

DIETARY GUIDELINES

Volume 20 / Middle School

Balance, Moderation and Variety as Part of a Healthy Diet



NASAFACS 9

9.3 Evaluate nutrition principles, food plans, preparation techniques and specialized dietary plans.

NASAFACS 14

14.1 Analyze factors that influence nutrition and wellness practices across the life span.



Introduction

Show the PDF document explaining the Dietary Guidelines from the USDA website at health.gov/dietaryguidelines/

Objectives

Students will...

- Understand and demonstrate their ability to determine the caloric intake for various age and activity levels.
- Learn how much of each food group should be consumed for that calorie level.

Career Clusters (Pathways)

- Education and Training
- Agriculture, Food, and Natural Resources
- Human Services

Materials

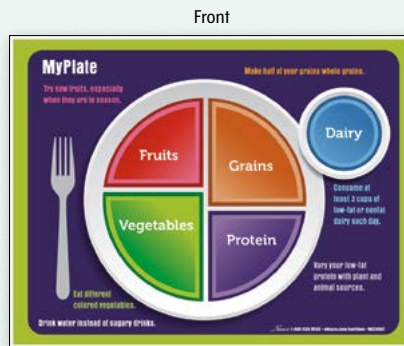
- Computer with projector and internet access for teacher to show parts of USDA Dietary Guidelines PDF. (health.gov/dietaryguidelines/2015/guidelines)
- Nasco MyPlate Guidelines TearPad™ — WA29736
- Nasco Dietary Guidelines TearPad™ — WA29125
- Optional materials:
 - » Nasco My Daily Intake Wheel — WA27504
 - » Portion Size MyPlate Bingo — WA24987
 - » Smart Nutrition DVD — SB47218
 - » The Label Says Game — WA26863



Day 1

The first class period is for viewing slides and discussing portions and daily intakes. Hand out sheets from the Nasco MyPlate Guidelines TearPad™ (WA29736) and Nasco Dietary Guidelines TearPad™ (WA29125). Have each student find their age and activity level and determine how many calories a day are recommended for them. Have the students go further and see how many cups of fruits and vegetables that includes. How much milk or dairy products? How many slices of bread or bowls of cereal?

Have the students record what they ate so far today on the guidelines sheet and then put it into the food groups on the right side of the sheet. Students should then evaluate their personal food intake. Are they half way through what they should have today, or are they lacking in a food group? Did they eat things that are not in any food group? List what they were. Are they empty calories — just fat and carbs without many nutrients?



Back

Estimated Daily Calorie Needs

To determine which food intake pattern to use for an individual, the following chart gives an estimate of individual calorie needs. The calorie range for each age/sex group is based on physical activity level. From left to right, the chart shows a 1.5x increase in calorie needs for each age/sex group. The right side of the chart shows the recommended amount of calories for each age/sex group. The left side shows the recommended amount of calories for each age/sex group. The right side shows the recommended amount of calories for each age/sex group.

Age Group	Sex	Lightly Active	Active	Very Active
2-3	Male	1,000	1,200	1,400
2-3	Female	800	1,000	1,200
4-5	Male	1,200	1,400	1,600
4-5	Female	1,000	1,200	1,400
6-11	Male	1,400	1,600	1,800
6-11	Female	1,200	1,400	1,600
12-13	Male	1,600	1,800	2,000
12-13	Female	1,400	1,600	1,800
14-18	Male	1,800	2,000	2,200
14-18	Female	1,600	1,800	2,000
19-30	Male	2,000	2,200	2,400
19-30	Female	1,800	2,000	2,200
31-50	Male	2,200	2,400	2,600
31-50	Female	2,000	2,200	2,400
51-70	Male	2,000	2,200	2,400
51-70	Female	1,800	2,000	2,200
71+	Male	1,800	2,000	2,200
71+	Female	1,600	1,800	2,000

Food Intake Patterns

The suggested amounts of food to consume from the basic food groups, subgroups, and oils to meet recommended calorie needs are listed in 12 different calorie levels. Nutrition and energy contributions from each group are calculated according to the nutrient-dense forms of foods in each group. The table also shows the discretionary calorie allowance that can be used for an individual within each calorie level, in addition to the suggested amounts of nutrient-dense forms of foods in each group.

