Presentation Suggestions

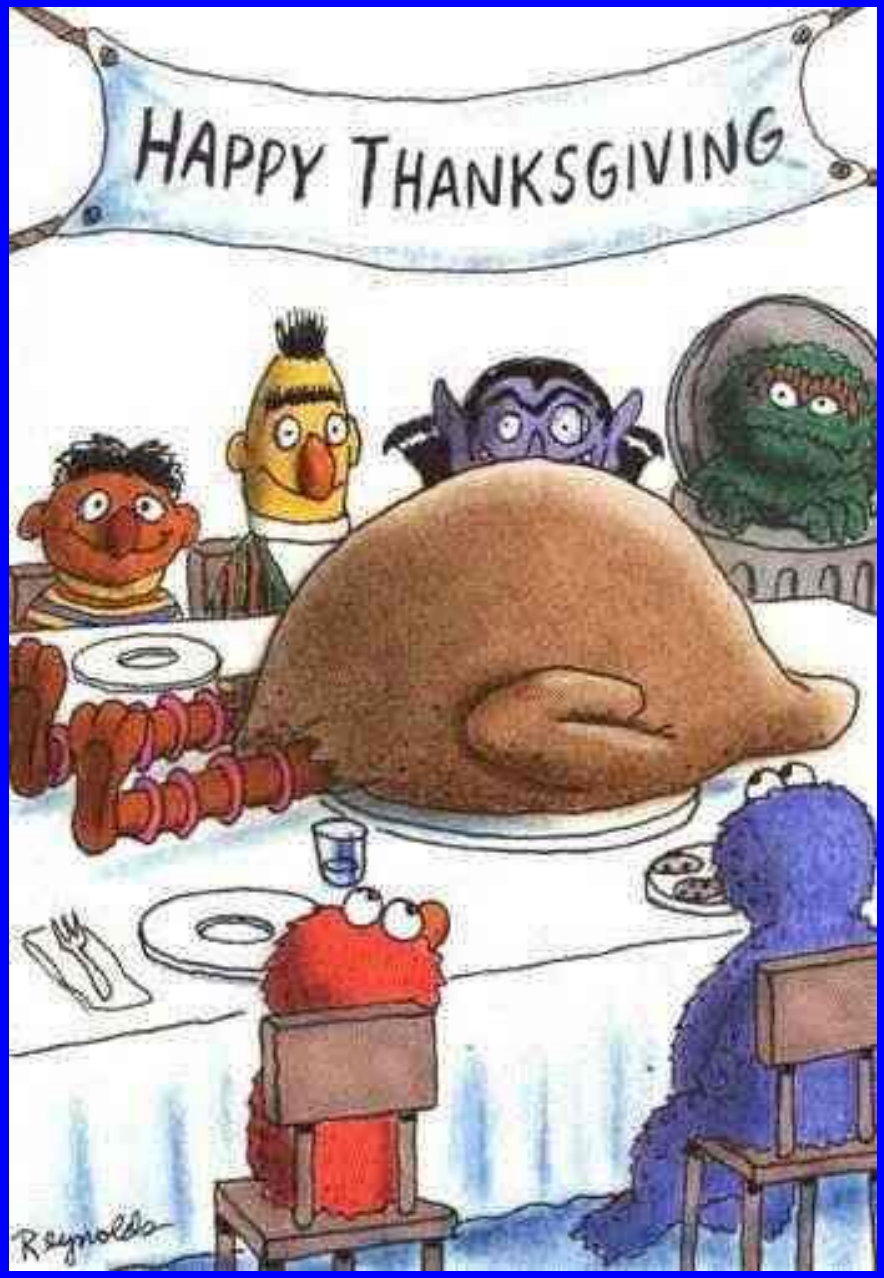
Dr. Burnett and Dr. Singiser

BIOL/CHEM 4900

Photo courtesy of Dr. Nickie Cauthen

A Sad Day on Sesame Street

- Citing your images
- Use small print



http://www.bilibala.com/veryveryfunny/html/jokedata/sadday.html

Example of a Bad Color Scheme

- Fonts in the same color family as the background do not show up well.
- Here are some tips for good color combinations
  - Use the Design Templates
    - Go under the format menu and select Slide Design
  - Use the Standard Color schemes
    - You can't go wrong with the dark blue background and yellow or white text

