Understanding Nutrition 16th edition Whitney Solutions Manual

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Instructor Manual

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Purpose and Perspective of the Chapter

The purpose of this chapter is to introduce and educate students on the how their food choices play a significant role in determining their overall health and wellbeing throughout one's lifetime. Nutritious food choices support healthy bodies. As students read this chapter, have them consider how their current food choices are influencing their health and risk of chronic diseases.

Chapter Objectives

The following objectives are addressed in this chapter:

1.1 Describe how various factors influence personal food choices.

1.2 Name the six major classes of nutrients and identify which are organic and which yield energy.

1.3 Explain the scientific method and how scientists use various types of research studies and methods to acquire nutrition information.

1.4 Define the categories of the DRI and explain their purposes.

1.5 Explain how the four assessment methods are used to detect energy and nutrient deficiencies and excesses.

1.6 Identify several risk factors and explain their relationships to chronic diseases.

Key Terms

Adequate Intake (AI): the average daily amount of a nutrient that appears sufficient to maintain a specified criterion; a value used as a guide for nutrient intake when an RDA cannot be determined

Anthropometric (AN-throw-poe-MET-rick): relating to measurement of the physical characteristics of the body, such as height and weight.

- anthropos 5 human
- metric 5 measuring

Calories or kcalories: a measure of heat energy. Energy provided by foods and beverages is measured in kilocalories (1000 calories equal 1 kilocalorie), abbreviated kcalories or kcal. One kcalorie is the amount of heat necessary to raise the temperature of 1 kilogram (kg) of water 1°C. The scientific use of the term kcalorie is the same as the popular use of the term calorie.

Chronic diseases: Diseases characterized by slow progression and long duration. Examples include heart disease, diabetes, and some cancers.

covert (KOH-vert): hidden, as if under covers.

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Cultural competence: having an awareness and acceptance of cultures and the ability to interact effectively with people of diverse cultures.

Dietary Reference Intakes (DRI): a set of nutrient intake values for healthy people in the United States and Canada. These values are used for planning and assessing diets and include:

- Estimated Average Requirements (EAR)
- Recommended Dietary Allowances (RDA)

Energy: the capacity to do work. The energy in food is chemical energy. The body can convert this chemical energy to mechanical, electrical, or heat energy.

Essential nutrients: nutrients a person must obtain from food because the body cannot make them for itself in sufficient quantity to meet physiological needs; also called indispensable nutrients. About 40 nutrients are currently known to be essential for human beings.

Energy-yielding nutrients: the nutrients that break down to yield energy the body can use:

- carbohydrate
- fat
- protein

Genome (GEE-nome): the complete set of genetic material (DNA) in an organism or a cell. The study of genomes is called genomics.

Meta-analysis: an objective and statistical summary of evidence gathered from multiple selected studies to develop a quantitative review; often derived from a systematic review.

Nutrition assessment: a comprehensive analysis of a person's nutrition status that uses health, socioeconomic, drug, and diet histories; anthropometric measurements; physical examinations; and laboratory tests.

Nutritional genomics: the science of how nutrients affect the activities of genes (nutrigenomics) and how genes affect the activities of nutrients (nutrigenetics)

Primary deficiency: a nutrient deficiency caused by inadequate dietary intake of a nutrient.

Recommended Dietary Allowance (RDA): the average daily amount of a nutrient considered adequate to meet the known nutrient needs of practically all healthy people; a goal for dietary intake by individuals.

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Secondary deficiency: a nutrient deficiency caused by something other than an inadequate intake, such as a disease condition or drug interaction that reduces absorption, accelerates use, hastens excretion, or destroys the nutrient.

Subclinical deficiency: a deficiency in the early stages, before the outward signs have appeared.

