

Name _____ Date _____ Period _____

NUTRITIONAL ANALYSIS PROJECT

The purpose of this project is for you to analyze your diet and to determine its strengths and weaknesses.

Detailed instructions can be found at the following web site:

www.zunick.com/biology/nutrition.html

The first step of this project is for you to record everything you eat over the course of 3 days.

DUE DATE FOR FOOD TALLY: _____

Then we will spend one class period using a computer so that you may begin to complete the analysis portion of this project. You will likely need to use additional time (on your own!) to work on the analysis.

After that is finished, you will have time (on your own!) to complete the *Nutritional Analysis Report*. This Microsoft Word file, along with the *Nutrition Calculations* spreadsheet and the *Grading Rubric*, can be found at the web site listed above.

DUE DATE FOR NUTRITIONAL ANALYSIS REPORT: _____

Lastly, you will create a pamphlet that explains the following:

- a. a description of all 14 nutrients listed on the rubric
- b. what those nutrients do in the body (**major functions**)
- c. what foods to eat in order to obtain those nutrients (***food sources***)
- d. what happens to the body if those nutrients are not consumed (***deficiency symptoms***)

This brochure will be graded for ***content*** and ***creativity***. Include a lot of colorful pictures, charts, and other visual aids. The brochure must consist of four or five pieces of paper folded in half and formed into a small booklet. Refer to the rubric for specific grading criteria.

DUE DATE FOR PAMPHLET: _____

Project

The Nutritional Analysis Project is the first marking period project for all students in Mr. Zunick's Biology and Honors Biology classes.

BLOG ▪ WORK ▪ VIDEOS ▪ UNITS & CHAPTERS

Nutritional Analysis Project

The purpose of this project is to examine the nutritional quality of the foods you eat over the course of 3 days and compare it to recommendations provided by the federal government.

This assignment is broken down into 7 parts:

PART ONE

Download the [Food Tally](#) Microsoft Word document. (Right click on the link to save it to your hard drive. You can also open it on a Chromebook and immediately add it to your Google Drive.)

Keep a list of all the foods you eat and drink over three days. One of the days must be a weekend. The food tallies must be typed.

Be as specific as possible when recording this information. For example, don't write "milk" -- write "whole milk", "skim milk", etc.

Include the quantity of food and the method in which it was prepared. For example, don't write "broccoli" -- write "4 ounces steamed broccoli", "6 florets raw broccoli with ranch dip", etc.

PART TWO

Log onto My Food Record at <http://www.myfoodrecord.com> and select "One Day Analysis" from the "Analyze" menu.

First, enter your personal information (gender, height, weight, and birthday) in the appropriate fields.

You are now ready to begin entering food for the first day. In the box labeled "Search For Food", type the first food item that you ate on the day 1. Then click on "Search".

Next, scroll down the list of foods until you find one that best describes what you ate. You might have to click on the ">" button to see more results. Click on the "Select" box to the right of the food item.

Choose the appropriate unit for serving size from the pull-down menu. Then type in the value for this unit. For example, to enter 14 grams, select "grams" from the pull-down menu and type in "14". Select "Add this Amount". **STUDENTS OFTEN EXPERIENCE TROUBLE DURING THIS STEP. BE CAREFUL WHEN SELECTING THE CORRECT UNITS FROM THE PULL-DOWN MENU.** Then click on "Add Food".

Continue entering foods in this manner until all everything you ate and drank for the first day has been entered. Water, medicine, and illegal substances should not be entered.

You can delete or make changes to entries by following the prompts.

When finished, click on "Save & Analyze Day". Print this screen. Label the printout "Day 1". **STUDENTS SOMETIMES FORGET TO DISPLAY ALL NUTRIENTS. YOU WILL BE MISSING DATA IF YOU FORGET TO DO THIS!**

Now go back to <http://www.myfoodrecord.com> and follow the same directions for days 2 and 3. When you are finished, you should have separate analysis printouts for each day.

IF YOU CANNOT PRINT THE RESULTS, YOU WILL HAVE TO START ALL OVER AGAIN. MAKE SURE THAT YOU HAVE ACCESS TO A PRINTER!

PART THREE

Download the appropriate Nutrient Calculations Workshop Microsoft Excel document. Select the file for a [MALE](#) or a [FEMALE](#). You can open it on a Chromebook and immediately add it to your Google Drive.

For each nutrient, enter the values for each day (the "Amount" column on your printouts) under the columns that are marked "Day 1", "Day 2", and "Day 3". Microsoft Excel should automatically calculate the average amount in the column labeled "Average Intake".

The Recommended Daily Allowance (RDA) for each nutrient has already been entered for you. Microsoft Excel should automatically calculate the degree to which you received the RDA in the column labeled "% RDA".

