

Instructor’s Guide for the Analyze My Diet Activities

Analyze My Diet Activities are auto-graded versions of the standard diet analysis project. Students use the USDA’s open-access SuperTracker to track their food and supplements intake. Then, using the activities, they analyze the results and receive instant feedback. All of the activities are available for assignment and use within Macmillan Higher Education’s LaunchPad learning management system.

This document contains a guide to the contents of the Analyze My Diet Activities, including all of the questions within the Nutrition for a Changing World Analyze My Diet Activities, as well as solutions or sample essay answers for each question.

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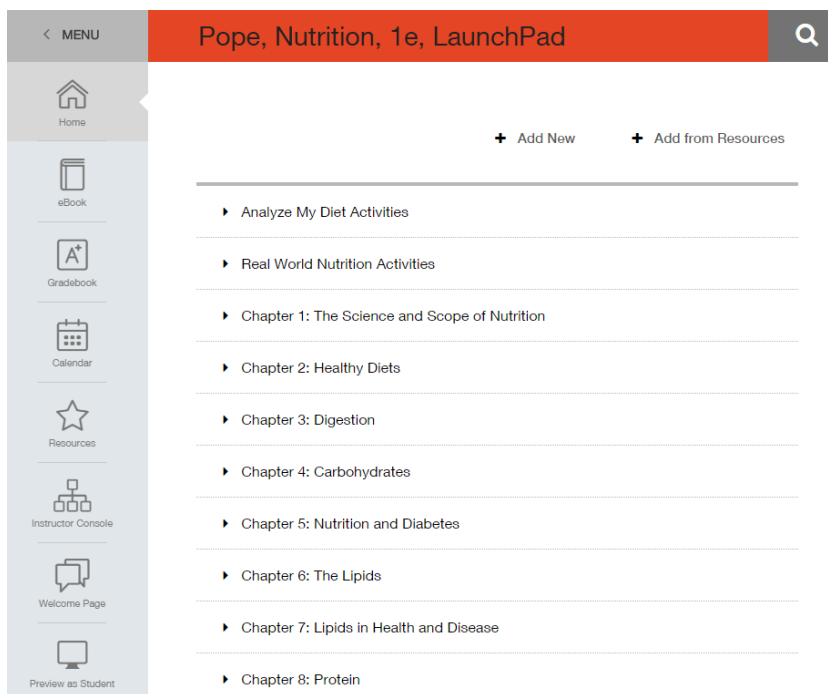
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Best Practices for Assigning Analyze My Diet Activities

Assign the SuperTracker Tutorial First

To help familiarize your students with SuperTracker, our SuperTracker Tutorial is a great assignment for the first week of class. The tutorial uses instructional videos to walk students through each feature of the USDA's SuperTracker website. Each video is followed up by a question that ensures the student has completed the video and is able to navigate the relevant area of the website. Students will learn how to create an account, track their food, save a recipe, create their own personalized foods, view their reports, track their physical activity, and view their physical activity report.


To assign the SuperTracker Tutorial, go to the home page for your LaunchPad course.



Open the Analyze My Diet Activities unit by clicking on the "Analyze My Diet Activities" row.

▶ **Analyze My Diet Activities**

▼ Analyze My Diet Activities



Analyze My Diet Activities

Analyze My Diet Activities are auto-graded versions of the standard diet analysis project. Students use the USDA's open-access SuperTracker to track their food and supplements intake. Then, using the activities, they analyze the results and receive instant feedback.

[Add to this Unit](#) [Browse Resources for this Unit](#)

SuperTracker Tutorial

Carbohydrates Part 1: Analyze My Diet

Carbohydrates Part 2: Reflection

Food Groups Part 1: Analyze My Diet

Food Groups Part 2: Reflection

Hover over the SuperTracker Tutorial item, so that it turns grey. Click on “Assign” on the right.

SuperTracker Tutorial **Assign** More Options +

Choose a due date and (if desired) set the point value for the tutorial. The default value is 5 points. Click “Assign” to finish assigning the SuperTracker Tutorial.

Manage Assignment ✕

Title
SuperTracker Tutorial

Assignment Due Date

October 2015						
S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

Enter Date

Enter Time

Visible to students

Gradebook

Points Category

Percentage Completed: 0% Average Score: -
(0 of 0 students)

Manage Content Item: [Edit](#) | [Move or Copy](#) | [Remove](#)

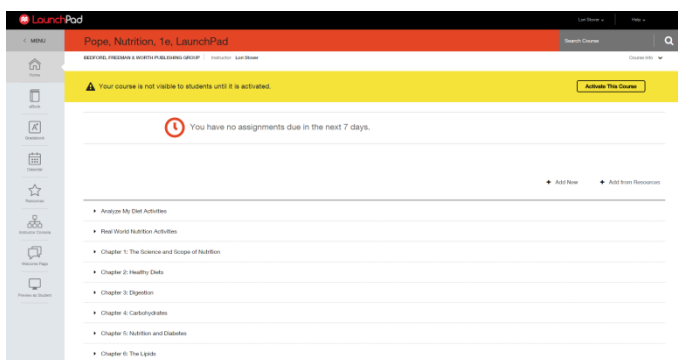
Assign diet tracking early in the semester

By requiring your students to complete their diet tracking early on in the semester, you will encourage them to analyze a diet that is closer to their actual eating habits, before the course has substantially influenced their choices. You will also be able to verify that students have successfully completed their diet tracking prior to assigning the analysis.

Assign a dropbox in LaunchPad for uploading reports

To verify that students have completed their diet tracking and successfully obtained their reports, you can assign a “dropbox” within LaunchPad. A dropbox is a LaunchPad assignment that requires students to upload a document. You can then instruct your students to export each of their reports necessary for the Analyze My Diet Activities, combine them into a zip file, and upload it to the dropbox. Details on how to assign a dropbox in LaunchPad are below.

To assign a dropbox, go to the home page for your LaunchPad course.



Open the unit where you would like your dropbox to exist (most likely the Analyze My Diet Activities unit).

Analyze My Diet Activities

Analyze My Diet Activities are auto-graded versions of the standard diet analysis project. Students use the USDA's open-access SuperTracker to track their food and supplements intake. Then, using the activities, they analyze the results and receive instant feedback.

Add to this Unit Browse Resources for this Unit

SuperTracker Tutorial

Carbohydrates Part 1: Analyze My Diet

Carbohydrates Part 2: Reflection

Food Groups Part 1: Analyze My Diet

Food Groups Part 2: Reflection

Click "Add to this Unit" and select "Create New..."

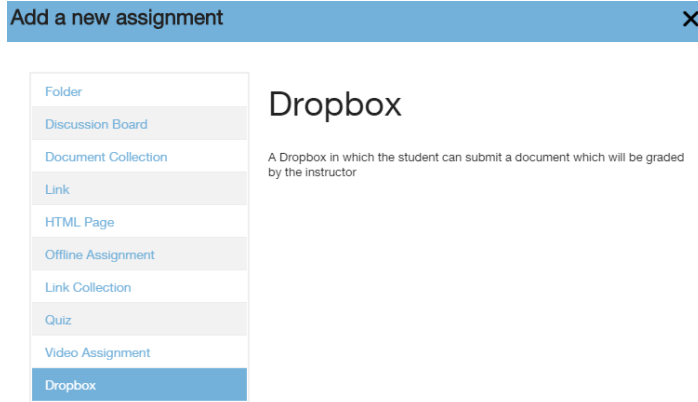
Add to this Unit Browse Resources for this Unit

Create new...

Add from resources...

Close Menu x

Click on "Dropbox."



Name your Dropbox, type in any directions you wish to give your students, and click Save. Suggested directions for the dropbox assignment are below.

Track your diet and physical activity for three days on the USDA's SuperTracker website. After finishing your diet tracking, export the following reports as PDFs: Food Groups & Calories, Nutrients, Physical Activity, and Food Details. For the Food Details report, select "Total Fat", "Saturated Fat", "Monounsaturated Fat", "Polyunsaturated Fat", and Cholesterol from the Nutrients list.