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Chapter Outline

I. Food Choices (1.1): Food choices can not only help support good health, but an understanding of nutrition can also allow one to make food choices that can help prevent the many risk factors for chronic disease and aid in overall health and wellbeing. Habit: We are predominantly creatures of habit and that is no different when it comes to making food choices. Additionally, certain habits can help in eliminating uncomfortable decisions when making food choices.
   a. Ethnic Heritages and Regional Cuisines: This may be one of the strongest determining factors when it comes time to making food choices. Most often, people tend to prefer foods they grew up eating, Occasionally, many of us are willing to try different foods when travelling though.
   b. Social Interactions: Social interactions can encourage people to indulge in foods and beverages regardless of appetite signals. Often such interactions can be challenging for people required to manage their overall food intake- as in the case of those dealing with certain chronic health disorders.
   c. Marketing: This is a major influencing factor when making food choices. Often, companies are appealing to not just our sense of taste, but also, the convenience factor as in the case of widely available ready to eat meals.
   d. Availability, Convenience, and Economy: people often prefer foods that are readily available, financially economical, and requires minimum effort to prepare.
   e. Positive and Negative Associations: Food choices are often made in relation to positive or negative associations (refer to the textbook, chap 1 on examples)
   f. Emotions: Some people may have a hard time eating when upset while, others may gravitate to certain foods when emotionally upset.
   g. Values: Everything from religious beliefs, political views, or environmental concerns can affect food choices.
   h. Body Weight and Health: when making food choices based on body weight and overall health, it is crucial to be able to identify fads and/or extreme choices that may prove to be detrimental for the body. Refer to highlight 8 for an explanation on eating disorders.
   i. Nutrition: Lastly, choices made based on the nutritional content of the foods consumed will not only help with achieving the goal of being healthy, it can

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also help include more whole foods like fruits, nuts, whole grains, among others in the diet.

j. Activity: Complete Worksheet 1-1- Influences on Food Choices.

II. The Nutrients (1.2): The ongoing growth, maintenance, and repair of the body's tissues depend on the energy and the nutrients received from foods. Biologically, consumption of food is how we receive nourishment.
   a. Nutrients in the food and in the body
   b. The energy yielding nutrients

III. The Science of Nutrients (1.3): Scientists learn about nutrition by conducting experiments that follow the protocol of scientific research.
   a. Conducting Research
   b. Analyzing Research Findings
   c. Publishing Research
   d. Activity: Complete Worksheet 1-2 Evaluation of Published Nutrition Information

IV. Dietary Reference Intakes (1.4): The Dietary Reference Intakes (DRI) are a set of nutrient intake values that can be used to plan and evaluate diets for healthy people. The Estimated Average Requirement (EAR) defines the amount of a nutrient that supports a specific function in the body for half of the population. The Recommended Dietary Allowance (RDA) is based on the EAR and establishes a goal for dietary intake that will meet the needs of almost all healthy people. An Adequate Intake (AI) serves a similar purpose when an RDA cannot be determined. Establishing Nutrient Recommendations
   a. Establishing Energy Recommendations
   b. Using Nutrient Recommendations
   c. Comparing Nutrient Recommendations
   d. Refer to Handout 1-1

V. Nutrition Assessment (1.5): People become malnourished when they get too little or too much energy or nutrients. Deficiencies, excesses, and imbalances of nutrients lead to malnutrition diseases. Nutrition Assessment of individuals
   a. Nutrition Assessment of populations

VI. Diet and Health (1.6): Within the range set by genetics, a person's choice of diet influences long-term health. Diet has no influence on some diseases but is linked closely to others. Personal life choices, such as engaging in physical activity and using tobacco or alcohol, also affect health for the better or worse
   a. Chronic Diseases
   b. Risk factor for chronic diseases
   c. **Case Study 1-1: Reducing Disease Risk:** Maria is a 57-year-old operating room nurse who works full-time at a local hospital. She is 65 inches tall and weighs 160 pounds. She has a family history of diabetes and heart disease and was recently diagnosed with high blood cholesterol. She has declined the cholesterol-lowering medication her doctor prescribed and says she

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would like to explore other methods for lowering her cholesterol first. For the past few weeks, Maria has been taking a tablespoon of coconut oil every day after reading on the Internet that this will lower her cholesterol. She admits she has little time or energy to exercise. Her diet history reveals she often skips breakfast or has a donut or bagel with cream cheese at work. She drinks several cups of coffee each morning with cream and sugar. Lunch in the hospital cafeteria is a salad with crackers and iced tea with sugar. She occasionally drinks one or two glasses of wine in the evening, especially after a stressful day at work. She lives alone and relies on frozen dinners or other convenience foods in the evening. An analysis of her diet reveals an average daily intake of 200 g carbohydrate, 50 g protein, and 80 g fat.