Another Bad Color Scheme

- Dark text on dark background
- Beware of shaded backgrounds

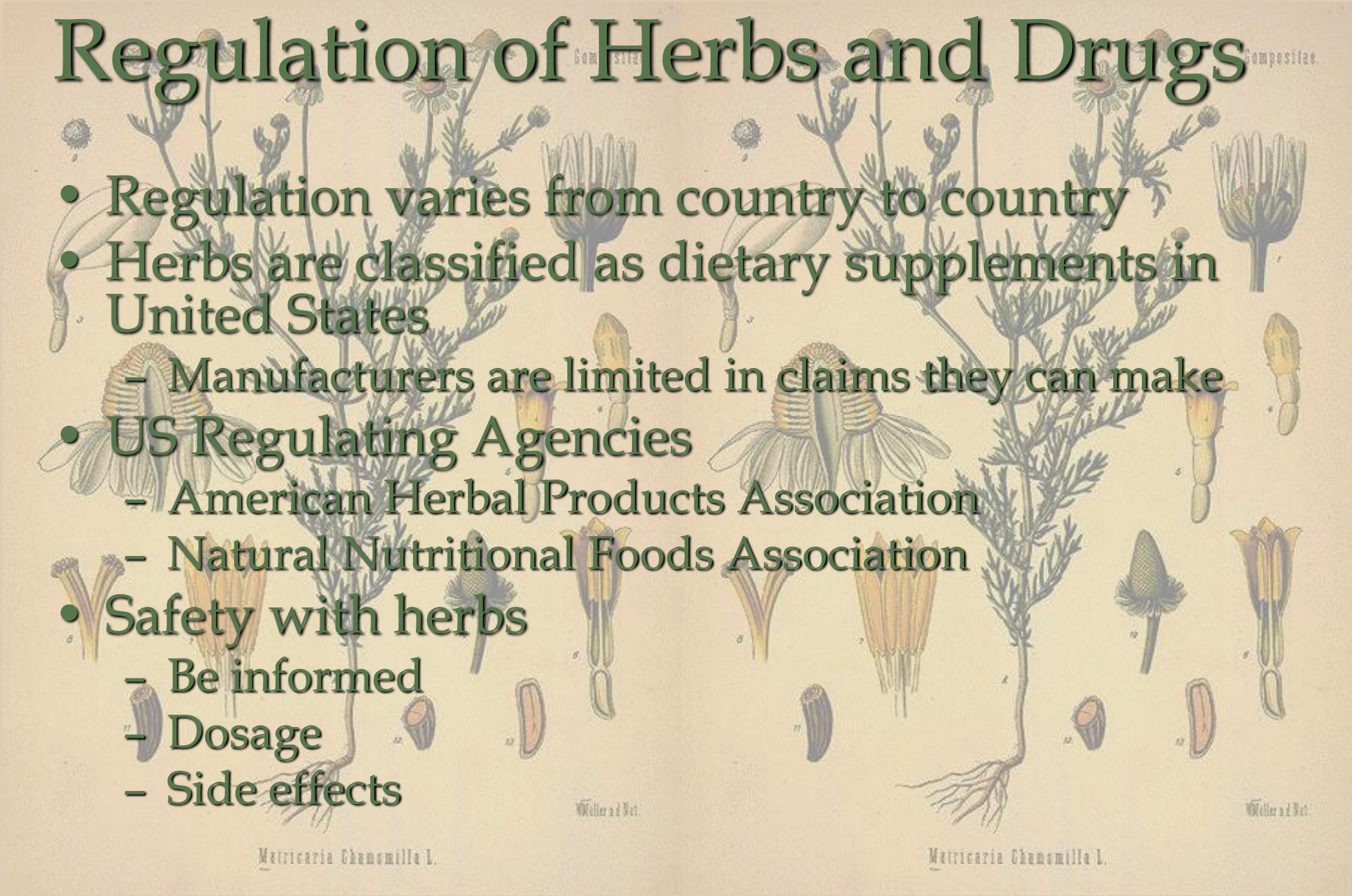
- The dark text is harder to read down here

Distracting Backgrounds

- Color
  - Too bright
  - Not enough contrast
  - Some colors will look different when projected
- Distracting designs

Regulation of Herbs and Drugs

- Regulation varies from country to country
- Herbs are classified as dietary supplements in United States
  - Manufacturers are limited in claims they can make
- US Regulating Agencies
  - American Herbal Products Association
  - Natural Nutritional Foods Association
- Safety with herbs
  - Be informed
  - Dosage
  - Side effects