Daily Amount of Food From Each Group

Calorie Level	Grains	Vegetables	Fruits	Protein	Dairy	Oils
1,000	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 tsp
1,200	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 tsp
1,400	1 cup	1 cup	1 cup	1 cup	1 cup	1 tsp
1,600	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 tsp
1,800	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 tsp
2,000	2 cups	2 cups	2 cups	2 cups	2 cups	2 tsp
2,200	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 tsp
2,400	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 tsp
2,600	3 cups	3 cups	3 cups	3 cups	3 cups	3 tsp
2,800	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 tsp
3,000	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 tsp

Vegetable Subgroup Amounts (Per Week)

Calorie Level	Dark Green	Light Green	Orange	Red	White	Other
1,000	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 cup
1,200	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 cup
1,400	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup
1,600	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups
1,800	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 cups	1 1/2 cups
2,000	2 cups	2 cups	2 cups	2 cups	2 cups	2 cups
2,200	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups
2,400	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups
2,600	3 cups	3 cups	3 cups	3 cups	3 cups	3 cups
2,800	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups
3,000	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups

Approximate Calorie Needs for 15-Minute Walk

Age Group	Sex	Lightly Active	Active	Very Active
2-3	Male	100	120	140
2-3	Female	80	100	120
4-5	Male	120	140	160
4-5	Female	100	120	140
6-11	Male	140	160	180
6-11	Female	120	140	160
12-13	Male	160	180	200
12-13	Female	140	160	180
14-18	Male	180	200	220
14-18	Female	160	180	200
19-30	Male	200	220	240
19-30	Female	180	200	220
31-50	Male	220	240	260
31-50	Female	200	220	240
51-70	Male	200	220	240
51-70	Female	180	200	220
71+	Male	180	200	220
71+	Female	160	180	200



Front

Dietary Guidelines Worksheet

Check how you did today and set a goal for tomorrow.

Food Group	Target	Actual	Notes
Grains	1/2 cup (1 slice of bread)		
Vegetables	1/2 cup		
Fruits	1/2 cup		
Protein	1/2 cup		
Dairy	1/2 cup		

How did you do today? Great Good Not so good

Back

Food Intake Patterns

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The Dietary Guidelines suggest individuals to a calorie level based on their sex, age, and activity level. The chart below identifies the calorie levels for males and females by age and activity level.

Age Group	Sex	Lightly Active	Active	Very Active
2-3	Male	1,000	1,200	1,400
2-3	Female	800	1,000	1,200
4-5	Male	1,200	1,400	1,600
4-5	Female	1,000	1,200	1,400
6-11	Male	1,400	1,600	1,800
6-11	Female	1,200	1,400	1,600
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19-30	Female	1,800	2,000	2,200
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31-50	Female	2,000	2,200	2,400
51-70	Male	2,000	2,200	2,400
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71+	Female	1,600	1,800	2,000

Daily Amount of Food From Each Group

Calorie Level	Grains	Vegetables	Fruits	Protein	Dairy	Oils
1,000	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 cup	1/2 tsp
1,200	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 cup	3/4 tsp
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1,600	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 cups	1 1/4 tsp
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2,000	2 cups	2 cups	2 cups	2 cups	2 cups	2 tsp
2,200	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 cups	2 1/4 tsp
2,400	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 cups	2 1/2 tsp
2,600	3 cups	3 cups	3 cups	3 cups	3 cups	3 tsp
2,800	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 cups	3 1/4 tsp
3,000	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 cups	3 1/2 tsp

Ask questions to generate a discussion. How can they improve what they ate? What changes could be made? What would need to be changed if they were 5 years older, or playing tennis, or if they were 65 years old? Discuss what factors influence what people eat — income, peers, culture, religion, time of year, part of country, school lunch, etc. Talk about appropriate portions. Compare 1/2 cup of rice with 1 cup of rice or pasta. Explain that an ounce of bread is one grain serving and equivalent to approximately one slice.