1. Taking into account her current lifestyle and personal food preferences, what food habits might be difficult for Mary to change?
2. How might her emotions contribute to her food and drink choices?
3. Using Table 1-2, calculate Maria's average daily kcalorie intake from carbohydrates, protein, and fat. Add these figures together to arrive at her total daily kcaloric intake.
4. What percentage of her daily kcalories is provided by carbohydrates? Protein? Fat?
5. Compare the composition of Maria's diet with the Acceptable Macronutrient Distribution Range (AMDR).
6. How would you use the information above to make dietary recommendations for Maria?
7. What are some credible sources of nutrition information from Table H1-1 that Maria could consult to learn how to lower her blood cholesterol?

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Discussion Questions

You can assign these questions several ways: in a discussion forum in your LMS; as whole-class discussions in person; or as a partner or group activity in class.

1. Take a moment to reflect on the factors that influence your personal food choices following reading Chapter 1 in the textbook. Which factors most influence your daily food choices? Which factors least influence your daily food choices? Based on your understanding of the stated food choice factors in this textbook, provide evidence that identifies potential advantages and disadvantages for each food selection factor.
   Answer: Students' answers to the first part of this reflective question will vary, but this process will lead to enhanced discussion of the variable impact of personal food choice factors. Students will be able to share their own aspects of preference and choice, leading to the realization that individual choice is based on personal factors. In the textbook, the following factors are listed as influencing personal food choices: preferences; habit; ethnic heritage and regional cuisine; social interactions; availability,

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convenience, and economy; positive and negative associations; emotions; values; body weight and image; and nutrition and health benefits. Potential advantages for preference are mediated by individual selections and depend on whether an individual likes or dislikes a certain food. The taste of a food is perhaps the most recognized attribute of preference. If it tastes good, then individuals will eat it. One's preference for the taste of certain foods may also be affected by one's genetic inheritance. How one perceives taste can be mediated through other underlying factors, such as one's baseline physiological status. Thus, this factor might pose disadvantages for individuals with conditions that would influence the taste of food. For example, the body's hormones can cause different perceptions of the taste of food as during pregnancy. Additionally, medications can alter taste perception, thus affecting one's potential food intake. Habit can also have advantages and disadvantages related to personal food choice. An aspect of habit is food selection patterns related to time of day—that is, foods associated with breakfast, lunch, or dinner. When one goes out in the morning for a meal, he or she is more likely to choose breakfast food items such as scrambled eggs rather than opting for a lobster. Habit can be viewed as a disadvantage if the food choice becomes a routine task. If an individual eats only bacon or sausage each morning, then the food choice may lead to poor health outcomes, as his or her cholesterol levels may increase owing to routine daily consumption. Ethnic heritage and regional cuisine affecting food choices can have both advantages and disadvantages. They may be viewed as an advantage in that they form a strong foundation for food choices influenced by family demographics and environment. Thus, they allow for the progression of cultural diversity over the life cycle. However, ethnic heritage and regional cuisine food choices may lead to the development of potential health problems that may also be exhibited over the life cycle. Preference for high-sodium foods over time, for example, may eventually lead to health problems. Social interactions play a large part in influencing personal food choice. The advantage of social interaction is that it allows for increased communication between individuals. Eating foods together with family and/or friends opens a dialogue and sharing of thoughts and ideas. The disadvantage of food intake in the context of social interactions may become evident if the food/drink consumption activity becomes a fixed behavioral pattern. For example, meeting someone for a drink after work at the end of the work week is seen as a method to unwind from the stress of the week's activities. However, meeting someone for a drink after work at the end of each workday may potentially lead to overconsumption. Marketing has a major influence of our food choices by competing for our dollars, trying to get us to eat more, and more often. Availability, convenience, and economy are significant factors that can influence personal food choice. In terms of advantages, if a food choice is readily available, convenient to prepare, and inexpensive, the food choice is typically viewed as desirable. And yet these variables may also be associated with disadvantages. Foods that are typically available and easily prepared may represent unhealthy food choices, such as highly processed or fast foods. The economic disadvantage is that certain foods and/or