Text on Slides

- How much text should be on a slide?
- Presentation vs. lecture
- Bullet points

Decorating Your House for Halloween

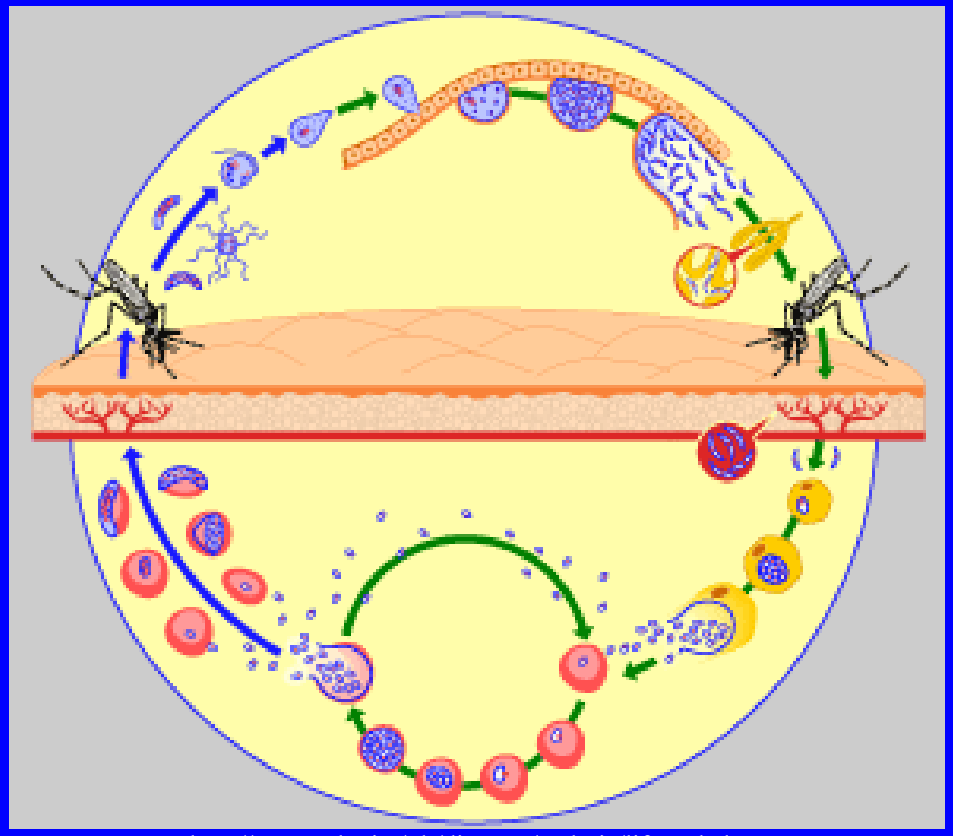
- It is important to decorate your house for Halloween so that children can find who is giving out candy. If your house isn't decorated then kids won't come to your house.
- Spooky decorations are fun, but they may scare the smaller kids away.
- Cheesy decorations can be found EVERYWHERE and most people love them.
- Funny decorations can be offensive to some so be careful. Make sure they are politically correct and clean.
- Homemade decorations are the cheapest and they are fun to make. You can make spooky, cheesy and funny decorations for ½ the cost of buying them.

Halloween Decorations

- Importance
  - Spirit
  - Marking your house
- Types of Decorations
  - Spooky
    - Frightening
    - Hard to find
  - Cheesy
    - Cheap
    - Easy to find
    - Loved by all
  - Funny
    - Can be offensive
  - Homemade
    - Cheap
    - Fun to make
    - Variety