Combine the four reports into a single zip file and upload it here.

Title
required

Subtitle

Directions

B I HTML

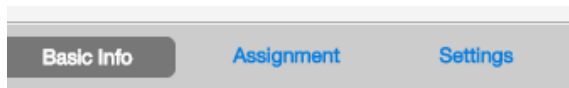
Track your diet and physical activity for three days on the USDA's [SuperTracker website](#). After finishing your diet tracking, export the following reports as PDFs: Food Groups & Calories, Nutrients, Physical Activity, and Food Details. For the Food Details report, select "Total Fat", "Saturated Fat", "Monounsaturated Fat", "Polyunsaturated Fat", and Cholesterol from the Nutrients list.

Combine the four reports into a single zip file and upload it here. |

Word count: 67

Save

Now that your Dropbox has been created, Click "Assignment" in the upper right corner to assign the dropbox.



Due date and time

October 2015						
S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

e.g. 10/29/2015 clear

Please enter due date in an acceptable format such as '10/29/2015.'
Please enter time in an acceptable format such as '04:33.'

Gradebook Settings

Points Gradebook Category Extra credit

Calculation Type

Hide grade from student until due date has passed

Assign

Choose an assignment date and point value for the uploaded reports and then click "Assign." Students will receive full credit for uploading the file, but you will be able to review their documents through the gradebook to ensure that they have done the assignment correctly and adjust the score if necessary.

Your dropbox is now assigned and ready!

Create a Group in SuperTracker

After creating your own account within SuperTracker, you can create a Group for your class. This will allow you to view your students' food intake, physical activity, and account activity. By using groups, you will be able to confirm that your students are properly using the SuperTracker website. Groups are also especially helpful as a way to view your students' reports, if you have chosen not to assign a dropbox (see above).

To learn how to create a group in SuperTracker, view [this helpful video](#) from the USDA.

Distribute a food log for students to track their diet on

The next page in this document includes a sample food log that you can distribute to your students to help them track their diet throughout the course of the day. By taking notes on their meals, students will be less likely to leave out foods they have eaten and more likely to accurately record their diet on the SuperTracker website.

Assign Nutrition Calculations Next

One challenge that students often struggle with during any diet analysis project is successfully performing the required calculations. To help bring students up to par, the Nutrition for a Changing World LaunchPad includes an activity that explains how to perform all the necessary calculations, such as computing percentages, converting AMDRs to calories and then to grams for a particular diet, and computing the protein RDA for a particular person. You can find the Nutrition Calculations activity under the “Real World Nutrition” unit in LaunchPad. To assign the activity, hover over the Nutrition Calculations row in the Real World Nutrition unit, and click Assign.

Assign Analyze My Diet Third

By reducing time spent grading, the auto-graded functionality of the Analyze My Diet Activities allows instructors to assign dietary analysis in new and creative ways. To take advantage of this opportunity, we have created individual activities focusing on key topics in nutrition, including food groups, carbohydrates, lipids, proteins, vitamins, minerals, and physical activity, that can be assigned throughout the semester, as students master each subject. This opens up myriad possibilities for which activities to assign when. Below are the top suggestions that we have heard from instructors for project structures.

Align Each Activity with the Material Covered

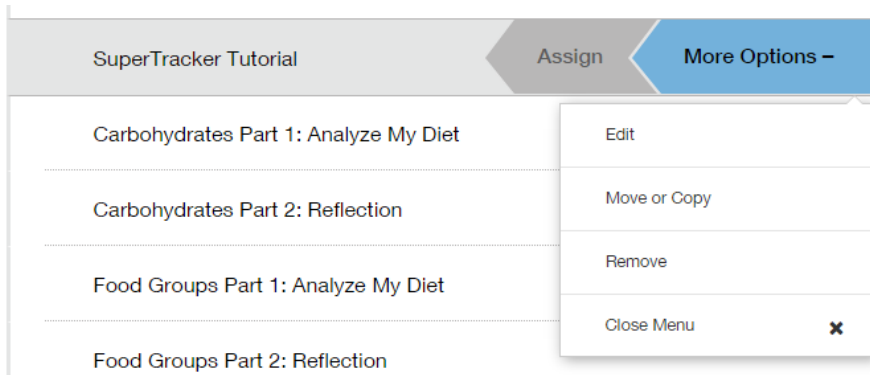
Because the Analyze My Diet Activities are broken up into the key topics, they can be assigned throughout the semester, as each topic is covered. This organization allows students to have multiple experiences analyzing their diet and provides more focused coverage of each topic. After covering chapters 2 through 14, you may re-assign some or all of the activities as a final project. For information on how to quickly and easily re-assign an activity in LaunchPad, see “How to Repeat an Activity” below.

Capstone Project Only

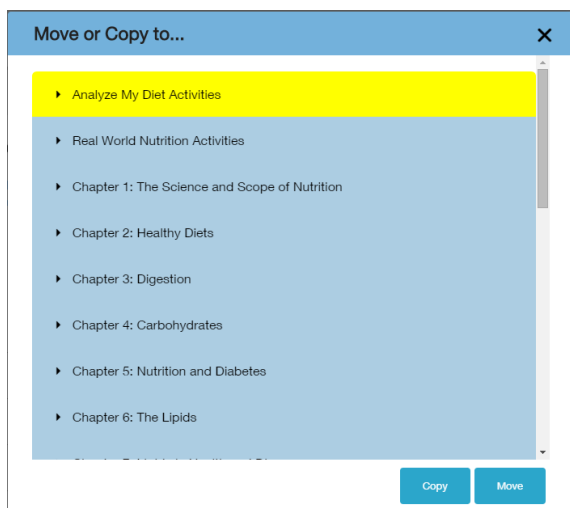
After chapters 2 through 14 have been covered, you can assign students all of the Analyze My Diet Activities and Essay Questions at once. This most closely replicates the traditional experience of the diet analysis assignment.

How to Repeat an Activity

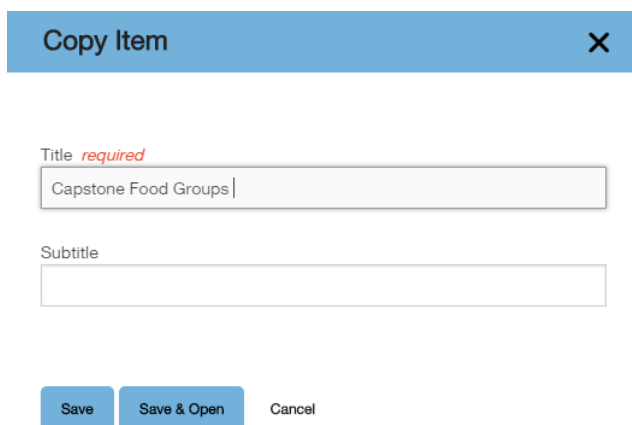
In some cases, you may want to assign your students the same activity twice. This can be done in LaunchPad by simply hovering over the activity in its LaunchPad unit, clicking on “More Options +”, and clicking “Move or Copy.”



To copy an activity into the same folder as it currently exists, click “Copy.”



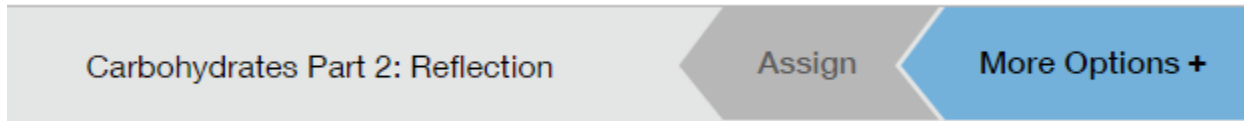
Give the copied activity a distinct name from the original activity to avoid confusion.



