

AS Biology
ILP Days HW: Nutrition

DUE: Tues., Oct. 14 (M3)/
Wed., Oct. 15 (G2/G4)

Name: _____ Date: _____ Class: _____

The ILP Days HW is a series of activities related to nutrition. Please be sure to start this by the end of ILP Conferences (October 3rd) because some sections (**Parts 2 & 3**) require multiple days to complete. This homework is worth **20 points in your Quarter 2** academic grade, and points will be deducted if the assignment is more than one week late.

By Thursday evening, I will post on my Weebly a few alternate assignments (go to <http://ecampbellasuprep.weebly.com/fall-break.html>). **All students must complete Part 1** below, but you may substitute one of the alternate assignments for Part 2 or Part 3. I will be available by email for most of break if you have any questions. Enjoy the break and your assignment!

Part 1: Reading and Questions (10 points)

Read the “BigPicture: Food and Diet” packet and answers the questions (you do not need to use full sentences unless you are writing a paragraph). For a more legible, full-color copy of the packet, please refer to my Weebly: <http://ecampbellasuprep.weebly.com/fall-break.html>. Additionally, you may type your answers to these questions.

Page: Chemistry of Consumption

1. Most nutrition labels list energy contents in terms of Calories. Calorie, written with a capital letter “C,” actually refers to one kilocalorie (kcal). How many Joules are in one Calorie (kcal)?
2. Describe the difference between vitamins and minerals.
3. What are some of the different factors that affect your nutritional requirements? (For example, males need more Calories than females).
4. *Fill-in-the-blanks:* Digestion is a _____ process which generates energy.
Catabolism + Anabolism = _____
5. How does an aversion to a food differ from an allergy?

Page: Why do we eat?

6. What specific part of the brain regulates appetite? How?
7. Briefly state the role each of the following play in eating:
 - a. Ghrelin:
 - b. Leptin:
 - c. Dopamine:
8. What are the five different types of taste?
9. After reading “Sensing Food,” consider the different senses you use when eating. Choose a favorite food and describes the senses you associate with it 2-3 sentences below.

Page: A healthy diet?

10. *Fill-in-the-blanks:* Some children with epilepsy have fewer seizures if they adopt a high- _____, low- _____ diet. This is known as a _____ diet.

Calculate your BMI (you do **not** need to write down/share this number with Ms. Campbell)

Recall your approximate weight (in pounds, lbs.) and your height (in inches, in.). Calculate your BMI using either an online calculator (go to fit.webmd.com/teen/bmi/calc-bmi) or using the modified formula below:

Formula (USA units):

$$\text{BMI} = 703 \times \frac{\text{Weight (lbs.)}}{\text{height}^2 \text{ (in.}^2\text{)}}$$

Example: person who is 5'8" and 150 lbs.

$$\text{BMI} = 703 \times \frac{150}{(68)^2} = \frac{105450}{4624} = 22.81$$

11. Write a one-paragraph reflection on your BMI value. Refer to "Eating by Numbers" on page 2 of the booklet (as well as this link <http://www.bbc.com/news/health-18770328>) for global trends in BMI.

(Some possible talking points: Did you already know your BMI? Do you think it is important to know your BMI? Do you think this is the best assessment of a healthy body? Is it more precise than body weight? Etc.)

12. What are potential risks and benefits of caloric restriction?

Page: Feast or famine?

13. Complete the table to briefly summarize each of the global issues of food policy mentioned in the reading.

Issue	Brief Description
Water consumption	
Meat consumption	
Childhood obesity	
Food miles (non-local food)	

Page: Food for Thought

14. *Multiple-choice/true-false:* Answer the following questions based on the reading by circling your answer



- | | | | |
|---|--------|-------|-----------------------|
| a. Do "Good" and "Bad" bacteria exist? | A) Yes | B) No | C) Neither yes nor no |
| b. Do we need to take vitamin supplements? | A) Yes | B) No | C) Neither yes nor no |
| c. Is eating salt bad for your health? | A) Yes | B) No | C) Neither yes nor no |
| d. Is there such a thing as a "superfood"? | A) Yes | B) No | C) Neither yes nor no |
| e. Does it matter what time of day you eat? | A) Yes | B) No | C) Neither yes nor no |

Part 2: Keep a Nutrient Journal (5 points)

<http://www.cdc.gov/healthyweight/calories/index.html>

To learn how many calories you are currently eating, begin writing down the foods you eat and the beverages you drink each day. By writing down what you eat and drink, you become more aware of everything you are putting in your mouth. Also, begin writing down the physical activity you do each day and the length of time you do it.

Assignment- Choose one of the following to use for a minimum of one day

1.  Use the online SuperTracker to track your food and activity. Start by creating an account so that you can return to view it later: <https://www.supertracker.usda.gov/myplan.aspx>
2.  (If unable to access Internet): Recreate (on another sheet of paper) a larger version of the following tables for each day you would like to track your food consumption. Read the label on everything you eat for at least one full day, and record the information.



