

STEM Chalk Talk - Biological Sciences

Reference Meeting - December 1, 2017
Joanna Thielen

A still from the TV show 'The Big Bang Theory' featuring Sheldon Cooper. He is wearing a white lab coat over a dark t-shirt with a colorful geometric design. He is holding a yellow Tamagotchi in his right hand and looking at it with a focused expression. The background shows a laboratory setting with a brown cabinet and a bulletin board covered in various papers and diagrams.

**"I have plenty of experience in biology.
I bought a tamagotchi in 1988 aaand....
it's STILL alive. Let's do this!"**



OU's Biological Sciences Dept.

Research

FY17: awarded \$2.6 million in grant funding (over \$2 million from federal government)

FY17: Research Award for most productive department

Curriculum

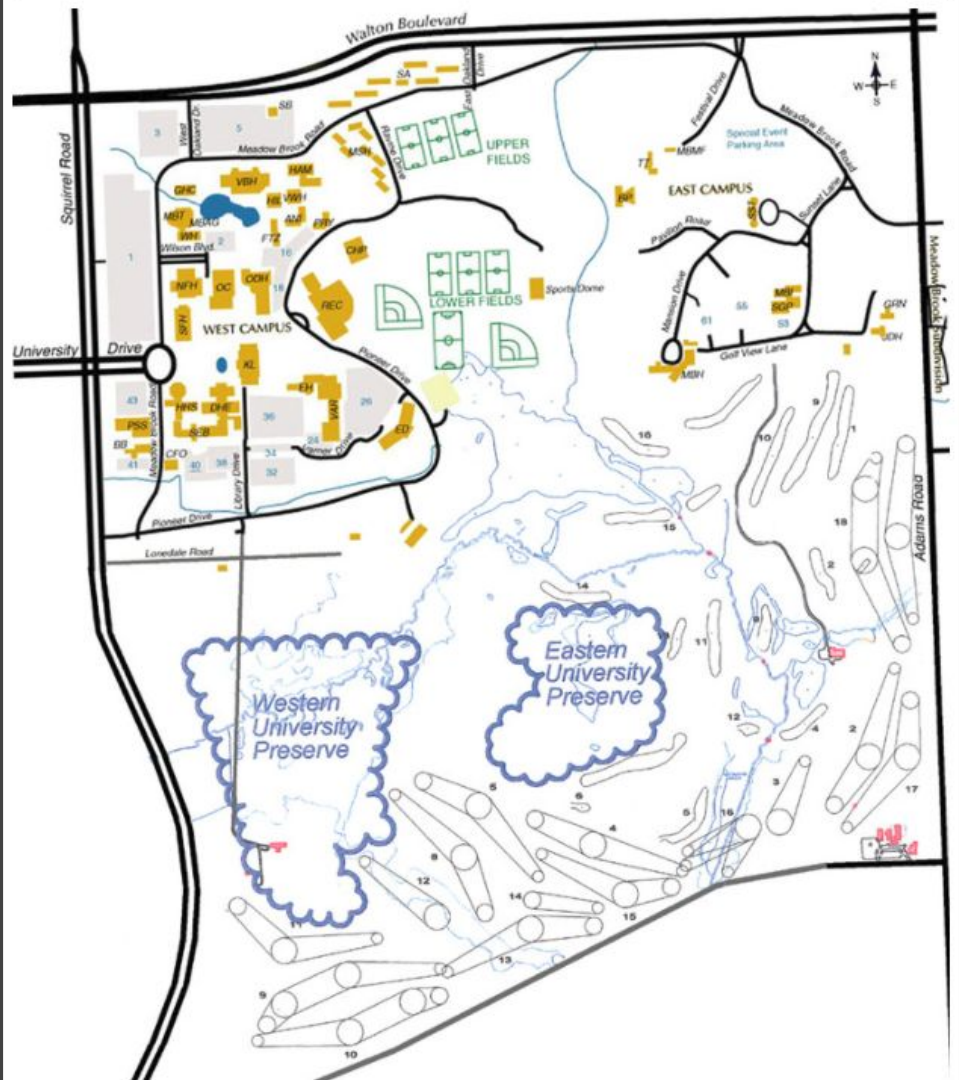
Of all STEM depts → the most writing courses

The background is a solid orange color. In the top-left corner, there are three vertical bars of varying heights, each composed of several overlapping circles. In the bottom-right corner, there are four vertical bars of varying heights, also composed of overlapping circles.