Photo courtesy of Dr. Nickie Cauthen

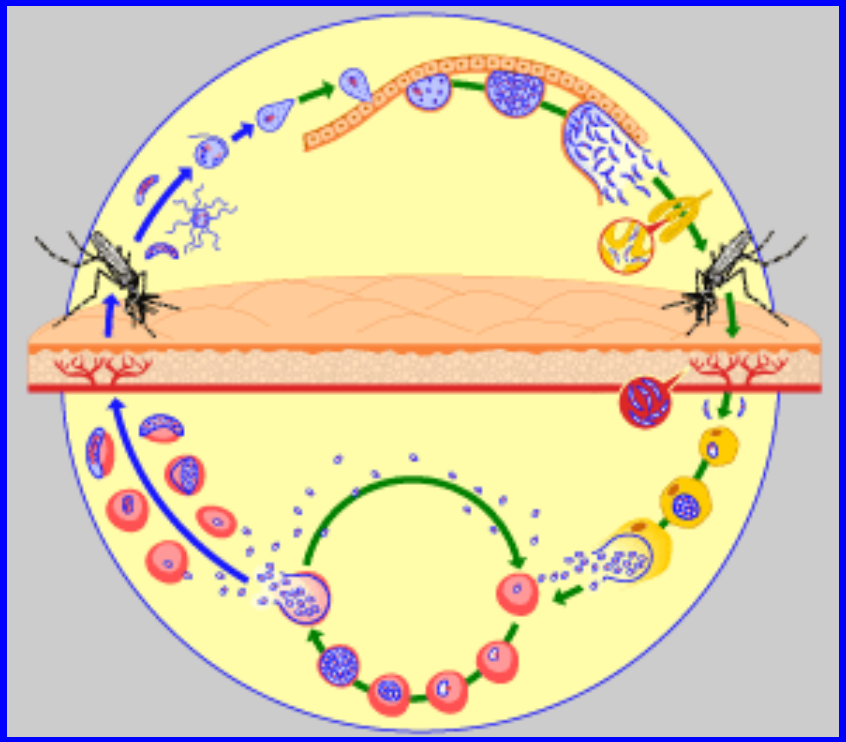
Plasmodium Life Cycle



http://www.who.int/tdr/diseases/malaria/lifecycle.htm

Plasmodium Life Cycle

- Mosquito bite
- Sporozoites enter blood
- Travel to liver
  - Hepatocytes
  - Asexual growth
    - Schizonts → merozoites
  - Merozoites to blood
- Merozoa to blood
  - Infect RBC
    - Release trophozoites, merozoites, schizonts
  - Merozoite transformation
    - Gametocytes
- Passed to new mosquito
  - Sexual cycle



http://www.who.int/tdr/diseases/malaria/lifecycle.htm

Summary of Helpful Points

- Fewer words on slides
- A picture says a thousand words
- Don’t read the slides
- Use correct grammar and spelling
- Animation
  - Often helpful, but not always necessary
- Explain your graphics
- Keep slides in order; don’t flip back and forth
  - Repeat slides if necessary
- Point things out using laser pointer, stick, whatever
- Make eye contact (with everyone)
- Don’t turn your back on the audience
- Avoid hugging the podium

Summary of Helpful Points

- Speak in a clear, loud voice
  - Don’t trail off
- Slow down and think about what you are saying
- Practice your presentation
  - Helps to avoid “um”, “okay”, etc.
  - Helps pacing for time allotted
  - Helps with pronunciation
  - Don’t memorize (sounds scripted)
- Engage your audience
- When asking a question, if asked repeat it IN A DIFFERENT WAY (they obviously didn’t get it the first time)
- Answer any questions and if you don’t know, you don’t know!!!
- If you don’t understand a question ask for a repeat

What is wrong with the following slides?

THE CENTRAL DOGMA OF MOLECULAR BIOLOGY

Transcription of DNA to RNA to protein:

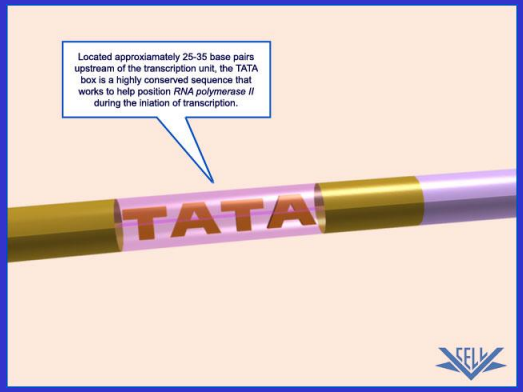
1.The DNA replicates its information in a process that involves many enzymes: replication.

2. The DNA codes for the production of messenger RNA (mRNA) during transcription.

3. In eucaryotic cells, the mRNA is processed and migrates from the nucleus to the cytoplasm.

4. Messenger RNA carries coded information to ribosomes. The ribosomes "read" this information and use it for protein synthesis. This process is called translation.

- Located approximately 25-30 bases pairs upstream of the transcriptional unti the TATA box is highly conserved sequence that works to help position RNA plms during initiation of transcription.



More Practice

What is the enthalpy change during the process in which 100.0 g of water at 50.0 °C is cooled to ice at –30.0 °C under a constant pressure of 1 atm? The specific heats of ice, water, and steam are 2.03 J/g-K, 4.18 J/g-K, and 1.84 J/g-K, respectively. For H_2O, ΔH_{fus} = 6.01 kJ/mol and ΔH_{vap} = 40.67 kJ/mol.?

