



**COLLEGE OF
SCIENCE AND
MATHEMATICS**
JAMES MADISON UNIVERSITY®

Driven By Discovery

Your Springboard team:

- **Dr. Cynthia Bauerle,**
Dean
- **Dr. Marcus Davis,**
Associate Dean
- **Dr. Anthony Tongen,**
Associate Dean & Interim Vice
Provost, Office of Research and
Scholarship
- **Dr. Steve Garren,**
Assistant Department Head,
Mathematics & Statistics
- **Hope Gallagher,**
Communications Assistant

College of Science and Mathematics

KNOWLEDGE

Discovery leads to new knowledge and understanding about our world



College of Integrated Science and Engineering

APPLICATION

Knowledge applied to
real-world problems



College of Health and Behavioral Studies

INTEGRATION

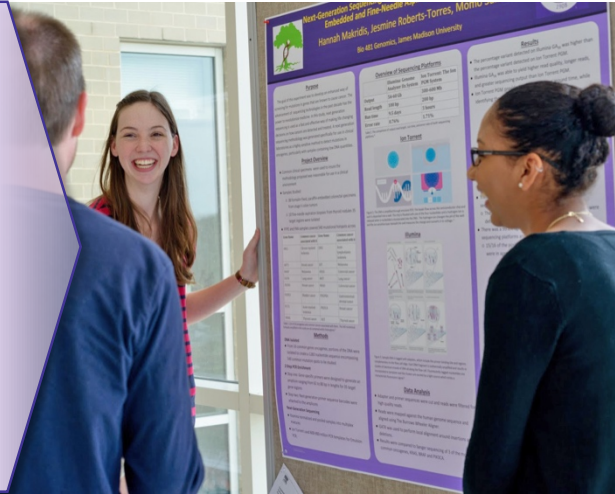
Knowledge and applications
integrated to improve lives



Preparing for Careers in Science & Mathematics

A diversity of programs for a fast changing world

- 13 Majors
- 14 Minors
- 18 Concentrations
- **NEW Minor in Data Analytics (Fall 2019)!**



Classrooms and labs that reflect the collaborative nature of real careers

"Discovery Practice"
Learn science & math by doing science & math!



Small college personal connections, large university opportunities.

Our student to faculty ratio is only 11:1!



Our students participate in original research on real-world problems.

Collaborate with our award-winning faculty and staff.



Preparing for Careers in Science & Mathematics

Work with leading edge instrumentation.

- Madison Accelerator Lab
- Nuclear Magnetic Resonance Facility
- Center for Genome and Metagenome Studies



Take your study abroad!

Study Abroad programs provide a chance for exchange and a new perspective on the World.



Learn by teaching others.

Communication skills comes with practice. Experts share their expertise!

Participate in outreach and education.

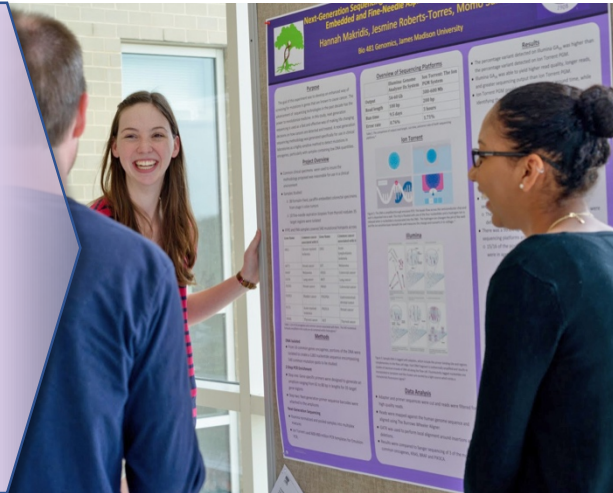
- Expanding Your Horizons
- Center for STEM Education & Outreach
- John C. Wells Planetarium
 - Many others!