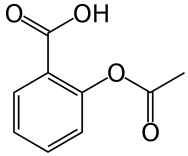
**What's a unique feature on
OU's campus that
contributes to Biological
Sciences research?**

OU's Biological Preserves

- ~ 110 acres
- 40+ articles published based on research conducted here
- Facilitates student research



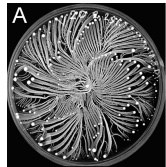
The many sub-disciplines of Biological Science



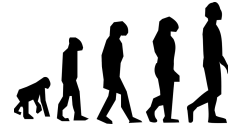
Molecular and Cellular
Biology



Genetics and
Developmental Biology



Microbiology and
Immunology



Ecology and Evolution



Plant Biology



Entomology



Zoology

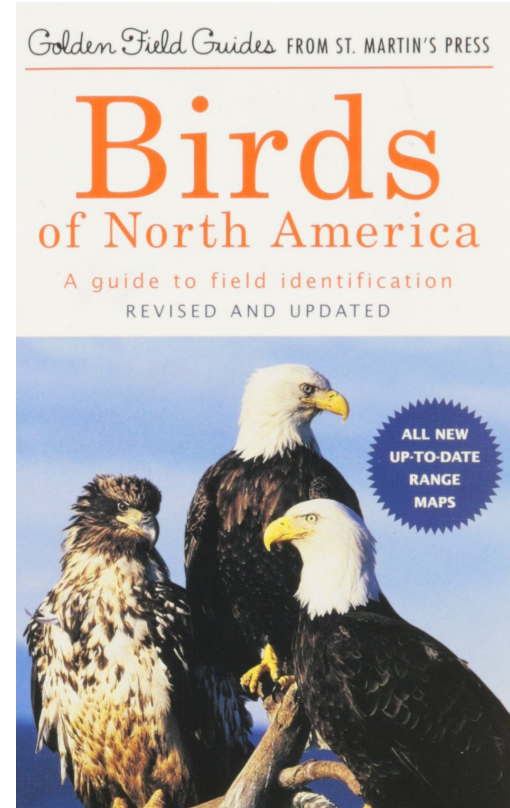


Common information needs

- Scholarly, peer reviewed journal articles
- Books
- Grey literature
 - Governmental reports
 - Non-profit/NGO reports

Field guides

- Identify wildlife (often by appearance)





Databases = the usual suspects



Scopus®

PubMed



Biological & Agricultural Index Plus

- 1986-present
- ~ 100 full-text journals
- ~ 390 publications indexed
- Includes popular sources, book reviews, letters to the editor

Example topics: genetically modified organisms, climate change, endangered species, antibiotic use in livestock

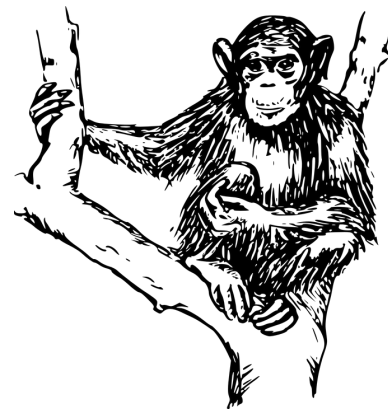
Searching for publications on an organism

Search by the common name **and** scientific name

Common name: Chimpanzee

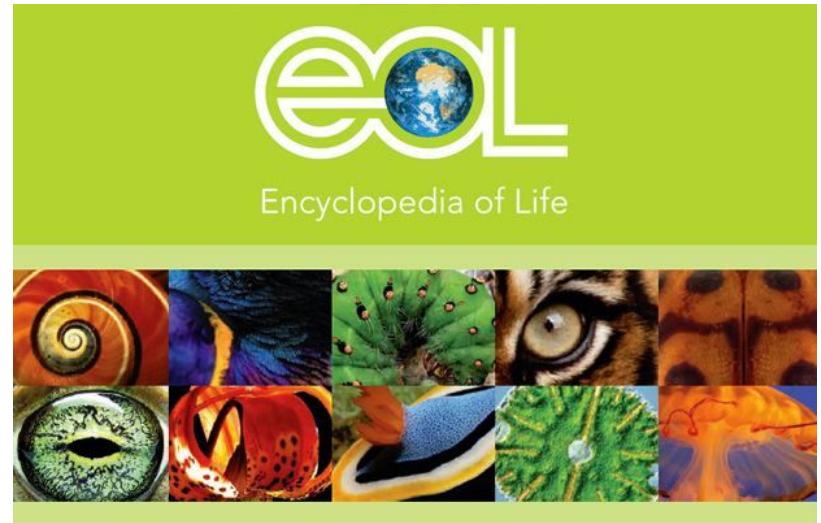
Scientific name: *Pan troglodytes*

Chimpanzee OR “pan troglodytes”



