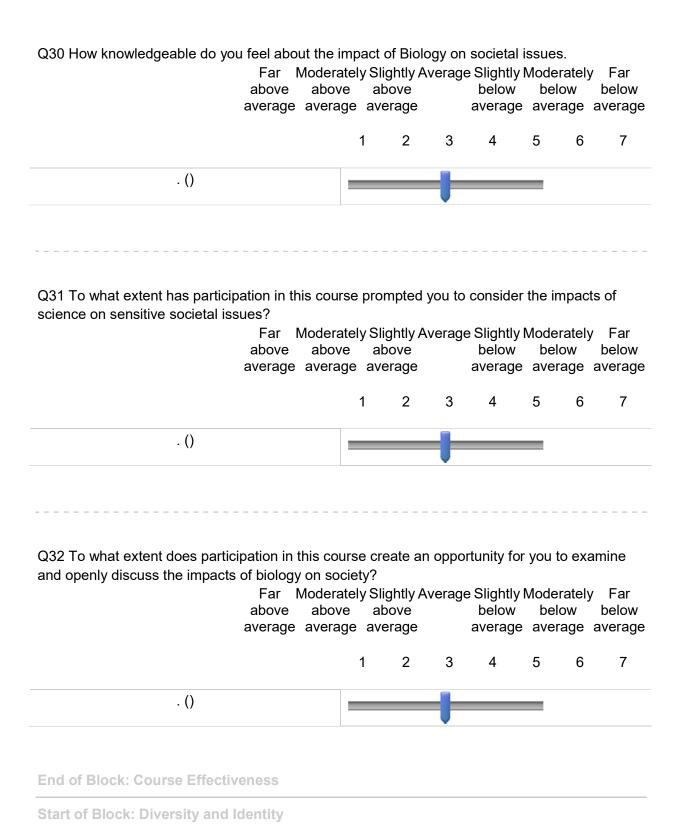


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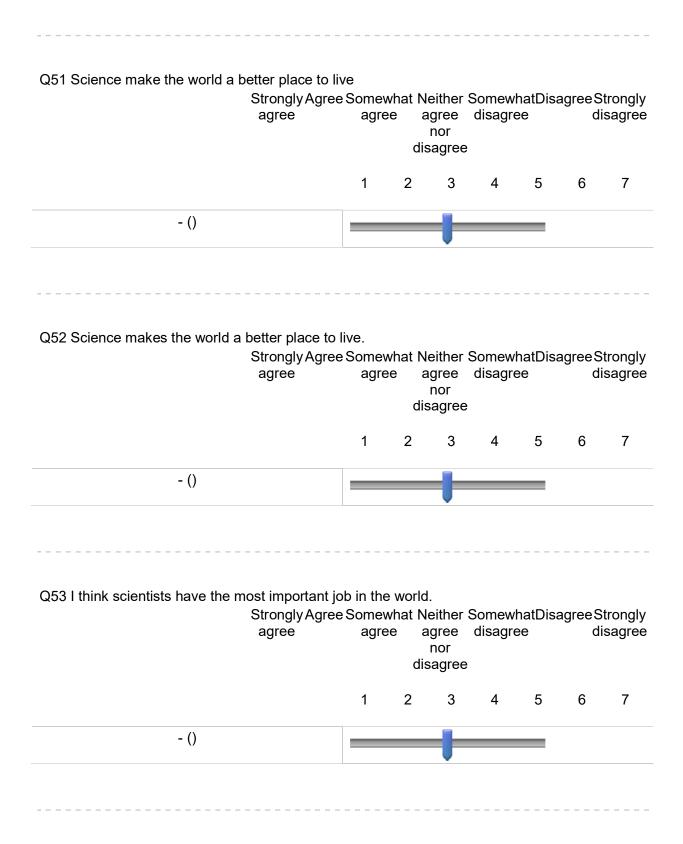
Q23 The material covered in class align something new in the sciences is thrilling	-	ı views	of the	follow	ing con	icept: D	iscove	ring
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Q24 The material covered in class alignew theories and ideas between scient	-		of the	follow	ing con	cept: D	iscuss	ing
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Q25 Scientific research can solve many	y of today's glyAgreeS			-	Somewl	natDisa	aree St	tronalv
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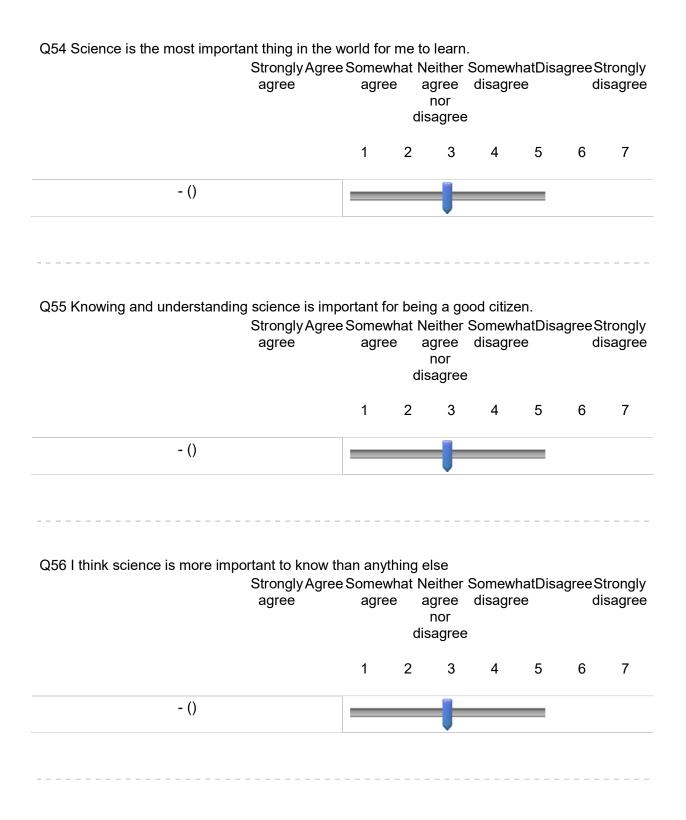
End of Block: Scientific Community Value