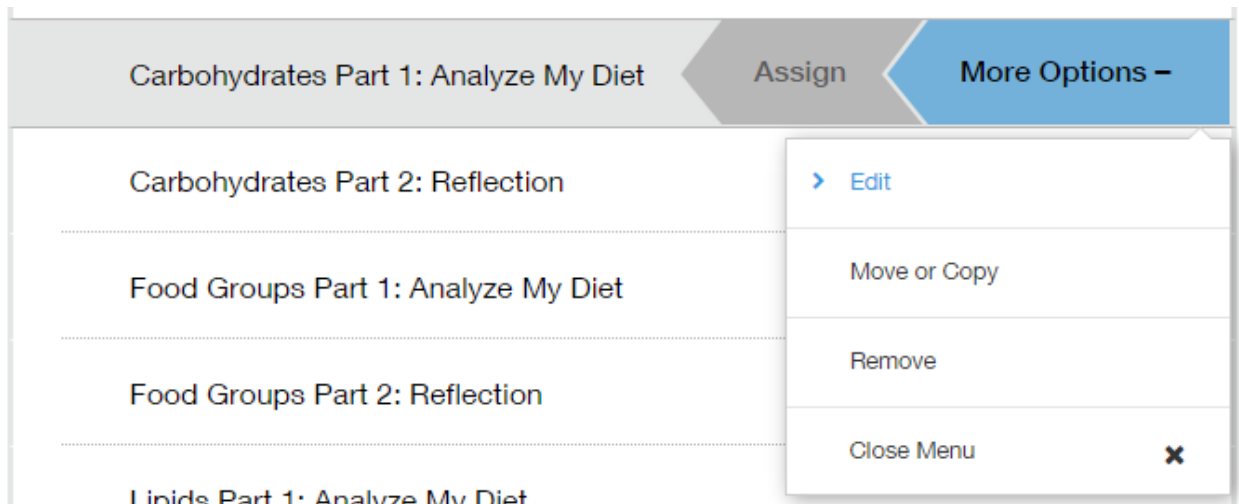
Then click “Save”. Once the activity is copied, you can assign it as you normally would.

Edit Essay Questions

To edit the essay questions that accompany the Analyze My Diet activities, mouseover the quiz you would like to edit so that the “Assign” and “More Options +” selections appear.



Click on “More Options +” and select “Edit”.



From the navigation bar of the screen that opens up, select “Questions.”



From this screen, you can select questions from the test bank or summative quizzes, or you can create your own questions by clicking on “Create” (which will create a multiple-choice question) or clicking on the drop-down arrow and selecting a question type.

The screenshot shows the SuperTracker interface for an assessment titled "Carbohydrates Part 2: Reflection". At the top, there is a "Done Editing" button and the assessment title. Below this is a navigation bar with tabs for "Basic Info", "Assignment", "Settings", and "Questions". The main content area is divided into two columns. The left column, titled "Question banks", has a search bar and lists "Questions by chapter" (Test Bank, Summative Quiz) and "Questions by assessment" (Quiz on Understanding Labels, Fatty Acids, Triglycerides, Sterols, Phospholipids, Chapter 1 Summative Quiz, Food Groups Part 2: Reflection, Carbohydrates Part 2: Reflection, Lipids Part 2: Reflection, Physical Activity Part 2: Reflection, Protein Part 2: Reflection, Vitamins Part 2: Reflection, Minerals Part 2: Reflection, Chapter 2 Summative Quiz). The right column, titled "Questions in this assessment", has a "Create" button and a list of five questions: 1) List two health benefits of consuming sufficient fiber. (Essay, 1 pt), 2) What two food substitutions could you make to increase... (Essay, 1 pt), 3) The Dietary Guidelines for Americans recommends that... (Essay, 1 pt), 4) Untitled Essay Question (Essay, 1 pt), and 5) Untitled Multiple Choice Question (Multiple Choice, 1 pt). Each question has a "Preview" link.

To learn how to create a quiz and how to edit the questions in more detail, please visit our [User Guide](#).

How to get help with SuperTracker or LaunchPad

Help with SuperTracker

To get help using SuperTracker, you can refer to the [Help Page](#) on the SuperTracker website. This page offers a [User Guide](#) and [Site Tour Videos](#) that will walk you through all aspects of the website.

Help with LaunchPad

To get help using LaunchPad, visit the [LaunchPad user guide](#), [send an email to technical support](#), initiate a [chat with technical support](#), or call technical support at 800-936-6899.

Activities, Text Chapters, and SuperTracker Reports Guide

The table below indicates which chapters of *Nutrition for a Changing World* should be prerequisites or co-requisites for each activity. It also indicates which SuperTracker reports are necessary to complete each activity.

Activity	Chapter	Reports	Food Groups & Calories	Nutrients	Food Details	Physical Activity
Food Groups	2	Food Groups & Calories	X			
Carbohydrates	4	Food Groups & Calories, Nutrients	X	X		
Lipids	6	Food Groups & Calories, Nutrients, Food Details	X	X	X	
Protein	8 & 9	Nutrients		X		
Vitamins	10 & 11	Nutrients, Food Details		X	X	
Minerals	12 & 13	Nutrients		X		
Physical Activity	16	Physical Activity				X
SuperTracker Tutorial	N/A	Teaches you to use: Food Groups & Calories, Nutrients, Food Details, Physical Activity	X	X	X	X

Food Groups Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Food Group	Target	Eaten
Grains (ounces)	A1	A2
Vegetables (cups)	B1	B2
Fruit (cups)	C1	C2
Dairy (cups)	D1	D2
Protein Foods (ounces)	E1	E2
Oils (teaspoons)	F1	F2

Calories	Allowance	Eaten
Total Calories	G1	G2
Calories from Added Sugars	H1	H2
Calories from Saturated Fat	I1	I2

1. For each food group, identify whether you consumed under the target or on/over the target.

Grains

- *a. "Yes" if $A2 \geq A1$, "No" otherwise
- b. "No" if $A2 \geq A1$, "Yes" otherwise

2. For each food group, identify whether you consumed under the target or on/over the target.

Vegetables

- *a. "Yes" if $B2 \geq B1$, "No" otherwise
- b. "No" if $B2 \geq B1$, "Yes" otherwise

3. For each food group, identify whether you consumed under the target or on/over the target.

Fruit

- *a. "Yes" if $C2 \geq C1$, "No" otherwise
- b. "No" if $C2 \geq C1$, "Yes" otherwise

4. For each food group, identify whether you consumed under the target or on/over the target.

Dairy

- *a. "Yes" if $D2 \geq D1$, "No" otherwise
- b. "No" if $D2 \geq D1$, "Yes" otherwise

5. For each food group, identify whether you consumed under the target or on/over the target.

Protein Foods

*a. "Yes" if $E2 \geq E1$, "No" otherwise

b. "No" if $E2 \geq E1$, "Yes" otherwise

6. Did you consume less than the allowance for oils?

*a. "Yes" if $F2 < F1$, "No" otherwise

b. "No" if $F2 < F1$, "Yes" otherwise

7. Are you above the allowance for calories?

*a. "Yes" if $G2 > G1$, "No" otherwise

b. "No" if $G2 > G1$, "Yes" otherwise

8. Are you above the allowance for calories from added sugars?

*a. "Yes" if $H2 > H1$, "No" otherwise

b. "No" if $H2 > H1$, "Yes" otherwise

9. Are you above the allowance for calories from saturated fat?

*a. "Yes" if $I2 > I1$, "No" otherwise

b. "No" if $I2 > I1$, "Yes" otherwise

Food Groups Essay Questions (Editable in LaunchPad)

1. List three specific diet changes you can make to meet the recommended servings for your below-target food groups. For example, if you did not consume enough fruit, you could add an orange to your breakfast.

Answer: Answers will depend on individual student's diet. Each student should include enough servings to make up the difference for their deficient food groups. Students deficient in grains should answer that they will consume more whole-grain bread, pasta, rice, or cereal. Students deficient in vegetables should add vegetables such as bell peppers, leafy greens, carrots, tomatoes, potatoes, beans, and more. Students deficient in fruit should add foods like grapes, apple, banana, peaches, mango, and others. Students deficient in dairy should add low-fat milk, cheese, and yogurt. Students deficient in protein foods should add lean sources of protein like fish, skinless poultry, beans, nuts, and soy.

2. Identify the main food sources of your calories from saturated fat and added sugars for a single day by looking at your Food Details report (with Saturated Fat and Added Sugars checked in the Limits section) from SuperTracker. Which are you willing to reduce?

