

## Intro to Life and Animals

## Life, as we call it.

I suppose that before we talk about life, we should somehow name it....

## Classifying Organisms

- You have at least a two part name.....your first, and your last.
- For example, George Washington.
  - First name George, last name Washington.
  - .....Duh!

## Classifying Organisms.

- Let's use the common house cat as an example...
- Felis domesticus.
- The first part of the name is called....
  - \_\_\_\_\_
  - First name (always capital case)
  - refers to similar closely related organisms

## Classifying Organisms.

- Continuing Felis domesticus
- The second name is the.....

\_\_\_\_\_

A group of organisms that can mate and produce fertile offspring in nature.

- Lower case

## Classifying Organisms.

- So, in the case of Felis domesticus (the common house cat) Felis is the genus and domesticus is the species.
- You can tell the house cat is related to the puma because the puma's scientific name is Felis concolor.
- Both from the same genus.

## Classifying Organisms.

- As it turns out, there is more than just a genus and species involved in naming organisms. In fact there are 7 steps or levels in classifying organisms.

## The seven levels of classification.

- 1 - Kingdom **K**ings
- 2 - Phylum **P**lay
- 3 \_\_\_\_\_ **C**ards
- 4 - Order **O**n
- 5 - \_\_\_\_\_ **F**at
- 6 - Genus **G**reen
- 7 - Species **S**tools

## The seven levels of classification.

- How 'bout a human
  - Kingdom - Animalia
  - Phylum - Chordata
  - Class - Vertebrata
  - Order - Mammalia
  - Family - Primates
  - Genus - Homo
  - Species - sapiens

## The Kingdoms

- There are a total of \_\_\_\_\_ Kingdoms for all life based on their cell type, ability to make food and cell number.

## The Kingdoms

- 1. \_\_\_\_\_
  - “Ancient Bacteria”
  - Unicellular Prokaryote
  - Found in boiling hot vents....and you.
  - autotrophs and heterotrophs



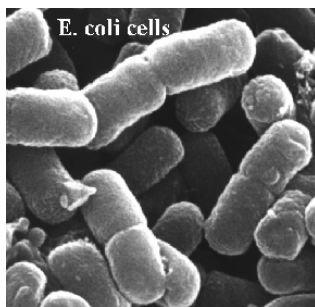
[http://commons.wikimedia.org/wiki/Image:Colourful\\_Thermophilic\\_Archaeobacteria\\_Stain\\_in\\_Midway\\_Geyser\\_Basin.jpg](http://commons.wikimedia.org/wiki/Image:Colourful_Thermophilic_Archaeobacteria_Stain_in_Midway_Geyser_Basin.jpg)

## The Kingdoms

- 2. \_\_\_\_\_
  - Unicellular Prokaryote
  - Different cell chemistry from Archaeobacteria
  - autotrophs and heterotrophs



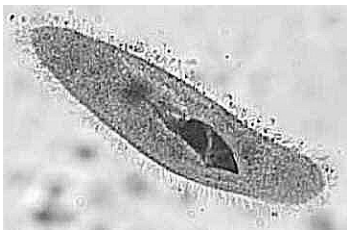
<http://www.emc.maricopa.edu/faculty/farabee/BIOBK/84150f.jpg>



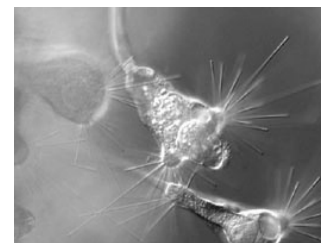
<http://www.emc.maricopa.edu/faculty/farabee/BIOBK/ecolism.gif>

## The Kingdoms

- 3. \_\_\_\_\_
  - Mostly unicellular eukaryote
    - Seaweeds and other colony organisms are exceptions
  - autotrophs and heterotrophs



[http://www.fas.org/irp/imint/docs/rst/Sect20/paramecium\\_stained.jpg](http://www.fas.org/irp/imint/docs/rst/Sect20/paramecium_stained.jpg)



