Biochemistry/Homeostasis Test

Wednesday, April 1st, 2015

Test Coverage

Module 1 (Emphasis only on polarity, how solubility in water is connected to the presence of polar groups (eg. hydroxyl, carboxyl), intramolecular forces versus intermolecular forces, hydrogen bonding, hydrophobic interactions)

*There will not be specific questions on isotopes, ions, covalent, ionic bonding. You should know the gist of ionic versus covalent but you won’t have to draw bonding diagrams*

Module 2 (Learning goals #5, 7, 8, 9 *excluding water balance, 10)

*You won’t have to know details about how the blood buffer works as far as equilibrium shifts, etc. However, you will have to know the core components of a buffer and how it is able to deal with changes in hydronium ions (“chemical sponge concept”). To understand this, you need to understand the basics of neutralization reactions.*

Module 3 (Learning goals #12-15)

Module 4 (All learning goals, except please omit cofactor from LG#24 and LG#26)

Suggestions:

How the glycosidic linkages of polysaccharides influence the 3-D shape of these molecules such that it affects how these molecules are used in living things

Why unsaturated acids (including those found in phospholipids) are more likely to be liquid in nature; take note of the difference in the way we can discuss unsaturated fatty acids and how that might its characteristics (eg. more kinked versus straight-chained) or how we think it impacts nutrition (eg. trans- are considered unhealthy compared to the naturally found cis- isomer, omega-3’s and their influence on brain development and protecting against inflammation that could reduce risk of cardiovascular disease)

How a protein folds into its 3-D shape based upon details related to levels of protein structure and understanding how changing an amino acid could influence protein structure and behaviour (eg. replacing a red tack with a yellow tack)

Be sure that you have reviewed the POGIL exercise activities (from PDF booklets – available on the website)

Test Format

Multiple Choice, Modified True/False, Terminology, Short Answer, Interpretations
Textbook Review Questions

The Chapter 1 Review (beginning on p. 49) has all kinds of eligible questions one could try to test their understanding so I’ve decided to just include questions that you could omit (disregard) from attempting.

**OMITS:** Any questions that look at enzymes in detail. *I DO EXPECT that you have a grade 11 biology understanding of what enzymes do (ie. catalyze a reaction)*

23, 24, 29, 31, 34, 36, 38, 43, 47, 52, 53, 54, 57, 60, 62, 64, 63, 67, 69, 70, 73

Chapter 1 Self-Assessment (p. 54-55)

**OMITS:**
11, 12, 16, 18, 20, 21, 24, 25

Homeostasis Module Review Questions

We have only covered section 8.1 of the textbook, in addition to p. 408-412. Here are questions that YOU CAN DO

p. 348 #10
p. 381 #2, 9, 10, 40, 48
p. 413 #8-9, 11