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food types may be marketed as being of economic value yet are highly processed. The "dollar menu" of a restaurant may not always reflect the healthiest food choice. Additionally, healthier foods may be associated with higher food costs depending on whether the food is readily available. The factor of positive and negative associations may represent both advantages and disadvantages depending on with what one links aspects of food consumption. One can form both positive and negative associations with food items based on personal experience. These linked food experiences typically stay with an individual over a lifetime, influencing her or his ability to consume food. If they are happy or positive associations, the foods are viewed as being beneficial. If they are sad or negative associations, the foods are viewed as being suspect or dangerous. These linked food associations help to form the basis of preferences. Emotions provide the subtext of many life experiences. In the case of food consumption, emotions may influence how food is perceived. Depending on one's emotional state, food may become a focus or extension of behavior. Food may be viewed as a stimulus for a certain response, either providing comfort or distress. Certain psychological influences may mediate food consumption, leading to altered eating patterns. How one perceives value in food may be associated with religious, political, and/or environmental concerns. These associations may be viewed positively if they help define a person's cultural/religious beliefs, providing comfort and spirituality. They may also be viewed as an advantage if they provide a sense of well-being associated with legal social practices and are environmentally friendly. Unfortunately, there can be disadvantages as well if these values are not congruent with societal beliefs and practices. The idea of body weight and image can influence personal food choice practices. If the basis of the food choice is sound, evidenced-based practice, then it would be viewed as an advantage. However, not all body weight and image practices are based on healthful lifestyle behaviors. Dietary patterns may be based on fad practices, which are promoted by extensive marketing. Thus, it is important to research a dietary method or regimen before implementing it. Nutrition and health benefits form the basis for many personal food choices. Current clinical evidence illustrates a link between healthy food intake and decreased disease risks. Functional foods and/or phytochemicals provide health benefits. The consumption of whole-grain foods in the diet is viewed as beneficial. If people choose foods based on sound clinical evidence, then there is a clear advantage. However, reliance on suspect or fraudulent information sources can result in disadvantageous choices.

2. Discuss the differences between an essential and a nonessential nutrient in terms of dietary consumption. Can the body survive without the provision of essential and nonessential nutrients? If an individual utilizes basic diet-planning principles, can he or she be sure that he or she will be able to obtain all the necessary essential nutrients? Why or why not?
   Answer: Essential nutrients are those that must be brought into the body from outside. They provide basic structural elements and raw materials for energy metabolism. Nonessential nutrients are equally important to the health and well-being of the body,

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but the body can meet its needs for them through its own physiological mechanisms. The body must have both essential and nonessential nutrients in order to maintain physiological health.

3. Nutrition assessment includes several component parts so that a comprehensive analysis of an individual's nutrition status can be conducted. Discuss how each factor contributes to the overall determination of health and well-being
   Answer: The component parts of a nutrition assessment include historical information, anthropometric measurements, physical examination, and laboratory testing. Each of these component parts helps the health practitioner obtain an understanding of the baseline nutritional health status of the individual. Historical information refers to the collection of subjective data from the individual. It reflects dietary patterns of behavior, health history (details of past medical/surgical history), social/family history, and medications (over-the-counter and prescription) used. Based on the information provided in the history section, the practitioner focuses on the physical examination, including visual inspection, auscultation, and palpation of body parts. Additionally, anthropometric measurements can be taken that will be used in comparison to standardized sex/age charts. Data from the physical assessment and anthropometric measurements will help to provide a baseline for comparison for the individual. Finally, certain lab tests provide baseline measurements of the individual's nutritional status. Test values will be compared to normal-range values that are age- and sex-specific. The presence of abnormal results will lead to further inquiry, whereas the confirmation of normal results will support a finding of adequate nutritional status. (See "Nutrition Assessment of Individuals" on pp. 22–24.)
4. Attention has long been focused on the American diet. National nutrition surveys report increased consumption of food in general, including increased portion sizes and frequent eating occasions. Reports indicate that consumers are making poor food choices. How can you as an individual food consumer make a difference in helping to slow or reverse these national trends? Provide supportive evidence to explain your point of view.
   Answer: The burden of dietary choice rests on the individual consumer and yet the selection of food choices is mediated by other variables, such as the activities of corporations and their marketing strategies. Some of the variables affecting this progressive trend are as follows:
   Many of the increased consumption trends are attributed to eating outside the home. Restaurants have changed the food consumption dynamics by increasing the size of food portions. Consumers are being taught that more is required so that they feel that they are getting their money's worth. The easier access/availability of certain nutrient-poor foods influences choice in many circumstances. The tempo today is fast-paced. Food consumption often becomes a fast-paced activity (snacking) as opposed to healthy meal consumption. Individual consumers can help to make a difference by reading food labels and increasing their knowledge base to make healthy, informed choices. They can pressure food corporations and markets to produce healthy food choices rather