Preparing for Careers in Science & Mathematics

**Present your results to
the research community**

**CSM majors participate in
many local, national, and
international conferences
and symposia each year.**



**Gain the scientific
foundations of
professional practice.**

- Medicine
- Pharmacy & Dentistry
- Veterinary Medicine
- Data Sciences
- Statistics
- Engineering
- Many, many more



**~40% of CSM graduates
enter the STEM workforce:**

- Lab technician
- Industrial scientist
- Science and education policy
- Field scientist
- Clinical assistant

**~50% of CSM graduates pursue
advanced STEM training:**

- Graduate Education
- Professional school
- Internships



**CSM graduates accepted
at top graduate programs:**

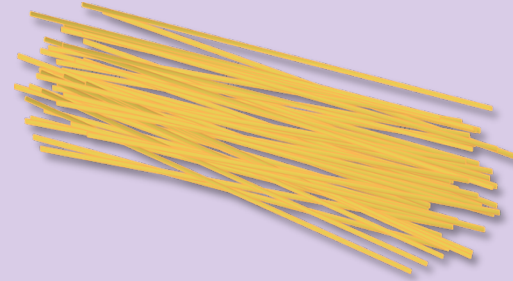
- Virginia Tech
- Duke University
- UNC-Chapel Hill
- UC-Davis
- Purdue University
- Cornell University
- Harvard University
- University of Virginia
- University of Chicago
- Johns Hopkins University
- University of Texas-Austin
- George Washington University



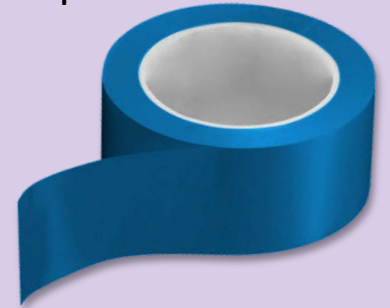
The Marshmallow Tower Challenge!

Each team will receive one paper bag containing materials and has 18 minutes to use the materials in the bag to create the tallest **freestanding** tower as measured from the base (the ground) to the top (the marshmallow).