<http://ebiomedica.com/prod/ProtistsVideoDVD.html>

## The Kingdoms

- 4. \_\_\_\_\_
  - Mostly multicellular eukaryotes
  - All are heterotrophs
  - Mushrooms, molds and mildew....yuck



[http://www.bbc.co.uk/devon/content/image\\_galleries/fungi\\_gallery.shtml](http://www.bbc.co.uk/devon/content/image_galleries/fungi_gallery.shtml)



<http://lamington.nrsm.uq.edu.au/images/fungi/fungi068.JPG>

## The Kingdoms

- 5. \_\_\_\_\_
  - All multicellular eukaryotes
  - Autotrophs ... Yes I know, what about venus fly traps and such

phylum Ginkgophyta



<http://www.biologyreference.com/Ep-FI/Evolution-of-Plants.html>

*Coniferophyta*



<http://www.biology4kids.com/misc/coniferrepro.html>

### Magnoliophyta (Angiospermae)



<http://www.britannica.com/eb/art/print?id=8446&articleTypeId=1>

## The Kingdoms

- 6. \_\_\_\_\_
- All animals are multi-cellular, heterotrophic aerobic, eukaryotes.
  - Lots of cells.
  - Must eat other organisms.
  - Need air.
  - Has a Nucleus in each cell.

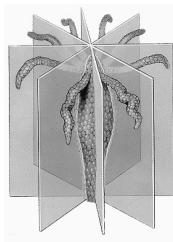
## Animals

- Animals are divided into about 35 phyla.
  - Remember....Kings Play Cards On Fat Green Stools.
- One of the biggest separation occurs between...
  - \_\_\_\_\_
    - Animals without a backbone
  - \_\_\_\_\_
    - Animals with a backbone.

## Animal Symmetry

- The bodies of (almost) all complex animals exist either as:
  - \_\_\_\_\_ - External body parts are spaced equally around a center

## Radial Symmetry

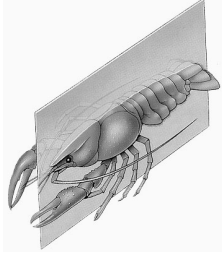


<http://www.uic.edu/classes/bios/bios100/labs/radial.jpg>

## Animal Symmetry

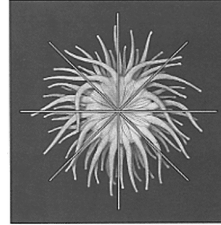
- The bodies of all complex animals exist either as:
  - \_\_\_\_\_ - One line of symmetry that divides it into mirror images.

## Bilateral Symmetry



<http://www.uic.edu/classes/bios/bios100/labs/bilateral.jpg>

## Animal Symmetry



Radial symmetry

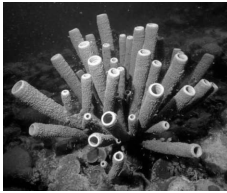


Bilateral symmetry

<http://www.mindcreators.com/DevelopmentalSim/DorsalVentral.htm>

## Animal Run-Down

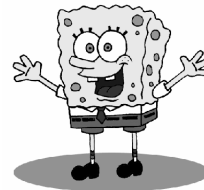
- \_\_\_\_\_, Cnidarians and Worms
  - Exception to symmetry, sponges can be irregular.



<http://www.mbgnet.net/salt/animals/1sponge.jpg>

## Animal Run-Down

- Sponges, Cnidarians and Worms



## Animal Run-Down

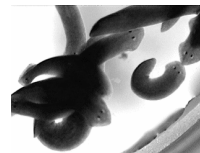
- Sponges, Cnidarians and Worms
  - Carnivores with stinging cells.