Answer: Answers will depend on individual student's diet. Students will likely need to reduce foods such as candy, pastries, fried or oily snacks, soft drinks, cakes, and other items with low nutrient-density.

3. Identify one or more factors that interfere with your ability to consume adequate amounts of each food group (for example, cost of food, time constraints, availability of healthy food, food preferences, lack of motivation, or other).

Answer: Answers will depend on the individual student. Students will likely select one or more of the following: cost of food, time constraints, availability of healthy food, food preferences, lack of motivation, but any factor that could reasonably interfere with their ability to consume adequate amounts of each food group is acceptable.

4. For each factor you identified in the previous question, explain how it makes meeting food group targets difficult.

Answer: Answers will depend on the individual student. The cost of food will interfere by preventing the student from purchasing a variety of healthy foods. Time constraints will interfere by preventing the student from having time to cook at home, which leads to eating more meals from restaurants. The availability of food will interfere by preventing the student from obtaining a variety of healthy foods or by requiring more time to be invested in buying healthy food. Food preferences will interfere if the student enjoys unhealthy foods or only enjoys very limited kinds of healthy foods. Lack of motivation will interfere by reducing the effort the student is willing to put into overcoming the other factors.

5. Describe a possible strategy for how to overcome one factor that interferes with your ability to consume adequate amounts of each food group.

Answer: Answers will depend on the individual student. Students can overcome the cost of food factor by looking for low-cost healthy foods, investing more time in food preparation, moving resources from other expenditures to healthy food, and purchasing foods during their harvest season at lower prices. Students can overcome the time constraints factor by planning out their meals ahead of time, preparing foods on weekends when more time is available, and searching for quicker recipes that still use healthy ingredients. Students can overcome the availability of healthy food factor by seeking out healthier sources of food, expressing demand for healthier foods in their area, growing their own gardens, avoiding places that have a much higher availability of unhealthy foods, and coordinating shopping trips with friends or family. Students can overcome the food preference factor by trying out new foods in small portions, by trying a variety of new foods in different preparations, and by adding spices to foods. Students can overcome the lack of motivation factor by educating themselves about the repercussions of an unhealthy diet and by recognizing the effect of a healthy diet on their feeling of wellness.

Carbohydrates Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Macronutrient	Average Eaten (% Calories)	Average Eaten (g)
Carbohydrate	P3	G3

Carbohydrates	Average Eaten (g)
Fiber	A1
Total Sugars	A2
Added Sugars	A3

Food Group	Average Eaten (ounces)
Grains	A4
Whole Grains	A5
Refined Grains	A6

1. How many Calories did you consume from carbohydrates?

- *a. $G3 \times 4$
- b. $G3 \times 3$
- c. $G3 \times 5$
- d. $G3 \times 9$

Hint: How many Calories are in 1 gram of carbohydrates (Infographic 4.1 on page 77 of your book)? Multiply your carbohydrates in grams by the number of Calories in 1 gram of carbohydrates.

2. What is the acceptable macronutrient distribution range (AMDR) for carbohydrates (in terms of percent of total Calories)?

- *a. 45 to 65%
- b. 10 to 35%
- c. 20 to 35%
- d. 25 to 45%

Hint: Check your book (Infographic 4.11 on page 91) or your SuperTracker report to find this answer.

3. Was your carbohydrate intake within the AMDR?

- *a. "Yes" if $45\% \leq P3 \leq 65\%$, "No" otherwise
- b. "No" if $45\% \leq P3 \leq 65\%$, "Yes" otherwise

Hint: Did you consume between 45% and 65% of your Calories through carbohydrates?

4. The adequate intake (AI) for fiber is 25 grams/day for female adults and 38 grams/day for male adults. Did you consume at least the AI for fiber for female adults, on average?

*a. "Yes" if $25 \leq A1$, "No" otherwise

b. "No" if $25 \leq A1$, "Yes" otherwise

Hint: Check if your fiber intake listed in the table above is at least the adequate intake value for female adults.

5. What percent of your carbohydrate intake came from added sugars?

*a. $A3/G3$

b. $(A3/G3) \times 0.8$

c. $(A3/G3) \times 0.5$

d. $(A3/G3) \times 1.5$

Hint: Divide your Added Sugars in grams by your Carbohydrates in grams and then multiply by 100 to find your percentage.

6. A teaspoon of sucrose (table sugar) contains four grams of sugar. If your entire intake of **added sugar** had been from sucrose, how many teaspoons of sucrose would you have eaten?

*a. $A3/4$

b. $A3/8$

c. $A3/10$

d. $A3/2$

Hint: Divide your Added Sugars in grams by four.

7. What percent of your total grain intake was from whole grains?

*a. $A5/A4 \times 100$

b. $(A5/A4) \times 0.8 \times 100$

c. $(A5/A4) \times 0.5 \times 100$

d. $(A5/A4) \times 1.5 \times 100$

Hint: Divide your Whole Grains intake by your Grains intake and multiply by 100.

8. What percent of your total grain intake was from refined grains?

*a. $A6/A4 \times 100$

b. $(A6/A4) \times 0.8 \times 100$

c. $(A6/A4) \times 0.5 \times 100$

d. $(A6/A4) \times 1.5 \times 100$

Hint: Divide your Refined Grains intake by your Grains intake and multiply by 100.

Carbohydrates Essay Questions (Editable in LaunchPad)

1. List two health benefits of consuming sufficient fiber.

Answer: Insoluble fiber softens stool, which helps maintain regular bowel movements and reduces the risk of hemorrhoids and diverticular disease. It has also been shown to decrease the risk of diabetes. Soluble fiber has been shown to reduce the risk of coronary heart disease, while also slowing the emptying of food into the small intestine and extending the sensation of fullness following a meal. Many soluble fibers also reduce the rise in blood glucose following a meal by slowing digestion and absorption, which may improve blood glucose control in those with diabetes.

2. What two food substitutions could you make to increase your fiber intake or decrease your sugar intake?

Answer: Answers will depend on the individual student. Students who need to increase their fiber intake should suggest substituting refined grains for whole grains, meats for beans, fruit juices for whole fruit, and low nutrient-density foods for vegetables. Students who need to decrease their sugar intake should suggest substituting refined grains for whole grains, fruit juices for whole fruit, desserts for whole fruit, and soft drinks for water or milk.

3. The Dietary Guidelines for Americans recommends that people consume at least half of all grains as whole grains. Explain why whole grains are generally more healthful than refined grains.

Answer: Whole grains include all of the original parts of the grain in the original proportions, while refined grains contain only the endosperm and lack the bran and germ. Because the bran and germ contain the majority of the dietary fiber, significant amounts of B vitamins and minerals, and essential fatty acids, those who consume refined grains are missing out on all of those healthful nutrients. That is, whole grains are more nutrient-dense than refined grains.

Lipids Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Nutrients	Average Eaten (Calories)
Calories	F1

Nutrient	Average Eaten (% Calories)	Average Eaten (g)
Linoleic Acid	A1	B1
α -Linolenic Acid	A2	B2

Fats	Average Eaten (% Calories)
Total Fat	C1
Saturated Fat	C2
Polyunsaturated Fat	C3
Monounsaturated Fat	C4

Fats	Average Eaten (mg)
Omega-3 - EPA	D1
Omega-3 - DHA	D2

Food Group	Average Eaten (Calories)
Empty Calories	E1
Added Sugars	E2
Saturated Fat	E3

Food	Total Fat (% Calories)	Saturated Fat (% Calories)	Monounsaturated Fat (% Calories)	Polyunsaturated Fat (% Calories)
Food 1	G1	H1	I1	J1
Food 2	G2	H2	I2	J2
Food 3	G3	H3	I3	J3

1. How many Calories did you consume from total fats?

- *a. $C1/100 * F1$
- b. $(C1/100 * F1) * 0.1$
- c. $(C1/100 * F1) * 0.5$
- d. $(C1/100 * F1) * 1.5$

Hint: Look at your grid above. What percent of your calories came from your total fat? First, divide that number by 100 to convert the percentage to a decimal, and then multiply the result by your total Calories to get your Calories from total fats.