Dried spaghetti



Tape



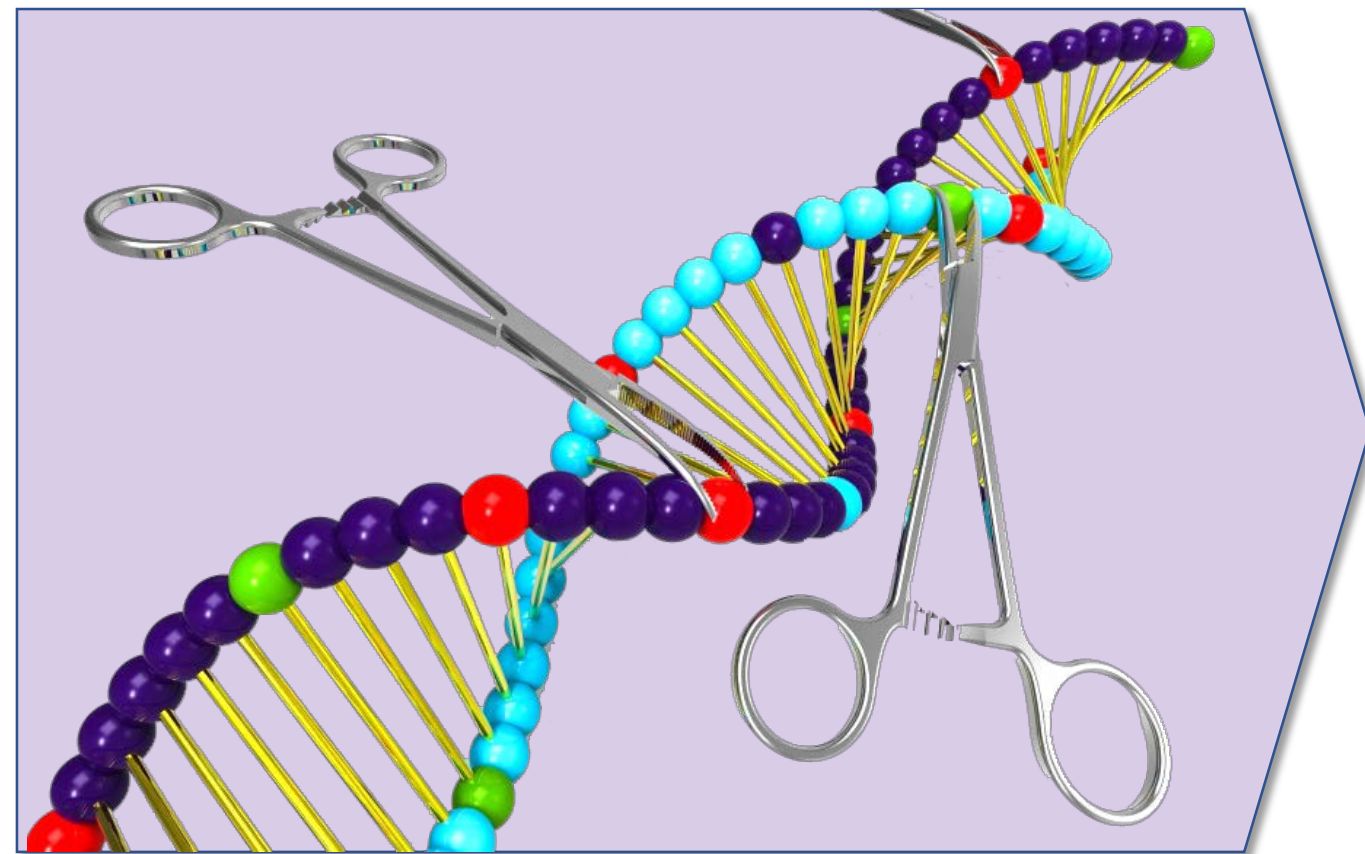
String