[http://www.mbari.org/seminars/2001/spring2001/may2\\_raskoff.html](http://www.mbari.org/seminars/2001/spring2001/may2_raskoff.html)

## Animal Run-Down

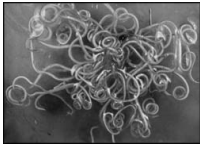
- Sponges, Cnidarians and Worms
  - Flatworms



[http://www.geocities.com/thera\\_maria/flatworms.html](http://www.geocities.com/thera_maria/flatworms.html)

## Animal Run-Down

- Sponges, Cnidarians and Worms
  - Roundworms



[http://www.wormawareness.com/Tell\\_me\\_all\\_about\\_worms\\_\\_\\_/body\\_tell\\_me\\_all\\_about\\_worms\\_\\_\\_.html](http://www.wormawareness.com/Tell_me_all_about_worms___/body_tell_me_all_about_worms___.html)

## Animal Run-Down

- Sponges, Cnidarians and Worms
  - Segmented



<http://www.britannica.com/eb/art-19575/Common-earthworm-These-segmented-worms-feed-on-both-mineral-and>

## Animal Run-Down

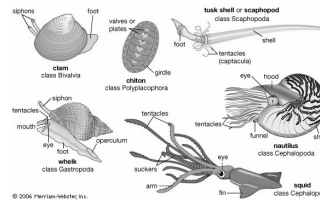
- \_\_\_\_\_, Arthropods and Echinoderms
  - Invertebrates with soft unsegmented bodies.



[http://www.weichtiere.at/images/weichtiere/muscheln/stachlige\\_herzmuschel.jpg](http://www.weichtiere.at/images/weichtiere/muscheln/stachlige_herzmuschel.jpg)

## Animal Run-Down

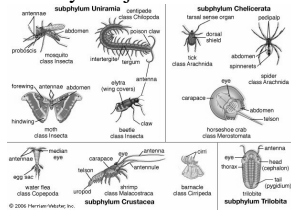
- Mollusks, Arthropods and Echinoderms
  - Invertebrates with soft unsegmented bodies.



<http://student.britannica.com/eb/art-66087/Representative-mollusks>

## Animal Run-Down

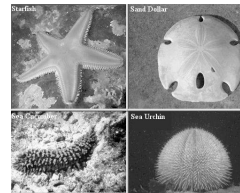
- Mollusks, Arthropods and Echinoderms
  - Invertebrates with external skeleton, segmented body and jointed attachments



<http://www.britannica.com/eb/art-66006/Representative-arthropods>

## Animal Run-Down

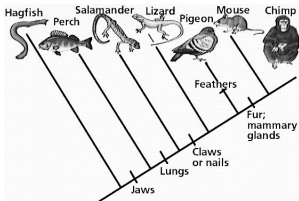
- Mollusks, Arthropods and Echinoderms
  - Include only marine animals which have a water vascular system, which is used as a means of locomotion.



<http://universe-review.ca/R10-33-anatomy.htm>

## Animal Run-Down

- The \_\_\_\_\_ .....you and me
  - All at some point have a dorsal supporting rod called a **notochord**.



<http://universe-review.ca/I10-82-vertebrates.jpg>

## Animal Run-Down

- The Cordates
  - Fish, Amphibians and Reptiles



[http://news.nationalgeographic.com/news/2005/10/1007\\_051007\\_robot\\_fish.html](http://news.nationalgeographic.com/news/2005/10/1007_051007_robot_fish.html)

## Animal Run-Down

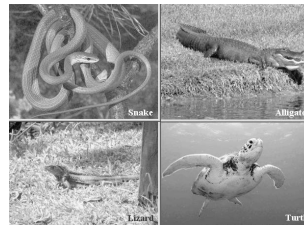
- The Cordates
  - Fish, Amphibians and Reptiles



<http://universe-review.ca/I10-82-amphibians.jpg>

## Animal Run-Down

- The Cordates
  - Fish, Amphibians and Reptiles



<http://universe-review.ca/I10-82-reptiles.jpg>

## Animal Run-Down

- The Cordates
  - Birds



<http://universe-review.ca/I10-82-birds.jpg>

## Animal Run-Down

- The Cordates
  - Mammals



<http://universe-review.ca/I10-82-mammals.jpg>