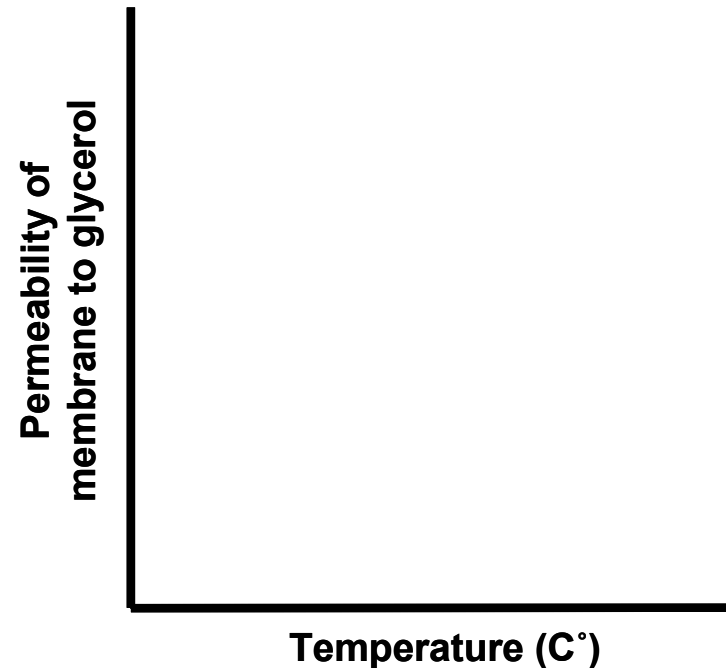


INS TODAY – MONDAY 03-31-08

- 1. Overview of the quarter**
- 2. Review (dusting off the cobwebs)
(Mean of the last exam = 51)**
- 3. Types of Mutations**
- 4. Gene Regulation – Part I**

BRIEF REVIEW - LIPIDS

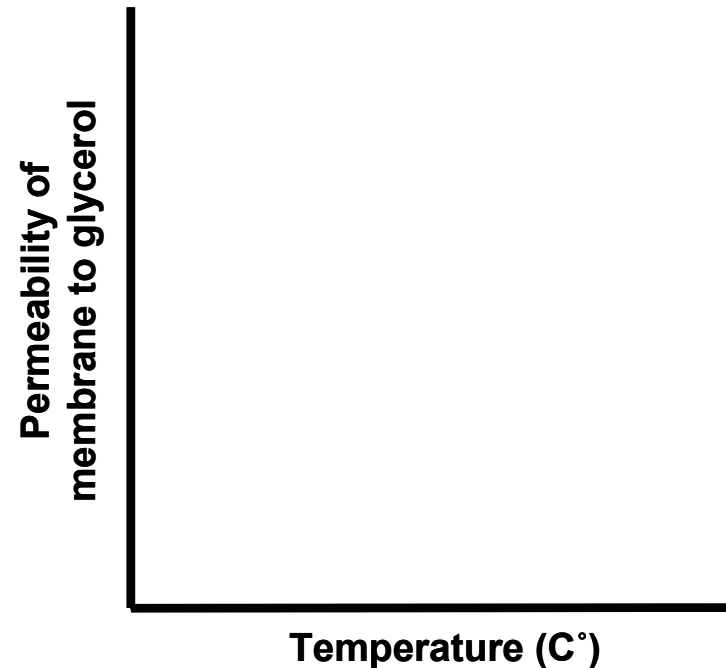
1. A) You are studying membrane fluidity at different temperatures using an artificial system. All membranes contain the same length and class of lipids. **Graph and label** the permeability to glycerol when the membrane contains **a)** 0% polyunsaturated lipids, **b)** 50% polyunsaturated lipids, and **c)** 100% polyunsaturated lipids. Explain why you graphed it as you did.



- B) Which lipid from your experiment has more free energy? Why?

BRIEF REVIEW - LIPIDS

1. You are studying membrane fluidity at different temperatures using an artificial system. All membranes contain the same length and class of lipids. **Graph and label** the permeability to glycerol when the membrane contains **a)** 0% cholesterol, **b)** 20% cholesterol, and **c)** 50% cholesterol. Explain why you graphed it as you did.



REVIEW - PROTEINS

1. A) What does the active site of a protein do?

B) What kinds of amino acids would you likely find in the active site of a protein? Why?
2. Explain the difference between proteins that act as channels, transporters, and pumps.
3. Are all proteins enzymes?
4. Draw a peptide bond.

REVIEW – CELLULAR RESPIRATION

1. Write out the formula for cellular respiration. Define all molecules.
2. Match the following letters with the phrases below. There may be more than one correct answer.

A) Glycolysis

B) Linking Step

C) Krebs cycle

D) Electron Transport Chain

Produces ATP through substrate-level phosphorylation	
Produces NADH	
Produces the most ATP	
Produces FADH_2	
Is regulated by ATP	
Produces two 3 carbon molecules	
Creates an electrochemical gradient	
Regenerates the molecule that reacts with Acetyl-CoA	
Produces H_2O	
Produces CO_2	

REVIEW – CENTRAL DOGMA

1. A) What nucleotides are in DNA? RNA? Draw one. What is the difference between DNA and RNA?
2. How many codons are there in the genetic code. How many code for amino acids?
3. What codon is recognized by the tRNA and ribosome complex to initiate translation? What amino acid is that in a) eukaryotes and b) prokaryotes?