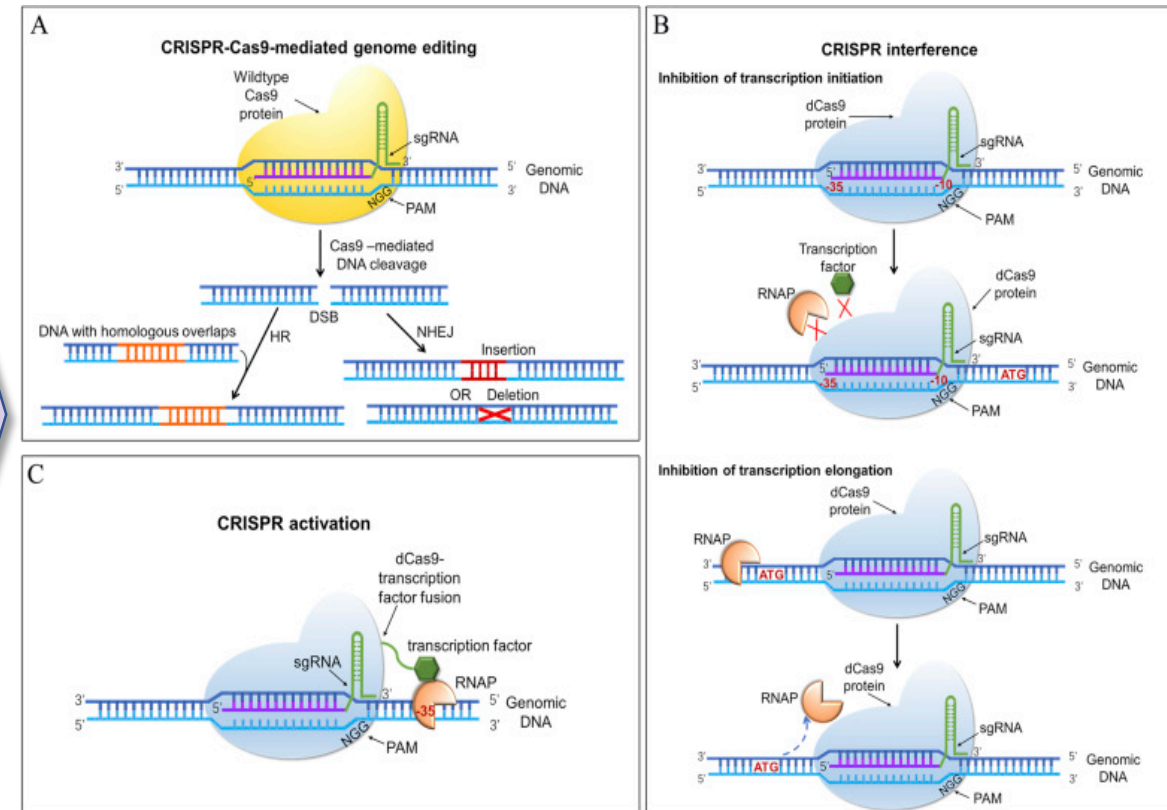
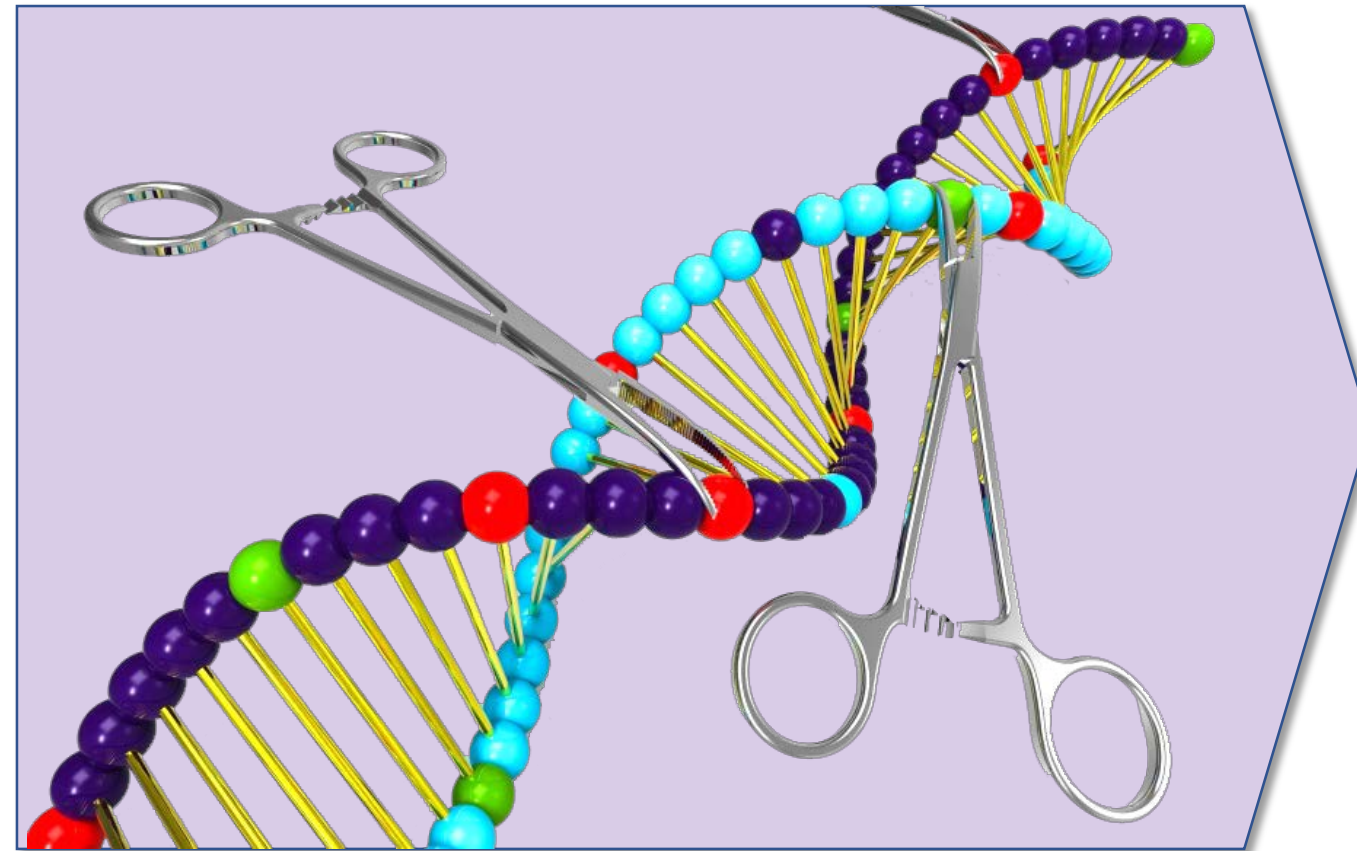
One marshmallow