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than highly processed, nutrient-poor, energy-dense foods. Individual consumers can establish healthy eating behaviors and slow down mealtimes. They can go back to previous dietary behaviors regarding snacks, eating one or two a day as opposed to increased snack consumption throughout the day. Individual consumers can help to make a difference by reading food labels and increasing their knowledge base to make healthy, informed choices. They can pressure food corporations and markets to produce healthy food choices rather than highly processed, nutrient-poor, energy-dense foods. Individual consumers can establish healthy eating behaviors and slow down mealtimes. They can go back to previous dietary behaviors regarding snacks, eating one or two a day as opposed to increased snack consumption throughout the day.

5. Research clearly demonstrates that there is a correlation between risk factors and the development of certain chronic diseases such as heart disease and diabetes. How can one modify potential risk factors to prevent the development of these chronic diseases? Consider your own potential risk factors. What methods could you utilize to improve your health outcomes?
   Answer: Risk factors that are classified as modifiable can be potentially altered to decrease one's risk of developing chronic disease. Health behaviors that are associated with increased risk such as smoking, frequency of drinking alcohol, and sedentary lifestyle can be minimized. Decisional intervention related to stopping smoking, drinking less alcohol, and limiting intake of high-saturated-fat foods will help to decrease risks of developing chronic diseases. Those factors that are considered nonmodifiable (age, sex, and genetics) still may pose a significant risk toward progression of chronic disease processes over the life cycle. Thus, it is important to make reasonable and prudent choices each day so that they can counteract these nonmodifiable factors across one's lifetime.
   Evaluation of individual potential risk factors will vary. Methods students may select will also vary depending on their understanding of risk factors and personal life factors. This question will allow for an interactive discussion about the influence of genetics, lifestyle, and personal choice in helping to promote healthy outcomes. (See "Diet and Health" on pp. 25–26.)

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Activities and Assignments

1. Classroom/Online Activity 1-1: Students' Burning Questions

   Objective: Introduction to nutrition. Class size: All sizes. Materials needed: Post-It notes (three per student), 29 sheets construction paper, and tape. Instructions: This assignment can be completed in the classroom and remotely/virtually. The first day of class, give each student three "Post-It" notes. On each note, students are to write down a "burning" question they have about nutrition. While they are doing this, tape 29 large pieces of construction paper around the room, each with a title that roughly

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corresponds to chapters of the text. When they finish writing their questions, have them categorize their Post-It notes according to the 29 topics by placing their Post-It notes on the piece of construction paper that relates to their question. When they finish, ask them to take turns reading the questions that they have generated. Before the next class, check the categorization of their questions and rearrange the Post-It notes if necessary. As you begin a new chapter, bring the corresponding piece of construction paper to class, and read the questions aloud.

2. Classroom/Online Activity 1-2: "Find a Person Who" Introduction Activity.

   Objective: Enhancing emotional classroom environment. Class size: All sizes. Materials needed: Copy of form described below (developed by instructor) for each student. Instructions: This assignment can be completed in the classroom and remotely/virtually. Students sometimes enjoy classes more when they are acquainted with other students. One way to assist this process is by providing students with a "Find a Person Who" form. Develop a form several columns wide and several rows long that lists a variety of traits in each square such as enjoys cooking, recycles, has a pet, is a nutrition major, etc. Instruct students to walk around the class, introduce themselves to each other, and try to find a person who fits the categories described on the sheet. When they find someone who fits a category, have them write person's first name in that category. The goal is to complete the sheet. You may also suggest that they exchange e-mail addresses or phone numbers and form study groups. This activity works best for small to medium-sized classes.

3. Classroom/Online Activity 1-3: Brown-Bag Introduction Activity.

   Objective: Establishing positive classroom environment. Class size: Small to medium. Instructions: This assignment can be completed in the classroom and remotely/virtually. In the class period preceding this introduction activity, read the following list of categories: a hobby or interest that students enjoy, something that is a favorite (color, book, music, food), future plans or goals, something they would like to do better, a place they'd like to visit, something special about family or friends, the best part of their last vacation, a healthy activity they like to do, and a talent or special ability they have. From this list, students are to select one item that represents each of three categories and bring these three items to class in a small brown bag. They should try to select items that are three-dimensional and unique. During class they will share the contents of their brown bags with the class. This is a good way for students to become acquainted with others. This activity works best with small classes.