2. What is the acceptable macronutrient distribution range (AMDR) for fats (in terms of percent of total calories)?

- *a. 20 to 35%
- b. 45 to 65%
- c. 10 to 35%
- d. 25 to 45%

Hint: Refer to your book (Infographic 6.9 on page 134) or to the targets listed on the SuperTracker website to find this answer.

3. Was your calorie intake from fat within the AMDR?

- *a. "Yes" if $20\% \leq C1 \leq 35\%$, "No" otherwise
- b. "No" if $20\% \leq C1 \leq 35\%$, "Yes" otherwise

Hint: Look at your grid above. Was your percent of calories from total fat between 20 and 35%?

4. What is the recommended intake of calories from saturated fat?

- *a. <10% of calories
- b. <5% of calories
- c. <15% of calories
- d. <20% of calories

Hint: Refer to your book (Chapter 6, A Heart Protective Diet on page 152) or to the targets listed on the SuperTracker website to find this answer.

5. Was your saturated fat intake within the recommendation?

- *a. "Yes" if $C2 < 10$, "No" otherwise
- b. "No" if $C2 \leq 10$, "Yes" otherwise

Hint: Look at your grid above. Was your percent of calories from saturated fat less than 10%?

6. Did you consume more monounsaturated fat than saturated fat?

- *a. "Yes" if $C4 > C2$, "No" otherwise
- b. "No" if $C4 > C2$, "Yes" otherwise

Hint: Look at your grid above. Was your percent of calories from monounsaturated fat greater than your percent of calories from saturated fat?

7. Did you consume more polyunsaturated fat than saturated fat?

- *a. "Yes" if $C3 > C2$, "No" otherwise
- b. "No" if $C3 > C2$, "Yes" otherwise

Hint: Look at your grid above. Was your percent of calories from polyunsaturated fat greater than your percent of calories from saturated fat?

8. Did you meet the target recommendation for linoleic acid in terms of average grams?

*a. "Yes" if $B1 \geq 12$, "No" otherwise

b. "No" if $B1 \geq 12$, "Yes" otherwise

Hint: Look at your grid above. Was your linoleic acid intake more than 12 grams?

9. Did you meet the target recommendation for α -linolenic (also known as alpha-linolenic) acid in terms of average grams?

*a. "Yes" if $B2 \geq 1.1$, "No" otherwise

b. "No" if $B2 \geq 1.1$, "Yes" otherwise

Hint: Look at your grid above. Was your α -linolenic acid intake more than 1.1 grams?

10. What percentage of your empty Calories came from added sugars?

*a. $(E2/E1 * 100)\%$

b. $(E2/E1 * 50)\%$

c. $(E2/E1 * 25)\%$

d. $(E2/E1 * 120)\%$

Hint: Look at your grid above. How many calories did you consume from added sugars? Divide that number by your empty calories and multiply by 100 to find the percentage.

11. What percentage of your empty Calories came from saturated fat?

*a. $(E3/E1 * 100)\%$

b. $(E3/E1 * 50)\%$

c. $(E3/E1 * 25)\%$

d. $(E3/E1 * 120)\%$

Hint: Look at your grid above. How many calories did you consume from saturated fat? Divide that number by your empty calories and multiply by 100 to find the percentage.

Lipids Essay Questions (Editable in LaunchPad)

1. How does consuming excessive saturated fat contribute to the risk of developing cardiovascular disease?

Answer: *The consumption of excessive saturated fat contributes to the accumulation of LDL cholesterol in the blood. This LDL cholesterol then infiltrates the arterial lining and becomes oxidized, causing inflammation and injury to the vessel wall. From there, plaque formation from the LDL accumulation expands and may block a significant portion of blood flow. This condition is called atherosclerosis, a type of cardiovascular disease that precedes myocardial infarctions and stroke.*

2. Americans typically consume a disproportionate amount of linoleic acid in relation to α -linolenic acid (also known as alpha-linolenic acid). Identify two reasons it would be beneficial to boost intake of α -linolenic acids in relation to linoleic acids.

Answer: It is beneficial to boost intake of α -linolenic acids in relation to linoleic acids because α -linolenic acids inhibit inflammation, while linoleic acids promotes inflammation.

3. Recall the list of the three foods you ate that were highest in total fat. Are these foods sources of beneficial fat? Explain why or why not by examining the types of fat they contain.

Answer: Answer will depend on the individual student. Students should select their three highest fat foods. If those foods are high in omega-3 fatty acids, alpha-linolenic acid, polyunsaturated fat, or monounsaturated fat, then they are sources of beneficial fat. If those foods are high in saturated fat or trans fat, they are not.

Protein Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Nutrient	Average Eaten (%)	Average Eaten (g)
Protein	A1	A2

Your weight (lbs)	B1
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1. How many Calories did you consume from protein?

- *a. $A2 \times 4$
- b. $A2 \times 9$
- c. $A2 \times 7$
- d. A2

Hint: Look at your grid above. How many grams of protein did you consume? Multiply that number by the number of calories in one gram of protein.

2. What is the acceptable macronutrient distribution range (AMDR) for protein (in terms of percent of calories)?

- *a. 10-35%
- b. 20-35%
- c. 25-40%
- d. 45-65%

Hint: Refer to your book (Chapter 8, Recommendations for Protein Intake, on page 164) or to the targets listed on the SuperTracker website to find this answer.

3. Was your protein intake within the AMDR for protein?

- *a. "Yes" if $10\% \leq A1 \leq 35\%$, "No" otherwise
- b. "No" if $10\% \leq A1 \leq 35\%$, "Yes" otherwise

Hint: Look at your grid above. Was your percent of calories from protein between 10 and 35%?

4. There are two separate protein recommendations: the Acceptable Macronutrient Distribution Range (AMDR) and the Recommended Daily Allowance (RDA) in grams. The RDA for protein is 0.8 grams of protein per kilogram of body weight per day. Answer the questions below to calculate your RDA for protein.

What is your weight in kilograms?

- *a. $B1/2.2$
- b. $B1/4$

- c. $B1/10$
- d. $B1$

Hint: How many pounds are in a kilogram? Divide your weight in pounds by that number.

5. There are two separate protein recommendations: the Acceptable Macronutrient Distribution Range (AMDR) and the Recommended Daily Allowance (RDA) in grams. The RDA for protein is 0.8 grams of protein per kilogram of body weight per day. Answer the questions below to calculate your RDA for protein.

What is your RDA for protein, in terms of grams per day?

- *a. $(B1/2.2) * 0.8$
- b. $(B1/4) * 0.8$
- c. $(B1/10) * 0.8$
- d. $B1 * 0.8$

Hint: Multiply your weight in kilograms by the RDA for grams of protein per kilogram of body weight per day.

6. There are two separate protein recommendations: the Acceptable Macronutrient Distribution Range (AMDR) and the Recommended Daily Allowance (RDA) in grams. The RDA for protein is 0.8 grams of protein per kilogram of body weight per day. Answer the questions below to calculate your RDA for protein.

What percentage of your RDA for protein did you consume?

- *a. $A2/[(B1/2.2) * 0.8] * 100$
- b. $A2/[(B1/2.2) * 0.8] * 50$
- c. $A2/[(B1/2.2) * 0.8] * 80$
- d. $A2/[(B1/2.2) * 0.8] * 150$

Hint: Divide your protein intake in grams by the RDA you calculated in the last problem and then multiply by 100. If you need to calculate your RDA again, multiply your weight in kilograms by the RDA for grams of protein per kilogram of body weight per day.

7. There are two separate protein recommendations: the percent of calories from protein and the Recommended Daily Allowance (RDA) in grams. The RDA for protein is 0.8 grams of protein per kilogram of body weight per day. Answer the questions below to calculate your RDA for protein.

How many grams of protein per kilogram of your body weight did you consume?

- *a. $2.2 * (A2/B1)$
- b. $4 * (A2/B1)$
- c. $10 * (A2/B1)$
- d. $(A2/B1)$

Hint: Divide your protein intake in grams by your weight in kilograms.