What is this?

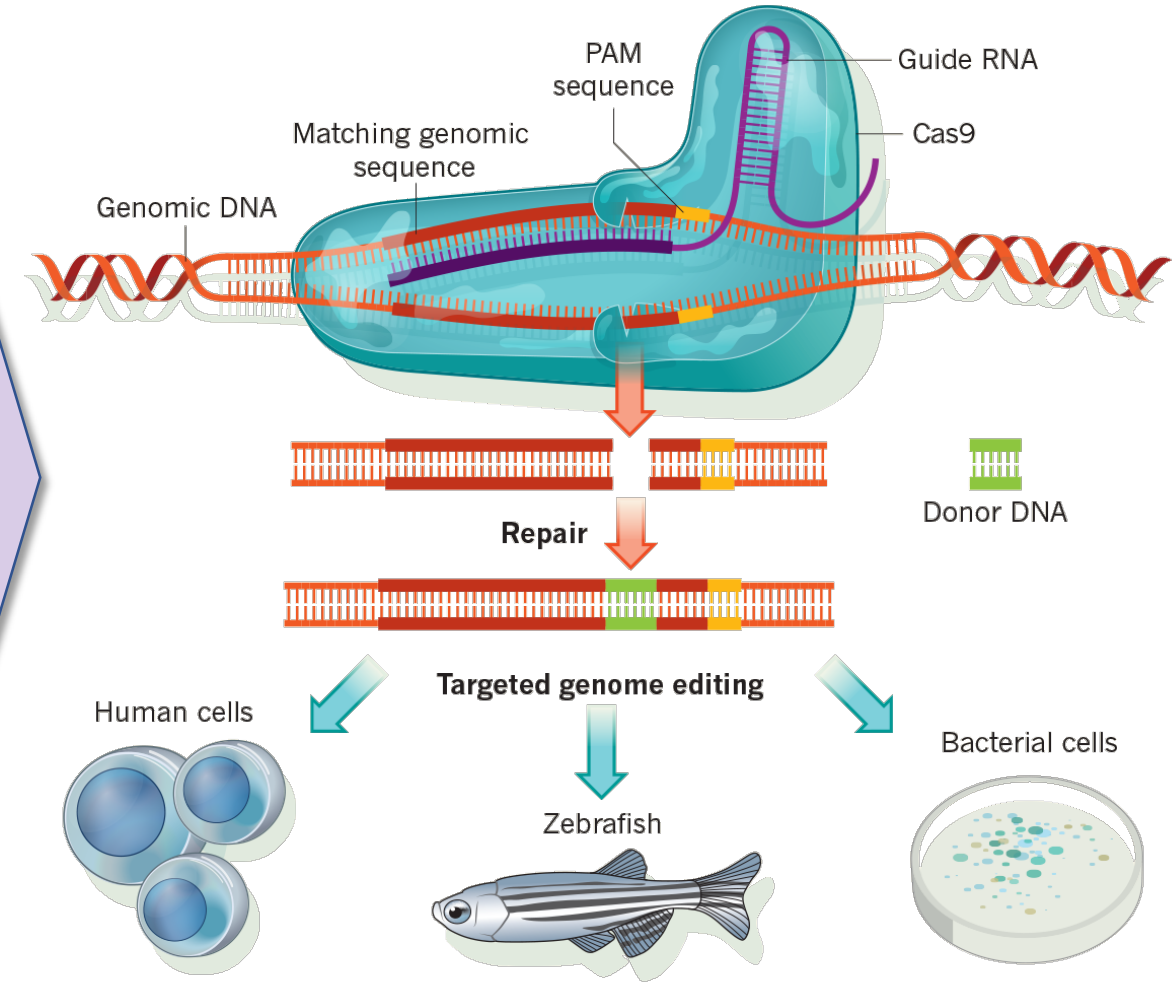