4. Classroom/Online Activity 1-4: Getting Acquainted Activity.

   Objective: Establishing positive classroom environment. Class size: Small to medium. Instructions: This assignment can be completed in the classroom and remotely/virtually. This activity allows students to learn more about each other and can provide an environment in which people practice listening skills. Instruct students to

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pair off with someone that they do not know very well. Give the students 10 to 15 minutes to converse and ask some general questions about each other. Bring the group back together in a large circle with each student sitting next to his or her partner. Ask each student to introduce and speak about his or her new friend. This activity works best for small and medium-sized classes.

5. Classroom/Online Activity 1-5: "How Is Your Day Going?" Activity

   Objective: Enhancing positive classroom environment. Class size: Small to medium. Instructor: This assignment can be completed in the classroom and remotely/virtually. An instructor who displays sincere caring about students is likely to be effective at gaining student trust. At the beginning of class, tell students you want to find out how they are doing. Instruct students to individually introduce themselves to the class by stating their name, where they are from, and what is your favorite food. The next person repeats the process, sharing information about himself or herself and his or her day, then repeats what the other students shared. This can be a challenging activity, especially in larger classes; therefore, this activity is most appropriate for small classes.

6. Classroom/Online Activity 1-6: Who Are You? Introduction Activity.

   Objective: Establishing rapport. Class size: Any. Materials needed: One index card per student. Instructions: This assignment can be completed in the classroom and remotely/virtually. Instructors who know their students and can refer to them by name are better equipped to gain trust and be effective in the classroom. Distribute index cards to each student and instruct students to record information about themselves on each card. Write on the board the information you are interested in obtaining. Some suggestions include name, address, phone, e-mail address, major, year in college, home town, employment, professional goals, hobbies, what they hope to learn from the class, reason for taking the class, and something interesting and/or unique about themselves. After students have recorded this information, you may ask them to introduce themselves to the class or you may simply collect the cards to help you learn more about your students. Instructors may want to use the cards to learn students' names.

7. Complete Worksheet 1-1: Influences on Food Choices.
   Worksheet 1-1: Influences on Food Choices Answer Key

   Answers will vary.

8. Complete Worksheet 1-2: Influences on Food Choices.
   Worksheet 1-2: Evaluation of Published Nutrition Information Answer Key

Answers will vary.

9. Review Handout 1-1: Using the DRI to Assess the Dietary Intake of a Healthy Individual

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Worksheet 1-1: Influences on Food Choices

We decide what to eat, when to eat, and even whether to eat for a variety of reasons. Examine the factors that influence your food choices by keeping a food diary for 24 hours. Record the times and places of meals and snacks, the types and amounts of foods eaten, and a description of your thoughts and feelings when eating. Now examine your food record and consider your choices.

24 HOURS FOOD DIARY					
Meal	Time/ Place	Food Items	How Much	How do you feel while eating?	Do you feel this was a good meal?
Breakfast		Grains Fruits Dairy Protein Fat			
Snack					
Lunch		Grains Fruits Dairy Vegetables Protein Fat			
Snack					
Dinner		Grains Fruits Dairy Vegetables Protein Fat			
Snack					

1. Which, if any, of your food choices were influenced by emotions (happiness, boredom, or disappointment, for example)?
2. Was social pressure a factor in any food decisions?
3. Which, if any, of your food choices were influenced by marketing strategies or food advertisements?

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4. How large a role does availability, convenience, and economy play in your food choices?
5. Does your age, ethnicity, or health influence your food choices?
6. How many times did you eat because you were truly hungry? How often did you think of health and nutrition when making food choices? Were those food choices different from others made during the day?

Compare the choices you made in your 24-hour food diary to the USDA My Plate™ Food Plan Recommendation. To obtain a set of personalized recommendations, you can enter your age, sex, height, weight, and activity level after clicking on "Get Your My Plate Plan" at the https://www.choosemyplate.gov/resources/MyPlatePlan

Food Groups	Suggested Amounts	Amounts Consumed
Grains		
Vegetables		
Fruits		
Dairy		
Protein Foods		

7. Do you eat the suggested amounts from each of the five food groups daily?
8. Do you try to vary your choices within each food group from day to day?
9. What dietary changes could you make to improve your chances of enjoying good health?