Protein Essay Questions (Editable in LaunchPad)

1. Did you consume more or less protein than recommended? Suggest two ways you could change your diet to move your intake closer to the recommendation.

Answer: Answer will depend on the individual student. If students consumed more protein than recommended, they should suggest replacing some protein foods (particularly any high-fat protein foods like beef) with vegetables, fruits, or healthy grains. If students consumed less protein than recommended, they should suggest adding lean protein sources, such as fish, lean poultry, and beans.

2. Complete protein foods (such as meat, fish, dairy, eggs, and soy) contain all nine essential amino acids in amounts and proportions needed for protein synthesis. Incomplete protein foods (such as beans and most grains) are missing or low in one or more essential amino acid. List two protein foods that you consumed and state whether each is a complete or incomplete protein food.

Answer: Answer will depend on the individual student. For complete proteins, students will list foods such as beef, poultry, fish, milk, eggs, soy, and quinoa. For incomplete proteins, students will list foods such as beans, nuts, rice, and whole-grains.

3. Do you follow a vegetarian or vegan diet? If so, explain your strategy for consuming sufficient protein. If not, list two ways that you could make your diet more plant-based while consuming sufficient protein and essential nutrients.

Answer: Answer will depend on the individual student. If students follow a vegetarian or vegan diet, they should discuss how they consume complementary vegetable sources of protein and complementary proteins, like whole-grain bread and peanut butter or rice and beans. Vegetarians may also discuss consuming milk, yogurt, or eggs. Students who do not follow a vegetarian or vegan diet should suggest replacing some forms of animal protein with plant protein, while suggesting ways to maintain sufficient intake of vitamin b12, iron, and all nine essential amino acids.

4. Some combinations of incomplete protein foods contain all nine essential amino acids and are considered complementary protein foods. One example of a complementary combination is peanut butter and whole-wheat bread. How can complementary protein foods help you meet your protein requirements?

Answer: Answers will depend on the individual student. Students who consume a lot of animal products may write that complementary proteins will help them meet their protein requirements while increasing their intake of nutrient-dense foods and minimizing their intake of high-fat animal products. Students who consume little or no animal products may write that complementary protein foods will help them meet their protein requirements by assuring that they consume appropriate amounts of all amino acids, while staying within their dietary preferences or restrictions.

5. What are two potential dietary implications associated with excessive protein intake and how might these implications affect health risk? How can those risks be mitigated by replacing some animal protein with vegetable protein?

Answer: Students should list two dietary implications – like increased saturated fat and low fiber intake. Health risks may include increased risk of cardiovascular disease and some forms of cancer. Plant-based foods could help reduce saturated fat intake and boost fiber intake.

Vitamins Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Vitamins	Target	Average Eaten	Percent of Target Eaten
Vitamin A (µg)	A1	A2	
Vitamin B ₆ (mg)	B1	B2	
Vitamin B ₁₂ (µg)	C1	C2	
Vitamin C (mg)	D1	D2	
Vitamin D (µg)	E1	E2	
Vitamin E (mg)	F1	F2	
Vitamin K (µg)	G1	G2	
Folate (µg)	H1	H2	
Thiamin (mg)	I1	I2	
Riboflavin (mg)	J1	J2	
Niacin (mg)	K1	K2	
Choline (mg)	L1	L2	

Vitamins	Good Food Source (List One)	Deficiency Signs and Symptoms
Vitamin B ₁₂		
Vitamin D		
Folate		

1. For each fat-soluble vitamin, select “Yes” if you consumed at least 70% of the target, and select “No” otherwise.

Vitamin A

*a. “Yes” if $A2/A1 \geq 0.7$, “No” otherwise

b. “No” if $A2/A1 \geq 0.7$, “Yes” otherwise

2. For each fat-soluble vitamin, select “Yes” if you consumed at least 70% of the target, and select “No” otherwise.

Vitamin D

*a. “Yes” if $E2/E1 \geq 0.7$, “No” otherwise

b. “No” if $E2/E1 \geq 0.7$, “Yes” otherwise

3. For each fat-soluble vitamin, select “Yes” if you consumed at least 70% of the target, and select “No” otherwise.

Vitamin E

- *a. "Yes" if $F2/F1 \geq 0.7$, "No" otherwise
- b. "No" if $F2/F1 \geq 0.7$, "Yes" otherwise

4. For each fat-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Vitamin K

- *a. "Yes" if $G2/G1 \geq 0.7$, "No" otherwise
- b. "No" if $G2/G1 \geq 0.7$, "Yes" otherwise

5. For each fat-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Vitamin A

- *a. "Yes" if $A2 > 3000$, "No" otherwise
- b. "No" if $A2 > 3000$, "Yes" otherwise

Hint: Check your book (Chapter 10, Vitamin A deficiency and toxicity on page 222) to find the UL. Remember that μg , mcg, and microgram are all the same unit.

6. For each fat-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Vitamin D

- *a. "Yes" if $E2 > 100$, "No" otherwise
- b. "No" if $E2 > 100$, "Yes" otherwise

Hint: Check your book (Chapter 10, Vitamin A deficiency and toxicity on page 222) to find the UL. Remember that μg , mcg, and microgram are all the same unit.

7. For each fat-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Vitamin E

- *a. "Yes" if $F2 > 1000$, "No" otherwise
- b. "No" if $F2 > 1000$, "Yes" otherwise

Hint: Check your book (Chapter 10, Vitamin E deficiency and toxicity on page 224) to find the UL. Remember that μg , mcg, and microgram are all the same unit.

8. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Vitamin B₆

- *a. "Yes" if $B2/B1 \geq 0.7$, "No" otherwise
- b. "No" if $B2/B1 \geq 0.7$, "Yes" otherwise

9. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Vitamin B₁₂

- *a. "Yes" if $C2/C1 \geq 0.7$, "No" otherwise
- b. "No" if $C2/C1 \geq 0.7$, "Yes" otherwise

10. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Vitamin C

- *a. "Yes" if $D2/D1 \geq 0.7$, "No" otherwise
- b. "No" if $D2/D1 \geq 0.7$, "Yes" otherwise

11. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Folate

- *a. "Yes" if $H2/H1 \geq 0.7$, "No" otherwise
- b. "No" if $H2/H1 \geq 0.7$, "Yes" otherwise

12. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Thiamin

- *a. "Yes" if $I2/I1 \geq 0.7$, "No" otherwise
- b. "No" if $I2/I1 \geq 0.7$, "Yes" otherwise

13. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Riboflavin

- *a. "Yes" if $J2/J1 \geq 0.7$, "No" otherwise
- b. "No" if $J2/J1 \geq 0.7$, "Yes" otherwise

14. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Niacin

- *a. "Yes" if $K2/K1 \geq 0.7$, "No" otherwise
- b. "No" if $K2/K1 \geq 0.7$, "Yes" otherwise

15. For each water-soluble vitamin, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Choline

- *a. "Yes" if $L2/L1 \geq 0.7$, "No" otherwise
- b. "No" if $L2/L1 \geq 0.7$, "Yes" otherwise

16. For each water-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Vitamin B₆

*a. "Yes" if B2 > 100, "No" otherwise

b. "No" if B2 > 100, "Yes" otherwise

Hint: Check your book (Infographic 11.14 on page 253) to find the UL.

17. For each water-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Vitamin C

*a. "Yes" if D2 > 2000, "No" otherwise

b. "No" if D2 > 2000, "Yes" otherwise

Hint: Check your book (Infographic 11.14 on page 253) to find the UL.

18. For each water-soluble vitamin, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Choline

*a. "Yes" if L2 > 3500, "No" otherwise

b. "No" if L2 > 3500, "Yes" otherwise

Hint: Check your book (Infographic 11.14 on page 253) to find the UL.

Vitamins Essay Questions (Editable in LaunchPad)

1. Considering your intake for the day(s) analyzed, do you feel you typically consume insufficient or excessive amounts of the vitamins? Discuss possible implications of long-term inadequate or excess intake for at least one vitamin.

