Bio189 Section 2011
T/R 6:00-7:20
Fall 2013

Instructor: Amy Ziemba

Contact info:
Email: amy.ziemba@csn.edu
Email: aziemba@learnbiology.org

Phone: voicemail

Office hours: immediately after lecture
T/R 7:20-as needed

Also available prior to class if scheduled in advance

Will I pass this class?

Biology 189 is a fast-paced course that covers a large amount of material, including a substantial amount of scientific vocabulary.

Students who:
a. have little background in biology;
b. score < 80 on the reading placement test
c. or score below 2.25 on the BIOL 189 Preparedness Exam
-should give serious consideration to taking BIOL 095 first

A delayed section of BIOL 095 will begin **Friday Sept 20**. Students may transfer with no additional fees other than the textbook.

To transfer to Biol 095:
Call the Department of Biological Sciences at (702) 651-5973.
DO NOT drop BIOL 189 through registration.

Websites:

http://ziemba.learnbiology.org/

1) Obtain copies of the syllabus and lecture schedule

2) Obtain lecture outlines and utilize study aids

CANVAS:

There is a CANVAS site that has been set up specifically BIOL 189.
http://onlinecampus.csn.edu/default.asp
To log on you will need:

Username = Your 10 digit NSHE ID (e.g. 0123456789).
Password = your birth date, YYMM

You will need to access this site to:
1) Access all laboratory material
2) Check your grades
3) Check announcements

Your success depends upon attendance
-no "make-up" lectures

Pass rate…
-pass rate significantly improves with attendance

Cheating, absolutely, positively, absotively NOT TOLERATED

Turn off phones!! No texting, no surfing.
-considered cheating if caught with a phone during exam

No food, caffeine is encouraged

Don't bring text book, is your study tool
Must bring lab manual to lab

How do you study for this class?

- Ask questions when you don't understand
- **Take notes on printouts available online**

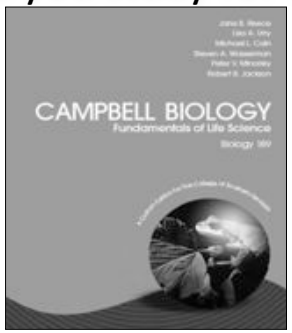
  Learnbiology.org study materials

  Posted the weekend before each week's lectures
  Class notes are outlines for you to bring and label during lecture

  Can print 200 pages for free on campus

- **Review material every weekend, don't fall behind**

How do you study for this class?



www.masteringbiology.com
Interactive website: free and open resources
Access code in text book

Exams/Quizzes

You are not allowed to leave during quiz or exam.

No makeup exams or quizzes, instead one score will be dropped.
Cannot start if you show up after the first completed quiz has been returned.

Each lecture exam is worth 100 points, consists of multiple-choice and T/F.

You may not use books, notes, or electronic devices (e.g., cell phones).

You must complete lecture exams within one hour and 20 minutes.

The final exam is worth 120 points. It is comprehensive.

Any questions, problems, or challenges to exam questions must be presented to me within one week of the day on which the exam is returned to you. After this grace period has ended, all exam grades are final.

Exams/Quizzes

Absolutely no extra credit, or "curving" of grades.

4 Exams @ 100 pts each (5th, lowest grade is dropped)	400 pts
4 Quizzes @ 20 pts each (5th, lowest grade is dropped)	80 pts
Laboratory	200 pts
Final Exam	120 pts
Total Points	800 pts

Important Dates:

September 6 – last day to drop the course **without a W**
September 6– last day to withdraw and receive a 50% refund – no refunds after this day
October 11 – Final date to apply for fall 2013 graduation
November 1 – Last day to switch from Credit to Audit
November 1 – Last day to drop with a grade of W
December 10/12– Last in final class exam

Any questions??

Finally, let's talk some science!



Every creature is better alive than dead, men and moose and pine trees, and he who understands it aright will rather preserve its life than destroy it.
-Henry David Thoreau

Biology- the study of life

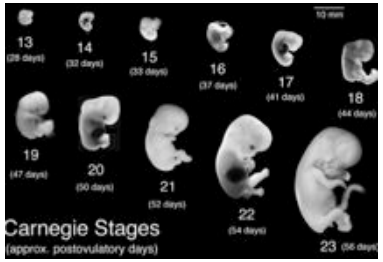
1st sign of life 4 billion years ago- single celled organism


Properties of life
All organisms:
1) are composed of the same common building blocks and structures
2) replicate their genetic material in the same way
3) evolve through changes in their genetic material