SOS	In the next two minutes, name all the scientists you can think of.	
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34	How does science impact social perspectives and problems?	
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	Name one scientist with whom you personally identify and describe why. The exage from inside or outside of this course.	ample car
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_		
36	Name your favorite scientist and explain why they are your favorite.	
_		

Q37 What was your favorite topic cover	ed in the course a	nd why?			
End of Block: Diversity and Identity					
Start of Block: Valuing STEM Q49 How important is it for you to learn	about science? Extremely important in				
	1	2	3	4	5
- ()		-		_	
Q50 Scientists think about how the natu				-	
	Extremely important in				
	1	2	3	4	5
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Q57 Knowing science helps me ι	understand how Strongly Agree agree		what No ee a					rongly sagree
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Q58 Thinking like a scientist will h	nelp me in und StronglyAgree agree		what No	either S gree nor agree	omew disagre	ee	dis	sagree
		1	2	3	4	5	6	7
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Q59 Thinking like a scientist will h	nelp me do well	 in						
O All of my classes (1)								
O Most of my classes (2)								
O A few classes (3)								
O None of my classes (4)								
End of Block: Valuing STEM								
Start of Block: The Ugly Truth	Module							
Display This Question: If Who is your instructor? = Abb	y Beatty							

Page 34 of 43

History' Module: This module included human experimentation, the evolution of human rights, environmental racism, and disparities in health care. Display This Question: If Who is your instructor? = Abby Beatty Q48 I enjoyed the "The Ugly Truth of Science History" module. Strongly Agree Somewhat Neither Somewhat Disagree Strongly agree agree disagree disagree agree nor disagree 1 2 5 6 7 3 - () Display This Question: If Who is your instructor? = Abby Beatty Q69 I was aware of the information presented in this module prior to class. Strongly Agree Somewhat Neither Somewhat Disagree Strongly disagree agree agree agree disagree nor disagree 3 4 5 6 7 - ()

Q81 Please answer the following questions in reference to "The Ugly Truth of Science

Display This Question:

If Who is your instructor? = Abby Beatty

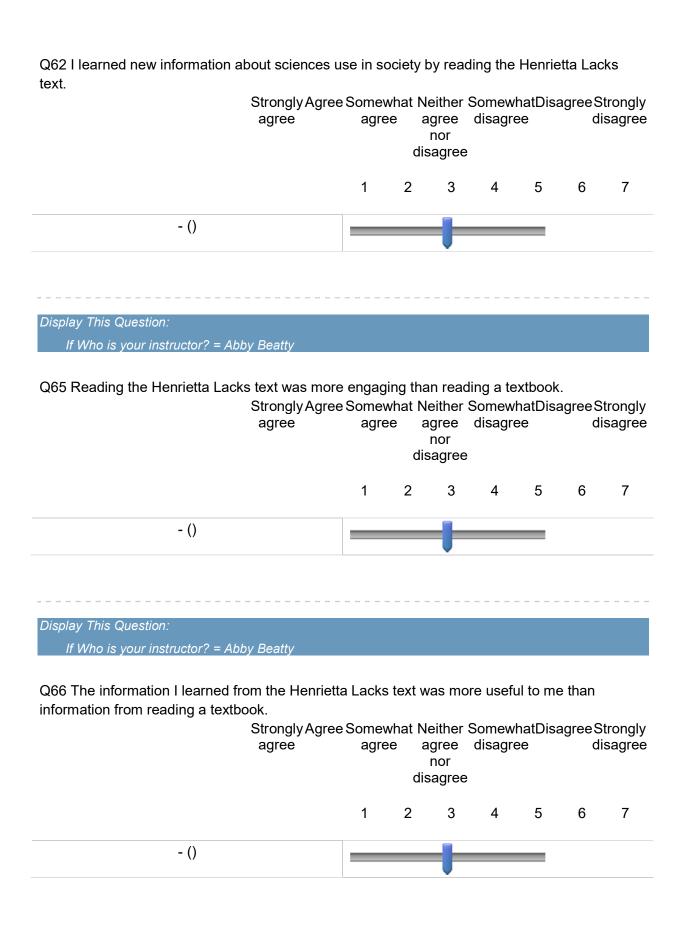
Q67 What did you like about the "The Ugly Truth of Science History" module?	
Display This Question:	
If Who is your instructor? = Abby Beatty	
Q68 What did you dislike about the "The Ugly Truth of Science History" module?	
Goo What are you didnite about the The ogry Train of colonice Flictory Incuario.	
Find of Diocky The Holy Twith Module	
End of Block: The Ugly Truth Module	
Start of Block: Representation in STEM Module	
Display This Question:	
If Who is your instructor? = Abby Beatty	
Q80 Please answer the following questions in reference to the "Representation in ST	⊏ \//''
Module:	LIVI
This module included information on the lack of diversity in STEM fields, the importa	
of role models, an explanations of contributions of scientists from diverse background	ıds,
and guidance on what you can do to help.	
Display This Question:	
If Who is your instructor? = Abby Beatty	

Q71 I enjoyed the "Representation i	n STEM" mo	dule.						
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Display This Question: If Who is your instructor? = Abby B	Beattv							
Q72 I was aware of the information			vhat Ne e aç	either S				trongly sagree
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- ()								
Display This Question:	0.046							
If Who is your instructor? = Abby B								
Q73 What did you like about the "Re	epresentatio	n in STI	EM" mo	odule?				
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							_	
							_	

Display This Question:							
If Who is your instructor? = Abby Beatty							
Q74 What did you dislike about the "Representa	ation in	STEM"	modul	e?			
						_	
						_	
End of Blocks Bonzocontation in STEM Modu	lo.						
End of Block: Representation in STEM Modu	116						
Start of Block: Science and Identitiy Module							
Display This Question: If Who is your instructor? = Abby Beatty							
Q79 Please answer the following questions i Module": This module included the relationship of sci							y
Disales This Ossetian							
Display This Question: If Who is your instructor? = Abby Beatty							
Q75 I enjoyed the "The Science and Society" m StronglyAgree agree		ee a(omewh disagre		-	trongly sagree
	1	2	3	4	5	6	7
- ()			-				

Display This Question:							
If Who is your instructor? = Abby Beatty							
Q76 I was aware of the information presented in Strongly Agree agree		what N ee a	either S		hatDisa ee		trongly sagree
	1	2	3	4	5	6	7
- ()							
Display This Question:							
If Who is your instructor? = Abby Beatty							
Q77 What did you like about the "Science and Id	dentity'	' modul	e?				
Display This Question: If Who is your instructor? = Abby Beatty							
Q78 What did you dislike about the "Science an	d Ident	ity" mo	dule?				
						_	

End of Block: Science and Identitiy Module Start of Block: Henrietta Lacks Text Questions Display This Question: If Who is your instructor? = Abby Beatty Q60 I enjoyed reading the Henrietta Lacks text. Strongly Agree Somewhat Neither Somewhat Disagree Strongly agree agree agree disagree disagree nor disagree 1 2 3 4 5 6 7 - () Display This Question: If Who is your instructor? = Abby Beatty Q61 I believe reading the Henrietta Lacks text was engaging. Strongly Agree Somewhat Neither Somewhat Disagree Strongly agree agree disagree disagree agree nor disagree 1 2 3 5 6 7 - () Display This Question: If Who is your instructor? = Abby Beatty



Disp	olay This Question:	
	If Who is your instructor? = Abby Beatty	
Q63	3 What did you like about reading the Henrietta Lacks text?	
Disp	play This Question:	
	If Who is your instructor? = Abby Beatty	
Q04	What did you dislike about reading the Henrietta Lacks text?	
End	l of Block: Henrietta Lacks Text Questions	
Sta	rt of Block: Final Thoughts	
	If there are any final thoughts you would like to share, please do so here:	

End of Block: Final Thoughts