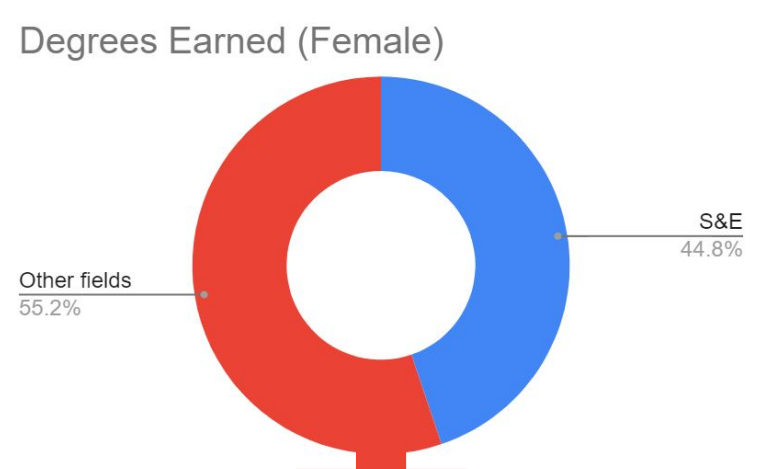
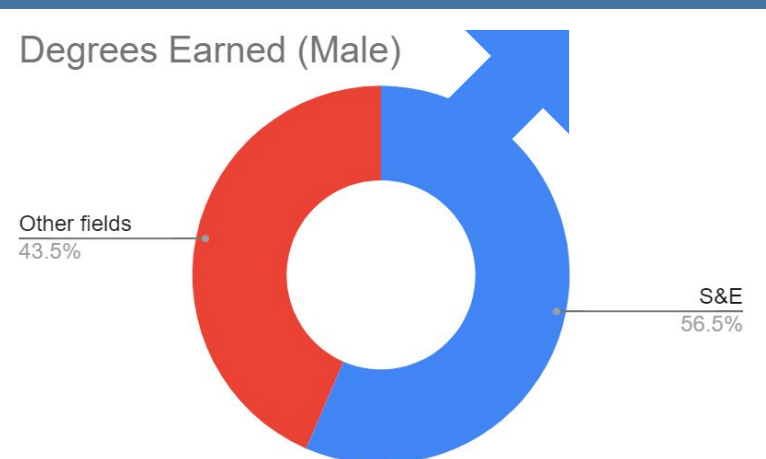
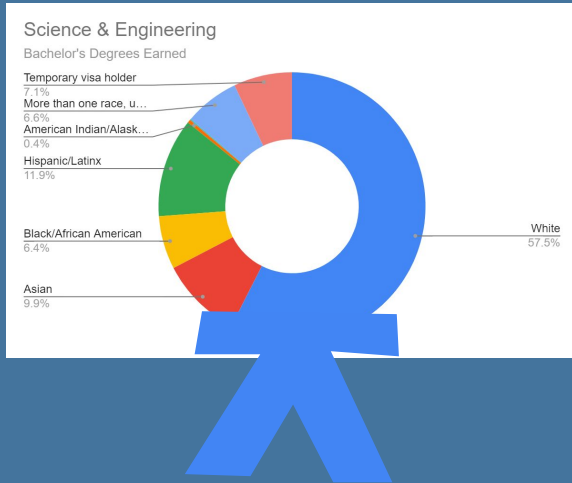
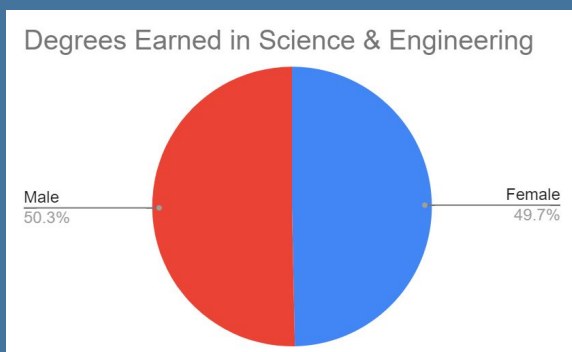


- How to Keep and Grow Interest in STEM
- Increase Diversity in STEM fields

How does knowledge of STEM connections drive interest in STEM fields?