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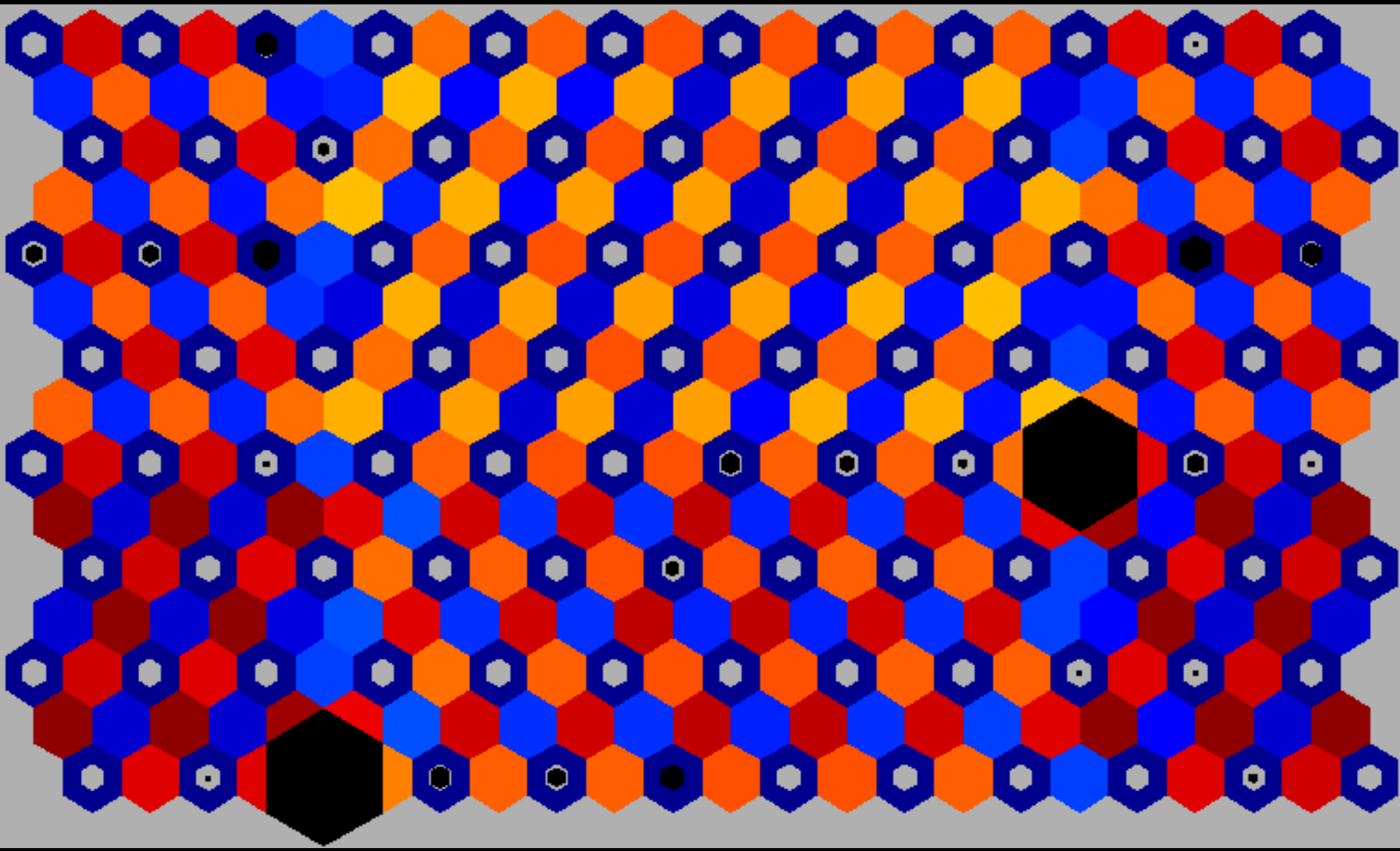
SOM Output



RNA information (in the form of nucleotide sequences) is then **TRANSLATED** into proteins (long polypeptide chains) by complex units called ribosomes.

Proteins are the work horses of biological systems, i.e. enzymes, messengers, and building blocks.

URSIDAE (Bears)

- **Large Size**: Bears are large-bodied compared to many other carnivores. Most of their diet consists of vegetable matter. Meat is digested quickly but vegetable matter takes much longer. Larger body size brings a decrease in metabolic rate, so large body animals can survive on the small energy from vegetable matter, even though they have to eat a vast amount of food to satisfy their total energy needs.
- **Powerful limbs and strong claws:** Bears have long, powerful limbs with strong claws used in climbing trees, digging and grubbing. The scapula has a post-scapular fossa for the attachment of the subscapularis minor muscle which prevents the humeri popping out of their joints as a bear hauls its large body weight up trees.
- **Grinding Molars:** The premolars of bears are much smaller than other carnivores and often lost at old age. The molars are broadened and flattened for crushing and grinding up tough vegetable matter.
- **Long Muzzle:** The long, powerful muzzle with its mobile snout and protruding lips are important for digging and grubbing. The long muzzle is also a place for olfactory epithelium which accounts for the excellent sense of smell.
- **Vestigial Tail:** Unlike many other carnivores bears have a tail with no specialized function.

- Example of bad animations
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BLUNT END VS. STICKY END

- HaeIII and AluI cut straight across the double helix producing "blunt" ends. However, many restriction enzymes cut in an offset fashion.
- The ends of the cut have an overhanging piece of single-stranded DNA. These are called **"sticky ends"** because they are able to form with any base pair DNA molecule that contains the complementary sticky end. Any other source of DNA treated with the

Miotics

-Pilocarpine

a choline ester miotic and a positively charged quaternary ammonium compound.Increase secretion by the exocrine glands. increase secretion by the exocrine glands, and produces contraction of the iris sphincter muscle and ciliary muscle by mainly stimulating muscarinic receptors.