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Worksheet 1-2: Evaluation of Published Nutrition Information

Literature Critique: Critical Evaluation of Published Nutrition Information—
"Should I Believe What I Just Read?" Assignment for discussion: Carefully read a journal article and answer the following questions on a separate sheet of paper.

1. Summarize the basic idea of the article in a short paragraph.
    a. What are the credentials of the author(s)? What do the abbreviations after the name(s) mean? Do they enhance the authors' credibility? Explain.
    b. Is the author affiliated with an organization or institution? Does the affiliation with the organization or institution enhance the authors' credibility? Briefly explain.
    c. Does the periodical have an editorial board? Do the editors' credentials enhance the article's credibility? Where does one look in a periodical for the editorial board?
3. a. Is scientific research being presented or discussed? Is the research current?
    b. If so, what specific kinds of research or data are presented or cited to support the ideas?
    c. Were references listed to allow readers to investigate the information's original source? Were full citations provided?
4. a. What is the underlying hypothesis (if/then, cause/effect, etc.)?
    b. What are the article's conclusions/recommendations?
    c. Are the conclusions or recommendations supported by the research discussion? Explain briefly why or why not.
5. a. Design and describe in depth additional research that could more decisively test the hypothesis identified. Pay particular attention to details and controls.
    b. Indicate what will be measured.
    c. State the type of experimental design and type of experiment.
6. Identify the statements in the article that you believe and those that you do not believe and discuss why or why not for each.
7. What sources other than those listed in the periodical would you refer to if you were to research the article's topic further?

Source: Adapted with permission of Deborah Fleurant, MOE Thesis, University of New Hampshire, 1989 (Thesis Advisor Sam Smith)

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Additional Resources

Videos

- Introduction to Vitamins and Minerals, **https://www.youtube.com/watch?v=TBNCqRCsSvY**
- Using the Scientific Method in the Nutrition Field, **https://www.youtube.com/watch?v=U9pNx03Xcww**
- Measuring Weight and Height, **https://www.youtube.com/watch?v=WgmZPex9r64**
- Determinants of Health: A Practical Approach, Let's Learn Public Health, **https://www.youtube.com/watch?v=zSguDQRjZv0**
- Increasing Equity Impact in Community Based Nutrition Research, **https://www.youtube.com/watch?v=BsZS8xi8nhc**

Internet Resources

- Environmental Protection Agency, **www.epa.gov**
- Academy of Nutrition and Dietetics, **www.eatright.org**
- American Public Health Association, **www.apha.org**
- Food and Agriculture Organization of the United Nations, **www.fao.org**
- Pan American Health Organization, **www.paho.org**
- World Health Organization, **www.who.int**
- Centers for Disease Control and Prevention, **www.cdc.gov**
- Department of Health and Human Services, **www.hhs.gov**
- Food and Drug Administration, **www.fda.gov**
- Food and Nutrition Information Center, **http://fnic.nal.usda.gov**
- Healthy People 2030, **www.healthypeople.gov**
- National Center for Chronic Disease Prevention, **www.cdc.gov/chronicdisease/index.htm**
- National Institutes of Health, **www.nih.gov**

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Appendix

Generic Rubrics

Providing students with rubrics helps them understand expectations and components of assignments. Rubrics help students become more aware of their learning process and progress, and they improve students' work through timely and detailed feedback. Customize these rubrics as you wish. The writing rubric indicates 40 points and the discussion rubric indicates 30 points.