PART FOUR

Log onto My Food Record at <http://www.myfoodrecord.com> and select "Exercise Burn" from the "Exercise" menu. Enter your gender, height, weight, and birthday. Click "Submit".

Enter the required information: minutes to exercise and weight. You should enter "60" minutes to exercise.

Next, select a category, such as bicycling, sports, etc. Then click "Search". Select an exercise that interests you and click on "Calculate". If you get an error message, then you probably will need to lower the number of minutes. You can enter 10 minutes of exercise and then multiply your result by 6 to obtain the number of calories burned in an hour.

Use this function to find fun activities that you could do to burn calories. Record at least 10 activities on a sheet of paper. Include the number of calories that you would burn in 60 minutes.

PART FIVE

Download the [Nutritional Analysis Report](#) Microsoft Word file. You can also open it on a Chromebook and immediately add it to your Google Drive.

For each nutrient, enter the "Average Intake" and "% RDA" values. This information can be found on the Excel file that you completed in part 3. Make sure to include units for the average intake and a % sign for the % RDA.

Enter the recommendation ("Increase", "Decrease", "Keep the Same") that is most appropriate. If you should eat more of that nutrient, write "Increase". If should should eat less of that nutrient, write "Decrease". In general, if the % RDA lies between 90%-110%, the recommendation should be "Keep the Same".

In the space provided, list a minimum of 10 foods that supply the nutrient that you are evaluating. Underline at least 5 that you enjoy eating.

In the space provided, list 2-5 major functions for each nutrient. **Write in your own words. Do not copy/paste.**

In the space provided, list 2-5 deficiency symptoms for each nutrient. A deficiency symptom is what happens to your body if you don't get enough of that nutrient. **Write in your own words. Do not copy/paste.**

You can find additional information at these links:

- <https://whfoods.com>
- <https://www.healthdirect.gov.au/vitamins-and-minerals-explained>
- <https://avitahealth.org/health-library/macronutrients-a-simple-guide-to-macros>
- <https://www.ncbi.nlm.nih.gov/books/NBK597352>

NOTE: The last section of the report asks about calories. Enter the 10 activities that you can do to burn more calories. Include the name of the activities and the number of calories that you would burn in 60 minutes (see part four).

PART SIX

Write a conclusion to your Nutritional Analysis Report. Space is provided on the last page of the report file. The conclusion should be a minimum of 5 paragraphs. This part of the project should be similar to the discussion section of your lab report.

Discuss whether or not you thought this project accurately analyzed your diet. Explain.

Discuss any data that is surprising or that does not appear to be correct.

Include personal comments that specifically relate to your data.

Discuss knowledge about nutrients or your diet that you learned by doing this project.

Make sure to **cite your data** and follow the **claim-evidence-reasoning** model when analyzing your data.

Include a full introductory paragraph and a concluding paragraph.

PART SEVEN

Print out the [Grading Rubric](#).

Staple the following pages together in this order:

1. Grading Rubric
2. Nutritional Analysis Report (6 pages)
3. Nutritional Calculations (1 page spreadsheet)
4. Daily Nutrient Printouts from Part 2 (1 page for each day)
5. Food Tally Sheets (1 page for each day)

Do **NOT** place the stapled packet into a folder, binder, etc.

Name _____ Date _____ Period _____

GRADING RUBRIC FOR NUTRITIONAL ANALYSIS PROJECT

Nutrients: _____ / 60

Protein: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Vitamin A: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Total Fat: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Vitamin C: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Fiber: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Thiamin: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Calcium: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Riboflavin: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Iron: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Niacin: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Sodium: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Cholesterol: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Potassium: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Calories: Recommendations ____ / 1
 Energy Calculator ____ / 1
 10 Ways to Increase ____ / 2

Phosphorus: Recommendations ____ / 1
 10 Food Sources ____ / 1
 Major Functions ____ / 1
 Deficiency Symptoms ____ / 1

Conclusion: _____ / 10

Calculations Worksheet: _____ / 20

TOTAL SCORE: _____

Food Tally Sheets: _____ / 10

LETTER GRADE: _____

Name _____ Date _____ Period _____

NUTRITIONAL ANALYSIS PROJECT

PART A: NUTRITIONAL ANALYSIS

Component	Individual Points	Point Value
total points earned from nutritional analysis		100
TOTAL (extrapolated to a 150 point scale)		150

COMMENTS

PART B: BROCHURE

Component	Individual Points	Point Value
formatting, grammar, punctuation, spelling		5
summarizes major types of nutrients		5
provides food sources of nutrients		10
provides functions of nutrients		10
pictures, diagrams, charts, tables, etc.		10
colorful and attractive		5
informative and persuasive		5
TOTAL		50

COMMENTS