- 3times a day

-Carbachol

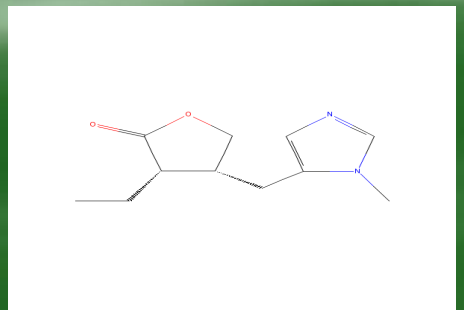
-produces constriction of the iris and ciliary body resulting in reduction in intraocular pressure

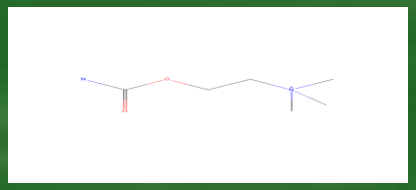
-Echothiophate

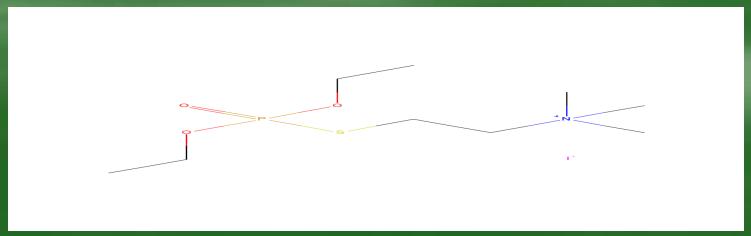
long-acting cholinesterase inhibitor which enhances the effect acetylcholine in iris, ciliary muscle.It causes miosis, increase in facility of outflow of aqueous humor, and fall in intraocular pressure

- **Side effects:**

1. pain inside the eye first few days
2. Blurred vision
3. extreme nearsightedness (younger age)
4. reduce pupil size and prevent normal dilation, dim vision, especially at night or in dark rooms
5. Stuffy nose, sweating, increased salivation
6. occasional gastrointestinal (stronger miotics)

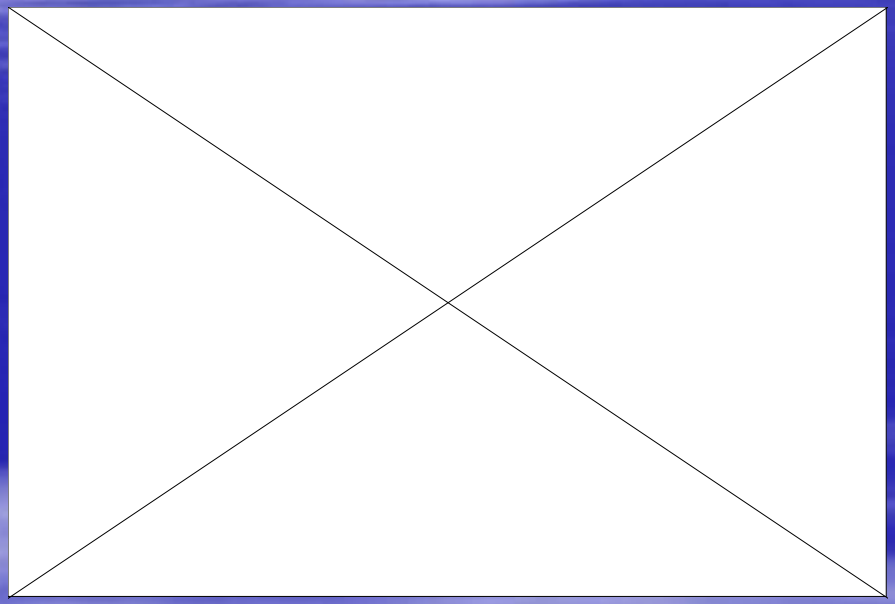







QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Energy Changes Associated with Changes of State



- The heat added to the system at the melting and boiling points goes into pulling the molecules farther apart from each other.
- The temperature of the substance does not rise during a phase change.