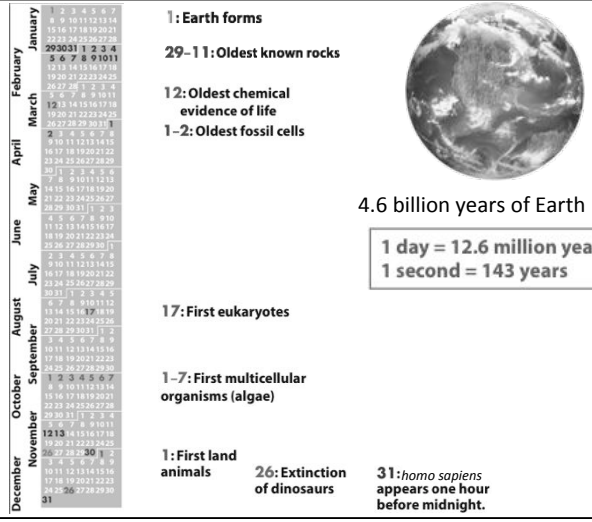
4) Reproduction is Universal

5) convert environmental molecules into biological molecules
6) use energy from the environment to do work

7) Growth and Development



8) Detect and Respond



1: Earth forms

29–11: Oldest known rocks

12: Oldest chemical evidence of life

1–2: Oldest fossil cells

4.6 billion years of Earth History

1 day = 12.6 million years
1 second = 143 years

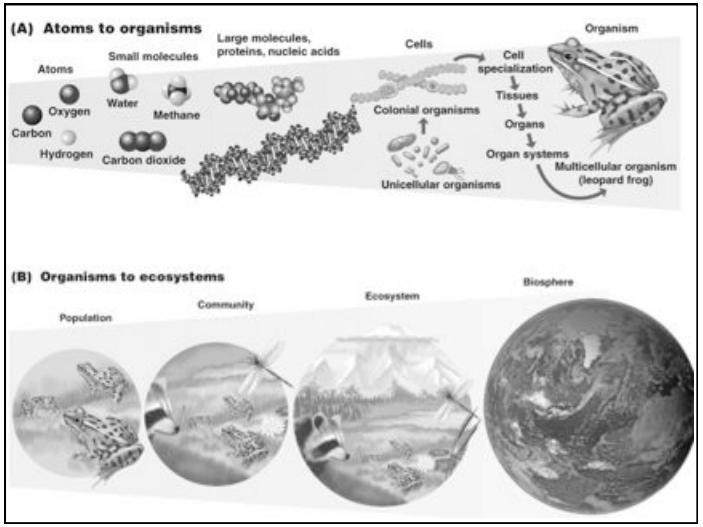
17: First eukaryotes

1–7: First multicellular organisms (algae)

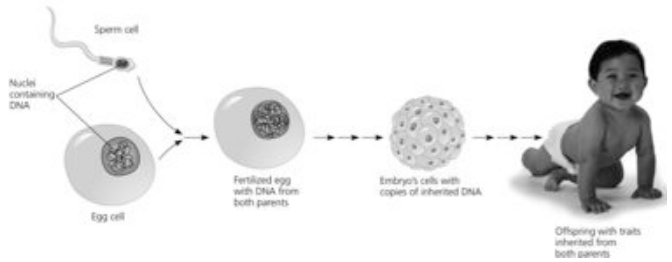
1: First land animals

26: Extinction of dinosaurs

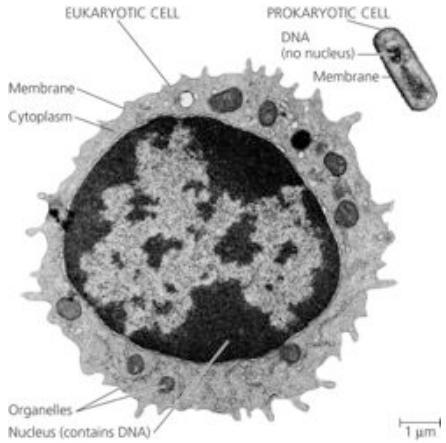
31: *homo sapiens* appears one hour before midnight.

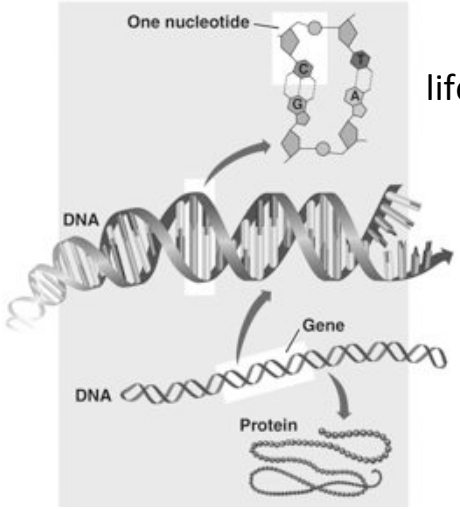


ALL Living Organisms are Composed of Cells- the basic unit of life



Eukaryotic vs. Prokaryotic Cells





DNA = life's blueprint

Biology- the study of life

Critical steps for appearance of life:

1st step: nucleic acids
Serve as templates for synthesis of complex molecules (proteins)

2nd
Enclosure of biological molecules by membranes

3rd
Obtaining fuel for energy from the environment, and resulting ozone layer

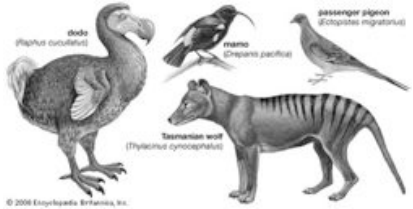
4th
Development of internal structures with specialized functions, membrane bound

5th
Multicellularity

Living Organisms are in a Constant State of Change

Most species are only known to humans by their remains

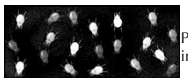
Living Organisms are in a Constant State of Change



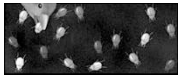
> 99.5% of all species that have existed on Earth have become extinct.

40% of all species currently on Earth are at risk of becoming extinct.

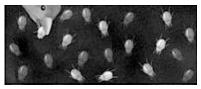
Natural Selection



Population with varied inherited traits

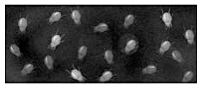


Certain traits are **selected against** (perhaps by predation)

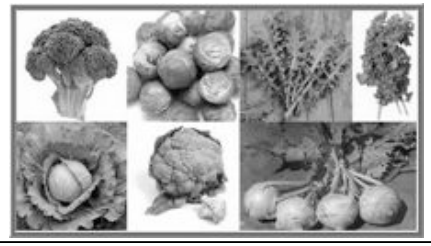


The survivors reproduce

Increasing frequency of traits that enhance survival and reproductive success



Artificial Selection



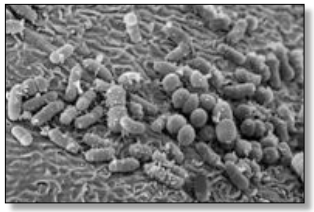
Mutations

A permanent change in the DNA sequence of a gene

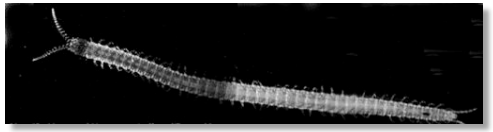
New Organisms

Some populations promote new species evolution

Goldenmantled Kangaroo



New bacteria evolve every day



New species of centipede found in Central Park, New York City

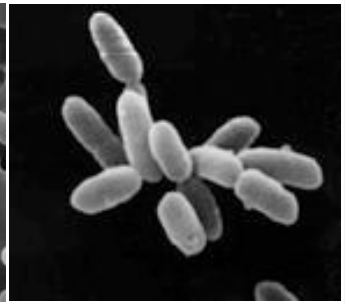
The 3 Domains of Life

Prokaryotes

Domain: Bacteria

E. coli

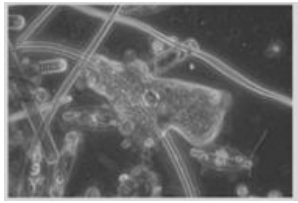
Domain: Archae



Halobacteria

Domain: Eukarya

Protists



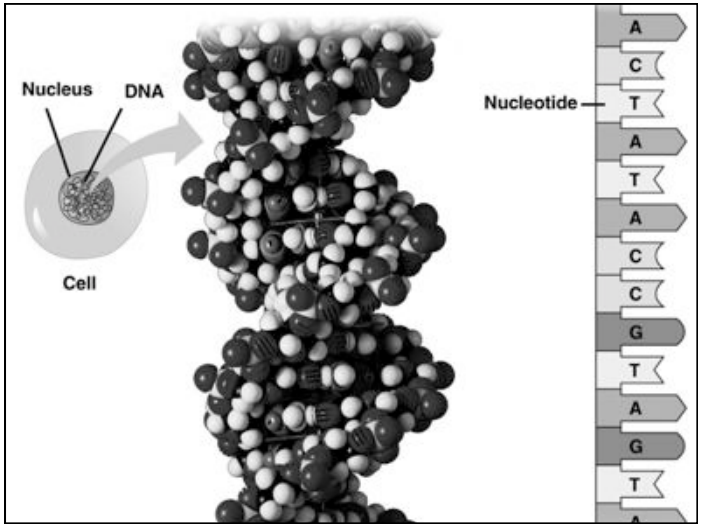
Plantae

Fungi

Animalia

How are theories such as evolution tested?

Scientific method



Atoms and Elements

Element - Matter that cannot be broken down to other substances

Elements??