Answer: Answer will depend on the individual student. Students who are far under the recommendations for multiple fat-soluble vitamins will be at risk for deficiency symptoms such as night blindness, impaired immunity, rough skin, and keratinization (vitamin A); osteomalacia (vitamin D); uncontrolled bleeding (vitamin K). Students who are above the ULs for fat-soluble vitamins will be at risk for defects or weaknesses in bones (vitamin A); loss of appetite, weight loss, irregular heartbeat, and frequent urination (vitamin D); a tendency to bleed (vitamin E). Students who are far under the recommendation for water-soluble vitamins may be at risk for deficiencies such as dermatitis, anemia, depression, confusion, and weakness (vitamin B₆), megaloblastic anemia, nerve damage, and neurological disorders (vitamin B₁₂), bleeding gums, loose teeth, pinpoint bruising, poor wound healing, and severe joint pain (vitamin C), megaloblastic anemia, neural tube defects, malabsorption, and diarrhea (folate), mental disturbances, muscle weakness, impaired cardiac function (thiamin), inflammation of the mouth and tongue and cracks in the corners of the mouth (riboflavin), diarrhea, dermatitis with sun exposure, and delirium (niacin). Students who are above the ULs may be at risk for symptoms of toxicity such as numbness in hands and feet (vitamin B₆), diarrhea and gastrointestinal disturbances (vitamin C), and the masking of a vitamin B₁₂ deficiency (folate).

2. For each vitamin for which you consumed less than 100% of the target, suggest two foods that you could realistically add to your diet to boost your intake.

Answer: Answer will depend on the individual student. Students deficient in vitamin A may add liver, tuna, sweet potatoes, butternut squash, baby carrots, or romaine lettuce. Students deficient in vitamin D may add fortified milk, fortified cereal, trout, salmon, or Maitake mushrooms. Students deficient in vitamin E may add almonds, sunflower oil, canola oil, peanut butter, or avocados. Students deficient in vitamin K may add spinach, kale, broccoli, Brussels sprouts, prunes, romaine lettuce, or asparagus. Students deficient in vitamin B6 may suggest meat, fish, potatoes, or bananas. Students deficient in vitamin B12 may suggest fish, shellfish, liver, beef, and fortified cereals. Students deficient in vitamin C may suggest citrus fruits, peppers, kiwi, guava, and broccoli. Students deficient in folate may suggest legumes, green leafy vegetables, liver, fortified grains, and cereals. Students deficient in thiamin may suggest pork, fortified and enriched cereal products, seeds, some nuts, and fish. Students deficient in riboflavin may suggest dairy products, fortified cereals, liver, almonds, clams, and pork. Students deficient in niacin may suggest poultry, meat, fish, fortified cereals, peanuts, and mushrooms.

3. For each vitamin for which you consumed more than the UL, suggest a plan for consuming less (such as eating less of a particular food or stopping intake of a supplement). If you did not consume more than the UL for any water-soluble vitamins, explain how you can avoid consuming more than the UL in the future.

Answer: Answer will depend on the individual student. Students who consumed more than the UL of the vitamins will likely have exceeded the amount due to supplements. They may suggest stopping supplementation. In rare cases, the students will have consumed more than the UL through food and will suggest eating less of that food. Students who did not consume more than the UL for any fat-soluble vitamins will suggest reading supplement labels to check for doses above the UL and avoiding excessive consumption of any particular food.

4. After analyzing your diet, do you think you need to start or stop taking a supplement of any particular vitamins? If you think you need a supplement, explain why you cannot consume enough of those vitamins through food.

Answer: Answer will depend on the individual student. Students who consumed above the UL on any vitamins from taking supplements should suggest stopping supplementation of those vitamins. Explanations for the inability to consume enough vitamins through food should include a reflection on the student's time, monetary resources, food availability, personal preferences, and allergies or other dietary restrictions.

Minerals Analyze My Diet

Note: All multiple choice answers are scrambled, such that the answer options appear in a random order. (That is, the correct answer will not always be A). The letters/numbers in the grids (for example, A1 or XX1) are placeholders to allow you to identify the table cells (and thus student data) that are used to calculate the answers to each question.

Minerals	Target	Average Eaten	Percent of Target Eaten
Calcium (mg)	A1	A2	A3
Potassium (mg)	B1	B2	B3
Sodium (mg)	C1	C2	C3
Copper (µg)	D1	D2	D3
Iron (mg)	E1	E2	E3
Magnesium (mg)	F1	F2	F3
Phosphorus (mg)	G1	G2	G3
Selenium (µg)	H1	H2	H3
Zinc (mg)	I1	I2	I3

Minerals	Good Food Source (List One)	Deficiency Symptoms
Calcium		
Potassium		
Iron		

1. For each major mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Calcium

- *a. "Yes" if $A2/A1 \geq 0.7$, "No" otherwise
- b. "No" if $A2/A1 \geq 0.7$, "Yes" otherwise

2. For each major mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Potassium

- *a. "Yes" if $B2/B1 \geq 0.7$, "No" otherwise
- b. "No" if $B2/B1 \geq 0.7$, "Yes" otherwise

3. Select "Yes" if you consumed at least 70% of the limit for sodium and select "No" otherwise.

- *a. "Yes" if $C2/C1 \geq 0.7$, "No" otherwise
- b. "No" if $C2/C1 \geq 0.7$, "Yes" otherwise

4. For each major mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Magnesium

- *a. "Yes" if $F2/F1 \geq 0.7$, "No" otherwise
- b. "No" if $F2/F1 \geq 0.7$, "Yes" otherwise

5. For each major mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Phosphorus

- *a. "Yes" if $G2/G1 \geq 0.7$, "No" otherwise
- b. "No" if $G2/G1 \geq 0.7$, "Yes" otherwise

6. For each major mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Calcium

- *a. "Yes" if $A2 > 2500$, "No" otherwise
- b. "No" if $A2 > 2500$, "Yes" otherwise

Hint: Check your book (Chapter 13, Functions and Sources of Calcium on page 289) to find the UL.

7. For each major mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Sodium

- *a. "Yes" if $C2 > 2300$, "No" otherwise
- b. "No" if $C2 > 2300$, "Yes" otherwise

Hint: Check your book (Chapter 13, Sodium Intake Recommendations on page 293) to find the UL.

8. For each major mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Copper

- *a. "Yes" if $A2 > 2500$, "No" otherwise
- b. "No" if $A2 > 2500$, "Yes" otherwise

9. For each trace mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Iron

- *a. "Yes" if $E2/E1 \geq 0.7$, "No" otherwise
- b. "No" if $E2/E1 \geq 0.7$, "Yes" otherwise

10. For each trace mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Selenium

- *a. "Yes" if $H2/H1 \geq 0.7$, "No" otherwise
- b. "No" if $H2/H1 \geq 0.7$, "Yes" otherwise

11. For each major mineral, select "Yes" if you consumed at least 70% of the target, and select "No" otherwise.

Zinc

*a. "Yes" if $I2/I1 \geq 0.7$, "No" otherwise

b. "No" if $I2/I1 \geq 0.7$, "Yes" otherwise

12. For each trace mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Copper

*a. "Yes" if $D2 > 10000$, "No" otherwise

b. "No" if $D2 > 10000$, "Yes" otherwise

Hint: Check your book (Infographic 14.12 on page 329) to find the UL. Remember that μg , mcg, and microgram are all the same unit, and 1000 micrograms is equal to 1 milligram.

13. For each trace mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Iron

*a. "Yes" if $E2 > 45$, "No" otherwise

b. "No" if $E2 > 45$, "Yes" otherwise

Hint: Check your book (Infographic 14.12 on page 329) to find the UL. Remember that μg , mcg, and microgram are all the same unit, and 1000 micrograms is equal to 1 milligram.

14. For each trace mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Selenium

*a. "Yes" if $H2 > 400$, "No" otherwise

b. "No" if $H2 > 400$, "Yes" otherwise

Hint: Check your book (Infographic 14.12 on page 329) to find the UL. Remember that μg , mcg, and microgram are all the same unit, and 1000 micrograms is equal to 1 milligram.