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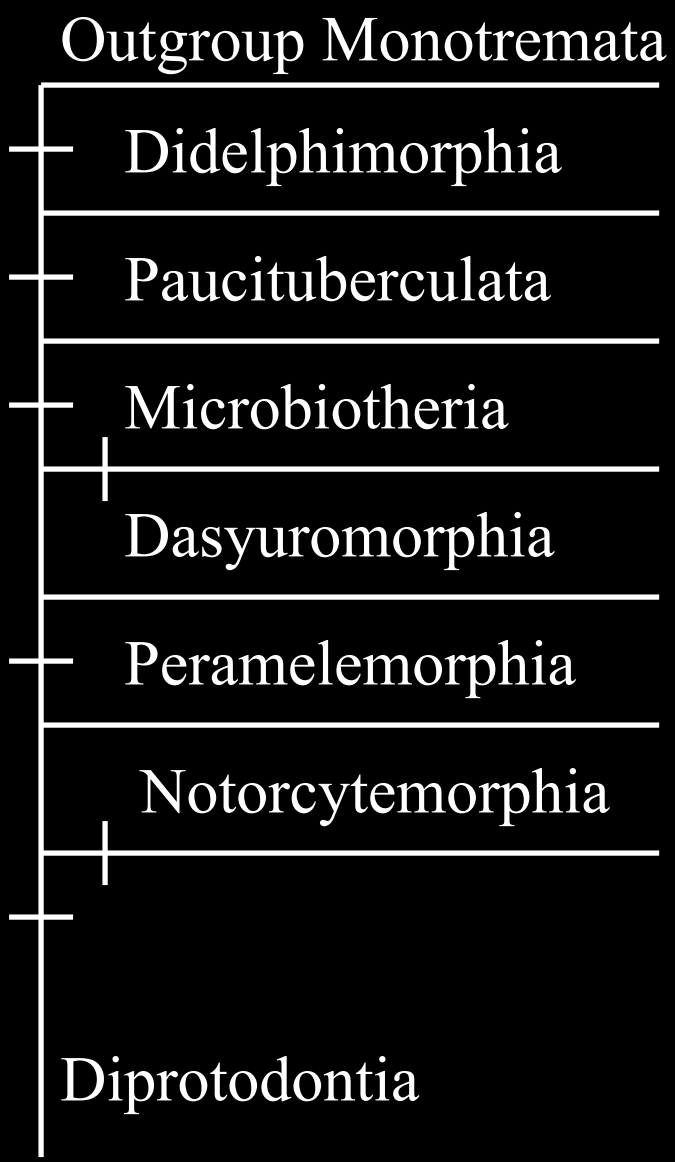

Outgroup Monotremata
Didelphimorphia
Paucituberculata
Microbiotheria
Dasyuromorphia
Peramelemorphia
Notorcytemorphia
Diprotodontia

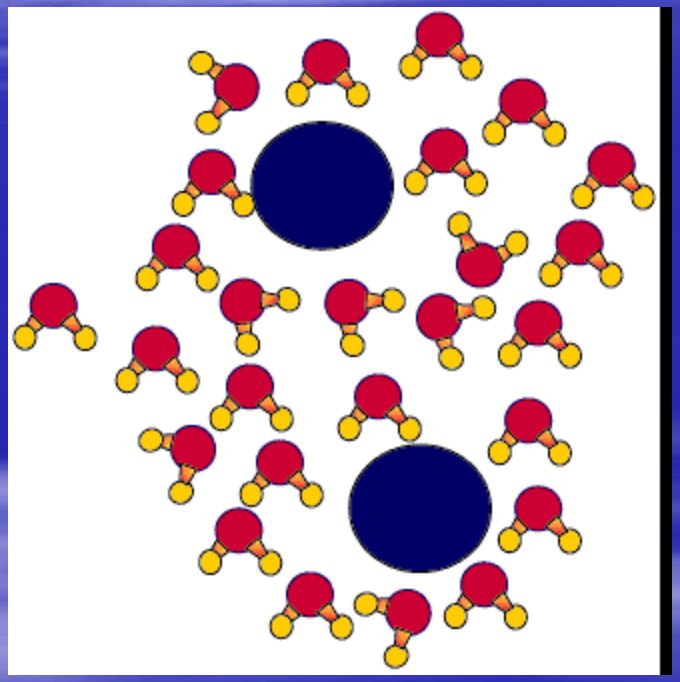
The strands are held in position, binding easily to DNA polymerase, which catalyzes the elongation of the leading and lagging strands.

While the DNA polymerase on the leading strand can operate in a continuous fashion, RNA primer is needed repeatedly on the lagging strand to facilitate synthesis of Okazaki fragments.

