Study guide Ch2b  
BIOL 241

(section 2.4-2.8)

Directions: Feel free to re-format this chart to make it more thorough or size appropriate to your data . You can use images and text.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Macromolecule  (aka Biomolecule aka Polymer of Life) | Monomer Name and structural notes or example picture--pay particular attention to # and element arrangement (C H O) | Bonds that join monomers | Roles in the body, Generalized | Examples and misc. notes from your reading | Notes from class that you want to integrate |
| Carbohydrate | Monosaccharides |  | Usually fiber, helps with digestion |  |  |
| Lipid | Triglycerides | Single and double bonds | Regulation of cholesterol and lipoproteins |  |  |
| Protein | Monomer:  Primary structure: sequence of amino acids  Secondary structure: alpha helix or pleated sheet  Tertiary Structure: finals shape of polypeptide  Quaternary Structure: 2 or more associated polypeptides | Bonds through a carbon atom or a peptide bond | Support, enzymes, transport, defense, hormones, motion |  |  |
| Nucleic Acid | ? | RNA and DNA are examples |  |  |  |

2. .A.Take a photo and attach it here for a food label from a processed food or drink you routinely (or at least occasionally) consume.

B. Does it have added sugar?

C. Where is sugar in the list of ingredients? (Ingredients are listed in order from the most abundant to the least abundant.) \

D. What other terms (such as corn syrup) could be used on the nutrition label instead of sugar? Google it.

E. What is a serving size and does this seem reasonable?

F. How many calories does it contain?

G. Are the fats included trans, saturated, and/or unsaturated?

H. Are there any nutrients gained from this food?

I. How much protein is in this food?

J. How much of the daily value is this sodium content?

3. Keep a food log of everything you eat for 24 hours.

Using a calorie/fat counter, Google, (My fitness pal is great for this—an app for your phone) or the nutritional label on the food, determine how many grams of fat, protein, carbs, and how many calories that you consumed in one day. A typical college student diet may be 2000 calories/day for a 20 old sedentary female, and about 2600 calories/day for a 20 year old sedentary male.

Convert the grams of fat into calories by multiplying by nine.

What percentage of your total dietary calories was made up of fat? What is the recommended daily amount?

What percentage of your total dietary calories was made up of carbs? What is the recommended daily amount?

What percentage of your total dietary calories was made up of fat? What is the recommended daily amount?

4. Of the four organic molecules discussed in this section (carbohydrates, lipids, proteins, and nucleic acids), why are nucleic acids the best suited to store and transmit information? What properties of DNA allow these particular functions?

3.