### Diversity in STEM



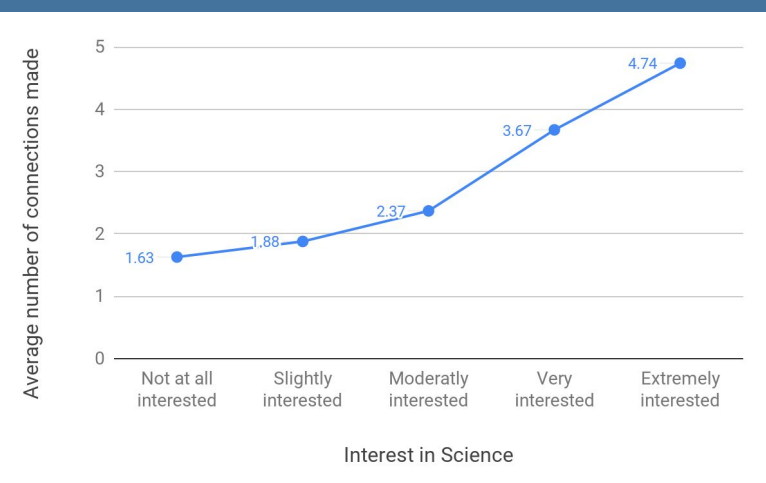
### Methods & Data

Survey of 208 college students in an Introduction to Geology course:



- What is Geology
- How interested are you in [STEM Subject]
- How does Geology relate to [STEM Subject]

[STEM Subject]: Chemistry, Biology, Engineering, Physics, Math, Environmental Science



Unsure/IDK	143
unclear/vague explanation	11
forces acting upon the earth (gravity, etc.)	13
earth movements/processes	29
know physics to know geo/phys is base	11



Unsure/IDK	140
unclear/vague explanation	6
ground being worked on	45
mining/gathering of materials	13
technological advances	5

Unsure/IDK	94
unclear/vague explanation	19
organisms interacting w/ earth & landscape	29
Fossils	36
earth over time	6
both a study of the earth	12
age of things	2
"A" affects "B"	9



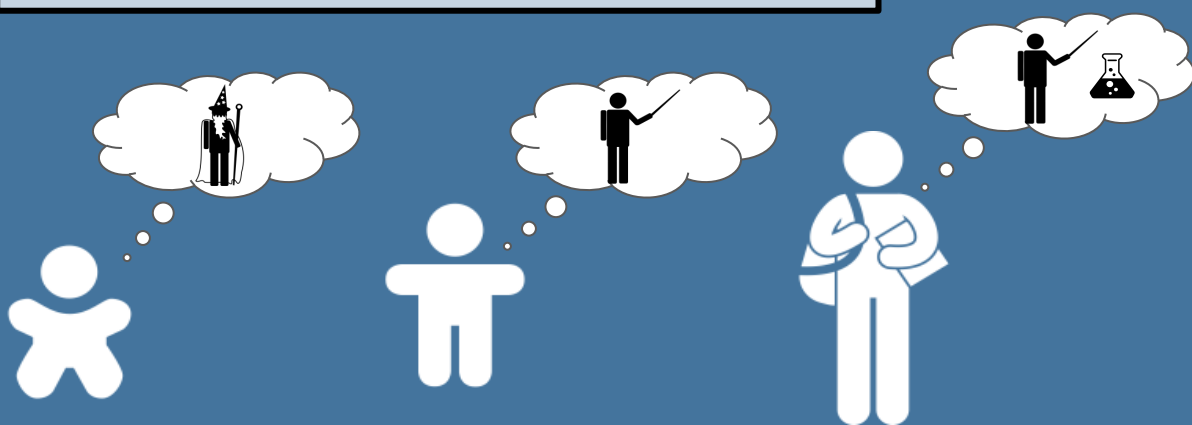
Unsure/IDK	81
unclear/vague explanation	7
ecosystems/environment changes	32
pollution/hazards	9
past earth	15
both are the same/related	56
"A" affects "B"	10

Unsure/IDK	136
unclear/vague explanation	6
science derived from math	12
#s/equations/calculations	50



Unsure/IDK	87
unclear/vague explanation	9
minerals/compounds	11
chemical dating	13
chemical makeup	42
chemical shaping/formations	39

### Conclusion & Future Works



- Repeat for other STEM subjects
  - Students definition of Physics & its relations
  - Students definition of Biology & its relations
- Track K-12 Students career goals
- Summer experience<sup>2</sup>

Sources:  
<sup>1</sup> National Science Foundation, National Center for Science and Engineering Statistics. 2019. Women, Minorities, and Persons with Disabilities in Science and Engineering: 2019. Special Report NSF 19-304. Alexandria, VA. Available at <https://www.nsf.gov/statistics/wmpd/>  
<sup>2</sup> Miller, K. C., Carrick, T., Martinez-Sussmann, C., Levine, R., Andronicos, C. L., & Langford, R. P. (2007). Effectiveness of a Summer Experience for Inspiring Interest in Geoscience Among Hispanic-American High School Students. *Journal of Geoscience Education*, 55(6), 596-603. doi:10.5408/1089-9995-55.6.596  
<sup>3</sup> Häussler, P., Hoffmann, L., Langeheine, R., Rost, J. and Sievers, K. (1998) A typology of students' interest in physics and the distribution of gender and age within each type. *International Journal of Science Education* 20(2), 223-238.

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