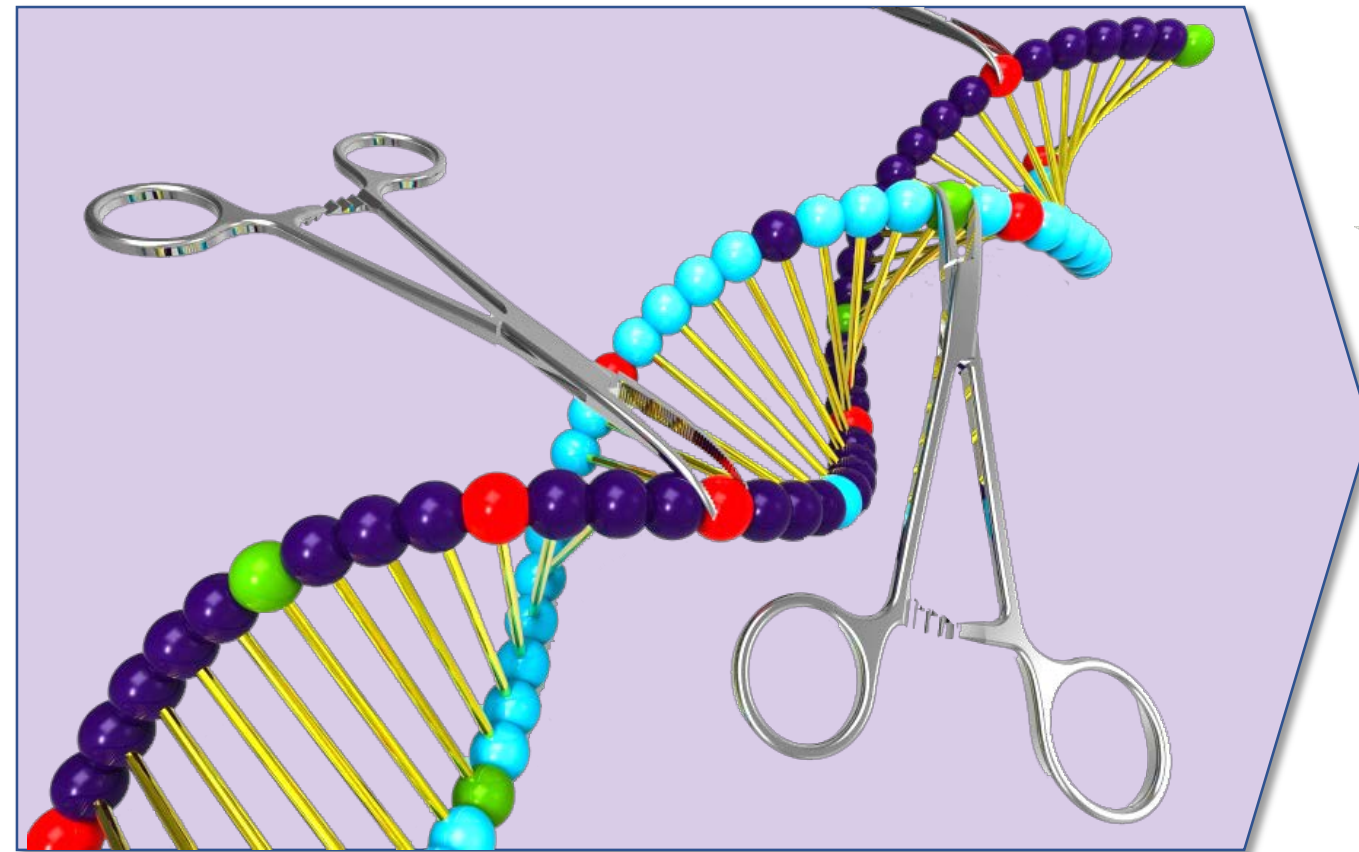