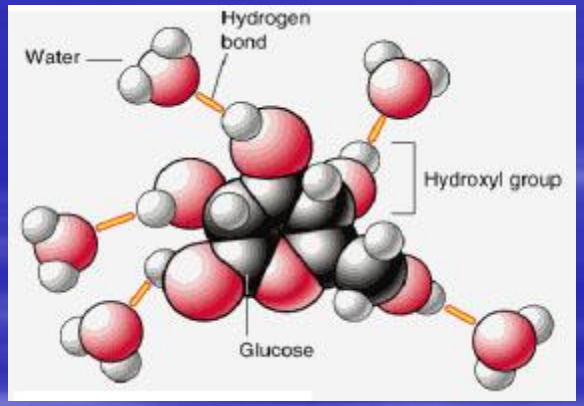
Hydrophobic and Hydrophilic

- **Hydrophilic-- water loving or a molecule that is capable of forming a hydrogen bond with water.**
- **Hydrophobic-- water hating or a molecule that repels water.**
- **Important function in cell's membrane structure.**

Hydrophobic versus Hydrophilic

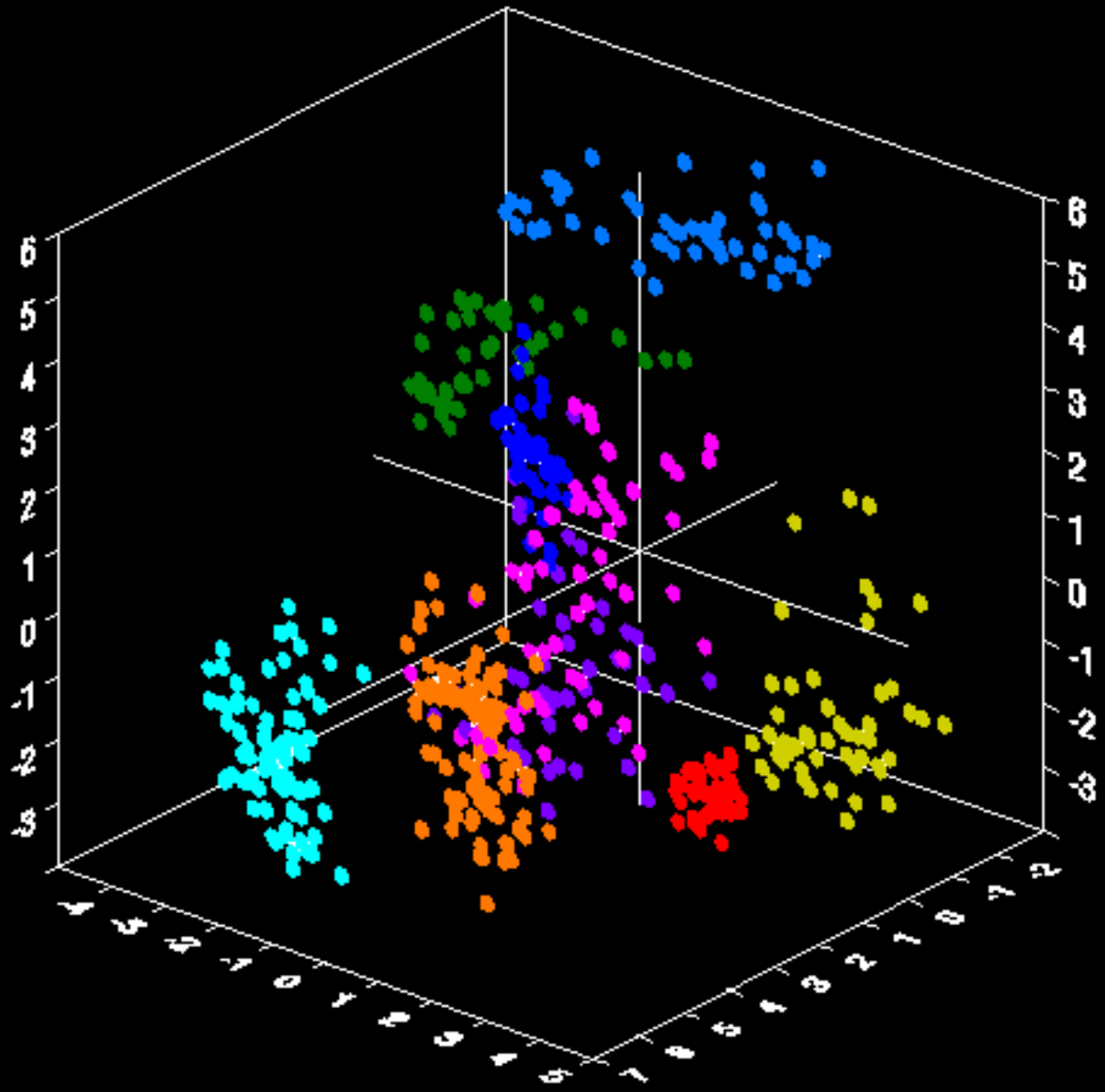


http://academic.brooklyn.cuny.edu/biology/bio4fv/page/hydro.gif



http://www.uic.edu/classes/bios/bios100/lecturesf04am/lect02.htm

DFA – Results



How Do Neural Networks Compute?

- Activation = the final value of a particular unit.
- Calculated by adding inputs and bias
- Activation function