Day:		
Meal/Snack (Indicate time of day, Where/With Whom)	What You Ate and Drank (Include Quantities)	Calories & Nutrients: (record grams and %DV if provided) Pay attention to (when possible): •Calories • Dietary Fiber • Calcium• Saturated fat
Breakfast		
Snack		
Lunch		
Snack		
Dinner		
Snack		

Add them up at the end to evaluate your calories and nutrients! Remember: the goal is to get at least 100% DV of dietary fiber and calcium, and less than 100% DV of saturated fat and sodium per day.

Part 3: Physical Activity Diary (5 points)

Physical Activity Guidelines for Americans, issued by the U.S. Department of Health and Human Services, recommend that children and adolescents aged 6-17 years should have 60 minutes (1 hour) or more of physical activity each day.

Assignment- Choose one of the following

1.  Use the online SuperTracker to track your physical activity: <https://www.supertracker.usda.gov/myplan.aspx>
2.  (If unable to access Internet): Recreate (on another sheet of paper) a **larger** version of the following table.

Day of week	Time of Day	Description of Activity (Type & Intensity)	Duration (Time)

Other online trackers you may use instead of SuperTracker:

<https://www.presidentschallenge.org/challenge/active/index.shtml>

<http://fit.webmd.com/teen/default.htm>

<http://theweightofthenation.hbo.com/inspire/statement>

http://www.startwalkingnow.org/mystart_tracker.jsp



Making Smart Choices from My Pyramid's Food Groups

Grains: Make Half Your Grains Whole

What's in the Grains group: Any food made from wheat, rice, oats, cornmeal, barley or another cereal grain. "Whole grains" include whole-wheat flour, bulgur (cracked wheat), oatmeal, whole cornmeal and brown rice.



- Get a whole grain head start with oatmeal or whole grain cereal.
- Use whole grains in mixed dishes such as barley in vegetable soup or stews, bulgur in casseroles or brown rice in stir fries.
- Change it up. Make your sandwich on 100% whole-wheat or oatmeal bread. Snack on popcorn or whole grain crackers.

Vegetables: Vary Your Veggies

What's in the Vegetables group: Any vegetable or 100% vegetable juice. Vegetables may be raw or cooked; fresh, frozen, canned or dried/dehydrated.



- It's easy going dark green. Add frozen chopped spinach, collard greens or turnip greens into a pot of soup.
- Swap your usual sandwich side for crunchy broccoli florettes or red pepper strips.
- Microwave a sweet potato for a delicious side dish.

Fruits: Focus on Fruits

What's in the Fruits group: Any fruit or 100% fruit juice. Fruits may be fresh, canned, frozen or dried; and may be whole, cut-up, pureed, raw or cooked.



- Bag some fruit for your morning commute. Toss in an apple to munch with lunch and some raisins to satisfy you at snacktime.
- Buy fresh fruits in season when they taste best and cost less.
- Never be fruitless! Stock up on peaches, pears and apricots canned in fruit juice or frozen so they're always on hand.

Milk: Get Your Calcium-Rich Foods

What's in the Milk group: All fluid milk products and many foods made from milk. Examples include cheese and yogurt. Make your Milk group choices fat-free or low-fat.



Special Tip: Although cream cheese, cream and butter are made from milk, they don't count in the Milk group because they contain little or no calcium. Instead, if you eat these foods, count them as "extra" calories from solid fats.

- Use fat-free or low-fat milk instead of water when you make oatmeal, hot cereals or condensed cream soups, such as cream of tomato.
- Snack on low-fat or fat-free yogurt. Try it as a dip for fruits and veggies and a topper for baked potatoes.
- Order your latte or hot chocolate with fat-free (skim) milk.

Meat & Beans: Go Lean with Protein

What's in the Meat & Beans group: All foods made from beef, pork, poultry, fish, dry beans or peas, eggs, nuts and seeds. Make your meat and poultry choices lean or low-fat.



- Trim visible fat from meat and remove skin from poultry.
- Broil, grill, roast or poach meat, poultry or fish instead of frying.
- Enjoy pinto or kidney beans on a salad or a hearty split pea or lentil soup for extra protein.

Oils—Know Your Fats: Oils are fats that are liquid at room temperature such as canola, corn and olive oils. Mayonnaise and certain salad dressings are made with oils. Nuts, olives, avocados and some fish such as salmon are naturally rich in oils.



Special Tip: Solid fats are different from oils because they are higher in saturated and/or trans fats so they are considered extras. Solid fats are found in whole milk, cheese, higher-fat meats and other foods such as butter, lard, chicken skin and shortening. Some oils such as palm, palm kernel and coconut are also higher in saturated fats.

- Use some vegetable oil instead of butter for cooking and baking.
- Toss salad with salad oil and flavored vinegar.
- Try thin slices of avocado on a sandwich or sprinkle some nuts on a salad.