15. For each trace mineral, select "Yes" if you consumed more than the Tolerable Upper Intake Level (UL) of the target, and select "No" otherwise.

Zinc

*a. "Yes" if $I2 > 40$, "No" otherwise

b. "No" if $I2 > 40$, "Yes" otherwise

Hint: Check your book (Infographic 14.12 on page 329) to find the UL. Remember that μg , mcg, and microgram are all the same unit, and 1000 micrograms is equal to 1 milligram.

Minerals Essay Questions (Editable in LaunchPad)

1. Considering your intake for the day(s) analyzed, do you feel you typically consume insufficient or excessive amounts of any minerals? Discuss possible implications of long-term inadequate or excess intake for at least one mineral.

Answer: Answer will depend on the individual student. Students who are far under the recommendations for the major minerals may be at risk for symptoms such as osteopenia and osteoporosis (calcium) and fatigue, muscle weakness, abnormal heart rhythms, increased calcium excretion, and reduced insulin production (potassium), osteoporosis and hypertension (magnesium). Students who are above the UL for the major minerals may be at risk for constipation, lowered iron absorption, and hypercalcemia (calcium), cardiovascular disease (phosphorus), and hypertension (sodium). Students who are far under the recommendations for trace minerals may be at risk for anemia, poor immune function, osteoporosis, and poor growth (copper), anemia, decreased thyroid hormone production, impaired immune function, impaired growth, and impaired intellectual development (iron), cancer and heart disease, given additional risk factors (selenium), and impaired immune function, delayed sexual maturation, slow growth, hair loss, and neurological impairment (zinc). Students who are above the ULs may be at risk for nausea, vomiting, and diarrhea (copper), nausea, vomiting, abdominal pain, coma, heart failure, kidney failure, and liver failure (iron), hair and nail brittleness and loss (selenium), nausea, vomiting, diarrhea, decreased immune function, and copper deficiency (zinc).

2. For each mineral for which you consumed less than 100% of the target, suggest two foods that you could realistically add to your diet to boost your intake.

Answer: Answer will depend on the individual student. Students may suggest adding parmesan cheese, skim milk, sardines, black-eyed peas, or bok choy (calcium) and baked potatoes, dried apricots, lima beans, nonfat milk, tomato juice, orange juice (potassium), organ meats, shellfish, nuts, seeds, chocolate, and legumes (copper), meat, fish, poultry, legumes, nuts, enriched grains (iron), Brazil nuts, seafood, meat, whole grains (selenium), or oysters, meat, poultry, legumes, nuts, whole grains (zinc).

3. For each mineral for which you consumed more than the UL, suggest a plan for consuming less (such as eating less of a particular food or stopping intake of a supplement). If you did not consume more than the UL for any minerals, write 'None.'

Answer: Answer will depend on the individual student. Students who consumed more than the UL of the major minerals will likely have exceeded the amount due to supplements. They may suggest stopping supplementation. In rare cases, the students will have consumed more than the UL through food and will suggest eating less of that food. Students who did not consume more than the UL for any minerals will suggest reading supplement labels to check for doses above the UL and avoiding excessive consumption of any particular food.

4. After analyzing your diet, do you think you need to start or stop taking a supplement? If you think you need a supplement, explain why you think you cannot consume enough minerals through food.

Answer: Answer will depend on the individual student. Students who consumed above the UL on any minerals from taking supplements should suggest stopping supplementation of those minerals.

Explanations for the inability to consume enough minerals through food should include a reflection on the student's time, monetary resources, food availability, personal preferences, and allergies or other dietary restrictions.

Physical Activity Analyze My Diet Activities

Activity	Target	Actual
Weekly Aerobic Activity (MIE)	A1	A2
Muscle Strengthening Activity (Days)	B1	B2

Day	Minutes	MIE Minutes
Sunday	C1	C2
Monday	D1	D2
Tuesday	E1	E3
Wednesday	F1	F3
Thursday	G1	G3
Friday	H1	H3
Saturday	I1	I3

1. MC: How many days of the week did you record physical activity?

- *a. Count how many of C1, D1, E1, F1, G1, H1, and I1 are > 0
- b. Count how many of C1, D1, E1, F1, G1, H1, and I1 are > 0 and add 1
- c. Count how many of C1, D1, E1, F1, G1, H1, and I1 are > 0 and add 2
- d. Count how many of C1, D1, E1, F1, G1, H1, and I1 are > 0 and subtract 1

2. Did you meet your weekly aerobic activity target for the week?

- *a. "Yes" if $A2 \geq A1$, "No" otherwise
- b. "No" if $A2 \geq A1$, "Yes" otherwise

3. How many actual minutes (not Moderate Intensity Equivalent or MIE) of activity did you complete?

- *a. $C1+D1+E1+F1+G1+H1+I1$
- b. $(C1+D1+E1+F1+G1+H1+I1) - 20$
- c. $(C1+D1+E1+F1+G1+H1+I1) + 20$
- d. $(C1+D1+E1+F1+G1+H1+I1) + 40$

4. Did you meet your muscle strengthening activity target?

- *a. "Yes" if $B2 \geq B1$, "No" otherwise
- b. "No" if $B2 \geq B1$, "Yes" otherwise

Physical Activity Essay Questions (Editable in LaunchPad)

1. What aerobic activities did you complete during the week?

Answer: Answers will depend on the individual student. Students will list such aerobic activities as running, swimming, biking, playing sports, and more. Students who did not complete any aerobic activities will indicate as such.

2. Explain how performing vigorous activity contributes to your MIE total. How could performing more vigorous activity allow you to reach your goal in less time?

Answer: Each minute spent on vigorous activity counts as two minutes toward the MIE total. By performing more vigorous activity, the student will be able to reach the MIE goal by only exercising for half the 'goal' time.

3. Why is daily muscle strengthening activity not recommended?

Answer: Daily muscle strengthening is not recommended because muscles require time to heal and recover from the stress of strengthening exercise. The body needs time to rebuild muscles from available amino acids before strengthening activity can become productive again.

4. Did you also include neuromotor and flexibility exercises in your activity for the week? Why is it important to include these types of exercises, in addition to aerobic and muscle strengthening exercises?

Answer: Answer will depend on the individual student. Students who completed activities that involve balance, agility, and coordination have included neuromotor exercises, and students who completed activities that involve stretching have included flexibility exercises. It is important to include neuromotor and flexibility exercises because they help prevent injury while exercising and promote maximal health.

5. List two changes you can make to your daily schedule to allow you to meet your weekly goals for aerobic and muscle strengthening activity. If you met your goals, explain how you could continue to meet them during busy weeks.

Answer: Answer will depend on the individual student. Students who did not meet the goals should suggest specific activities at specific times that they could perform to increase their physical activity level. For instance, a student who did not meet the weekly aerobic activity goal could suggest running for thirty minutes three mornings a week, and a student who did not meet the muscle strengthening activity goal could suggest lifting free weights three evenings a week. Students who met their goals should suggest time-saving strategies for fitting in their physical activity. For instance, they could go for runs or to the gym with friends instead of socializing indoors, or they could suggest studying while using an elliptical at the gym.

6. Why is it important for physically active people to include adequate amounts of carbohydrate in their diets?

Answer: Carbohydrates are a major portion of the energy expended during moderate and high intensity exercise. For high intensity exercise in particular, carbohydrates account for 72% of the energy expenditure. During exercise, glycogen stores in the body are depleted, and they must be restored through carbohydrate consumption to prevent serious fatigue during exercise. Exercising with depleted glycogen stores feels terrible and reduces training effectiveness.

7. Most people, including athletes, consume enough protein from food. Why does consuming excess protein from dietary supplements or functional foods not necessarily help strengthen muscles?

Answer: Proteins are synthesized as needed to support necessary body functions. Consuming proteins in excess of need will not increase the amount of proteins created, but instead will cause excess amino acids to be used for energy or stored as fat. Thus, if one does not exercise sufficiently to increase the need for protein, any additional proteins consumed will contribute to energy expenditure or body fat, and will not increase muscle strength.