Encyclopedia of Life (eol.org)

“An online database for all
1.8 million species now
known to live on Earth”



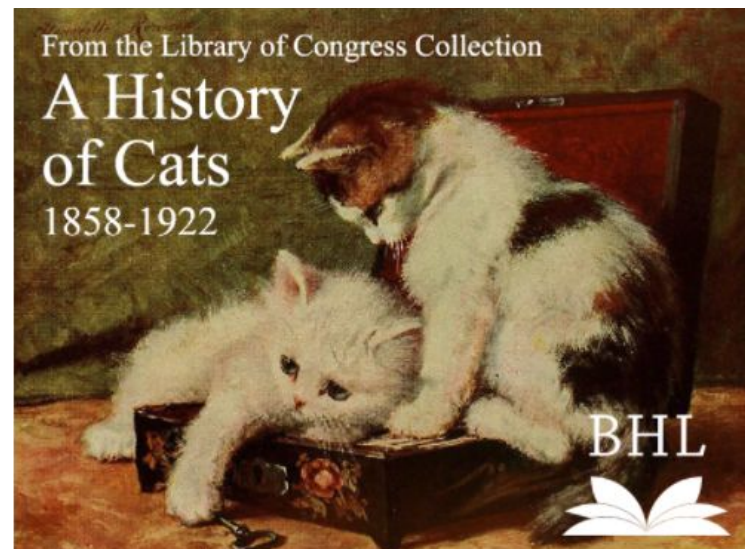
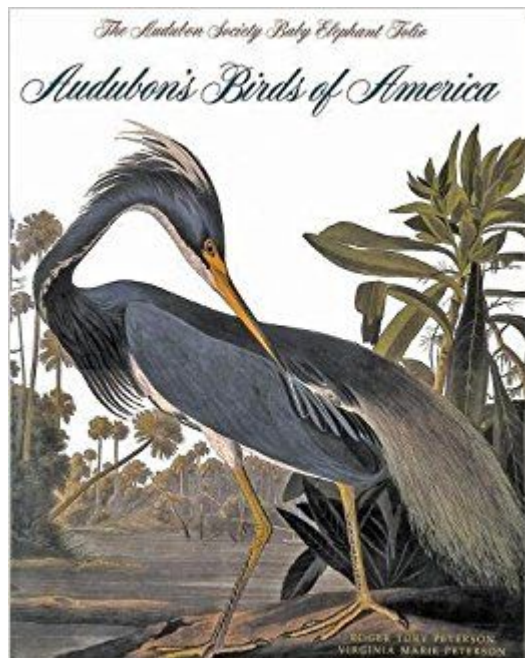


Biodiversity Heritage Library

- Int'l consortium of natural history and botanical libraries
- Goal: digitize and make available (open access!) literature of biodiversity
- 200,000+ volumes digitized
- Use cases:
 - Identify new species
 - Learn about past extinctions
 - Support conservation efforts



Biodiversity
Heritage
Library





Overarching struggling points in STEM fields



Terminology,
terminology,
terminology



Online reference sources

- [Penguin Dictionary of Biology](#)
- [Dictionary of Developmental Biology & Embryology](#)
- [Dictionary of Microbiology & Molecular Biology](#)



Overarching struggling points in STEM fields



Selecting/scoping
a topic



Start with popular science news sources

- [The New York Times Science Section](#)
- [BBC News Science Section](#)
- [EurekAlert!](#) - created by the American Association for the Advancement of Science (AAAS)
- [Nature News](#)
- [New Scientist](#)
- [Smithsonian magazine Science Section](#)
- [National Public Radio Science Section](#)

Linked on [the Biological Sciences subject guide!](#)

**Today is the last STEM Chalk
Talk**

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Please complete this survey:

bit.ly/STEMChalkTalk

(case sensitive!)