Standard Writing Rubric

Criteria	Meets Requirements	Needs Improvement	Incomplete
Content	The assignment clearly and comprehensively addresses all questions in the assignment. 15 points	The assignment partially addresses some or all questions in the assignment. 8 points	The assignment does not address the questions in the assignment. 0 points
Organization and Clarity	The assignment presents ideas in a clear manner and with strong organizational structure. The assignment includes an appropriate introduction, content, and conclusion. Coverage of facts, arguments, and conclusions are logically related and consistent. 10 points	The assignment presents ideas in a mostly clear manner and with a mostly strong organizational structure. The assignment includes an appropriate introduction, content, and conclusion. Coverage of facts, arguments, and conclusions are mostly logically related and consistent. 7 points	The assignment does not present ideas in a clear manner and with strong organizational structure. The assignment includes an introduction, content, and conclusion, but coverage of facts, arguments, and conclusions are not logically related and consistent. 0 points
Research	The assignment is based upon appropriate and adequate academic literature, including peer reviewed journals and other scholarly work. 5 points	The assignment is based upon adequate academic literature but does not include peer reviewed journals and other scholarly work. 3 points	The assignment is not based upon appropriate and adequate academic literature and does not include peer reviewed journals and other scholarly work. 0 points
Citation	The assignment follows the required citation guidelines. 5 points	The assignment follows some of the required citation guidelines. 3 points	The assignment does not follow the required citation guidelines. 0 points
Grammar and Spelling	The assignment has two or fewer grammatical and spelling errors. 5 points	The assignment has three to five grammatical and spelling errors. 3 points	The assignment is incomplete or unintelligible. 0 points

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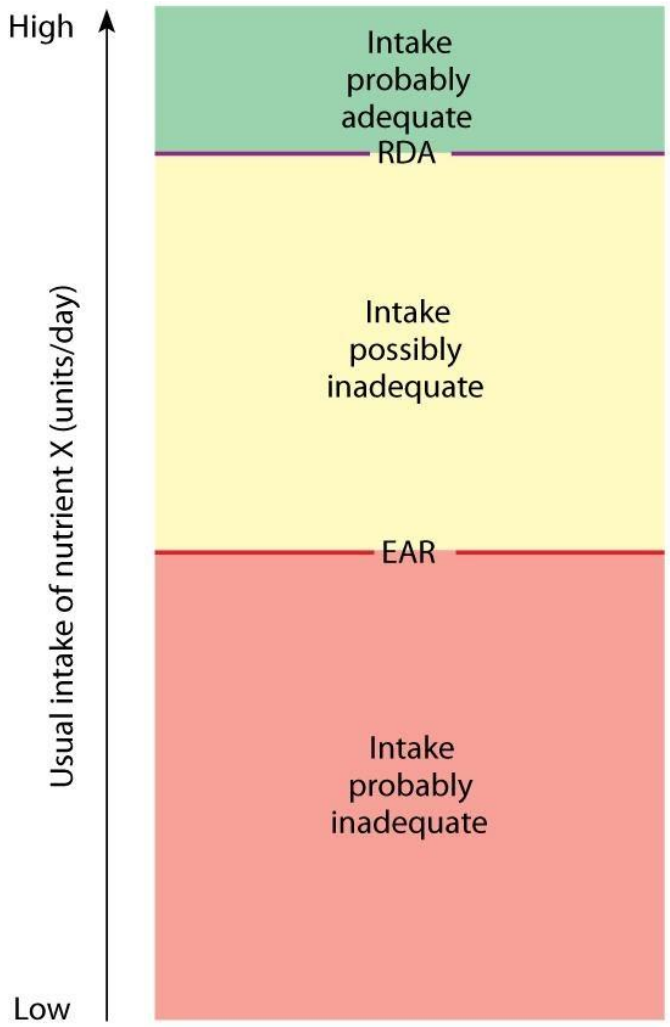
Standard Discussion Rubric

Criteria	Meets Requirements	Needs Improvement	Incomplete
Participation	Submits or participates in discussion by the posted deadlines. Follows all assignment. instructions for initial post and responses. 5 points	Does not participate or submit discussion by the posted deadlines. Does not follow instructions for initial post and responses. 3 points	Does not participate in discussion. 0 points
Contribution Quality	Comments stay on task. Comments add value to discussion topic. Comments motivate other students to respond. 20 points	Comments may not stay on task. Comments may not add value to discussion topic. Comments may not motivate other students to respond. 10 points	Does not participate in discussion. 0 points
Etiquette	Maintains appropriate language. Offers criticism in a constructive manner. Provides both positive and negative feedback. 5 points	Does not always maintain appropriate language. Offers criticism in an offensive manner. Provides only negative feedback. 3 points	Does not participate in discussion. 0 points

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Handout 1-1: Using the DRI to Assess the Dietary Intake of a Healthy Individual



If a person's usual intake falls above the RDA, the intake is probably adequate because the RDA covers the needs of almost all people.

A usual intake that falls between the RDA and the EAR is more difficult to assess; the intake may be adequate, but the chances are greater or equal that it is inadequate.

If the usual intake falls below the EAR, it is probably inadequate.

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