Gene Editing with: *Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)*



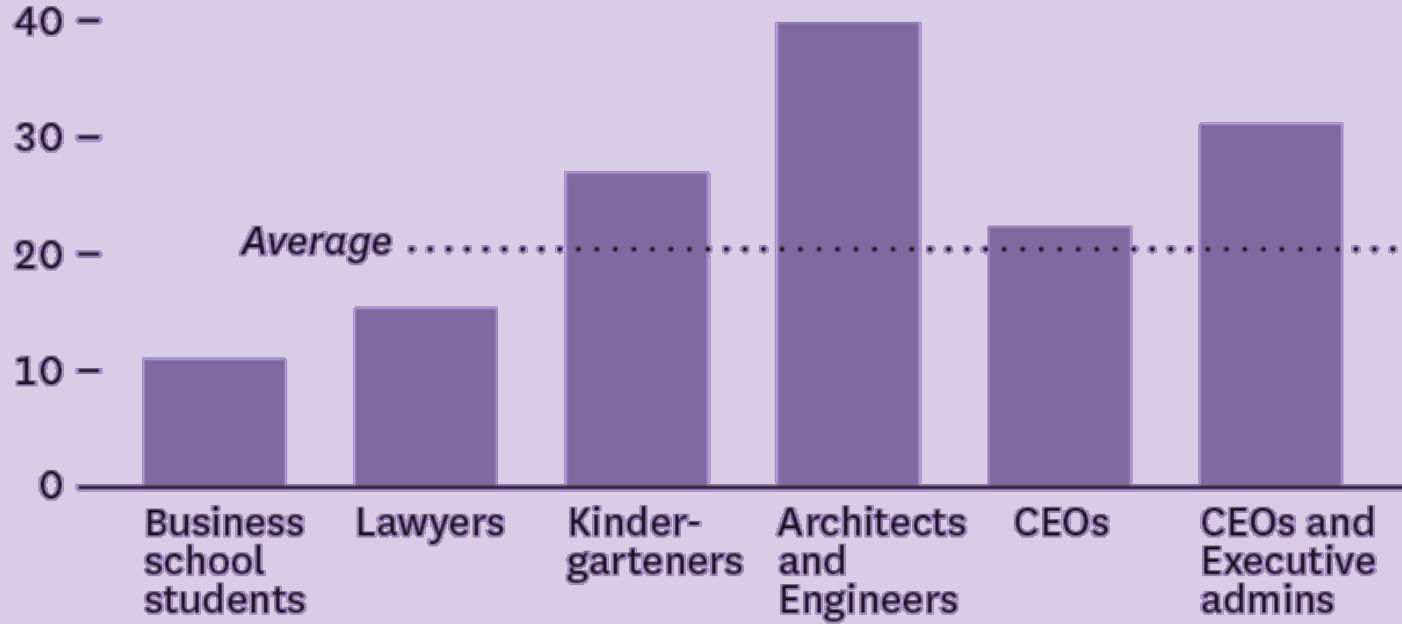
Tian et al., 2017

Gene Editing with: *Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)*



Charpentier & Doudna, 2013

TOWER HEIGHT (IN INCHES)



SOURCE TOM WUJEC, TED APRIL 2010

HBR.ORG

“Discovery consists of looking at the same thing as everyone else and thinking something different.”

- Albert von Szent-György

How did you do?



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