Day 2

The second class period reinforces daily calories and menu planning and talks about what causes a change in the daily calorie intake — more activity, less activity, age, or a desired outcome. For example, if you want to lose weight, you might cut your daily intake slightly and increase your activity level.

Reflection would include what each of the students wants to look and feel like in 3, 10, or 30 years. What investments can they make now to ensure that they are healthy and feel like they want to then?

Enhancement:

- Set up a role play situation where one student is a nutrition advisor or caregiver, and another is a:
 - Picky 3-year-old
 - Grandparent with a sweet tooth
 - 40-year-old man that sits at desk all day with no activity and likes to eat too much
 - 17-year-old football player
 - 12-year-old diabetic

The students can counsel the others into having a healthier lifestyle.

- Students could keep a food inventory for a couple of days to see how many calories they actually consume, whether it fits the model for MyPlate, and decide if they need to work toward improving their food intake.
- Students could interview someone else, make a list of what that person ate in the last 24 hours, see if their calories and exercise level are where they should be, and report back to the class with their findings.

DIETARY GUIDELINES

Volume 20 / High School

Basic Disease Knowledge and the Relationship to Poor Nutrition

NASAFACS 9

9.4 Apply basic concepts of nutrition and nutrition therapy in a variety of settings, considering social, geographical, cultural, and global influences

Introduction

Have class discussion about common diseases, how they might be linked to poor nutrition, and how the therapy involves nutrition choices and changes. After heart surgery for example, a patient would eat low-fat and low-sodium dishes. A kidney dialysis patient would have to alter the things they eat and drink. People who are overweight are more prone to these diseases than those who are not overweight and exercise regularly.

Have students do research in groups about one of the diseases listed for the Day 1 Activity and report back to the class on what they learned about the disease. Use the Disease Mind Map handout as a way to gather and report information.



Objectives

Students will...

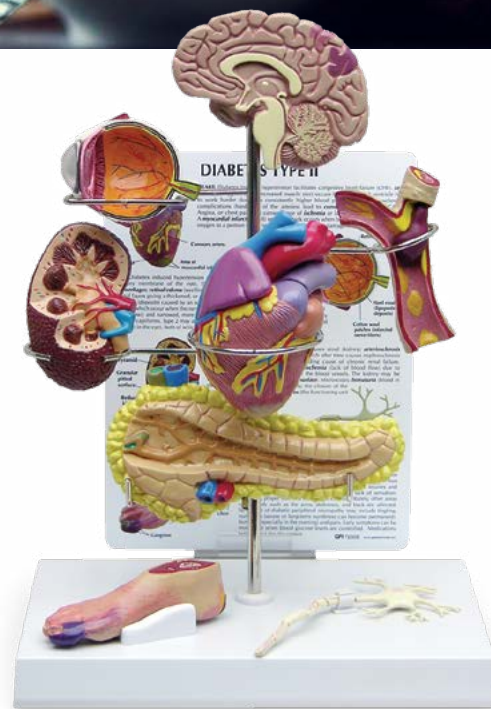
- Have a basic understanding of common nutrition-related diseases and how to plan a healthier lifestyle to avoid them.
- Understand that a change in lifestyle cannot be made at 50 years old for avoidance.
- Learn good health is a lifetime habit.

Career Clusters (Pathways)

- Health Sciences
- Education and Training
- Human Services

Materials

- Resources and Internet access so students can gather information about diseases
- Disease Mind Map handout (included)
- Large newsprint or tag board for each group to draw a group mind map and take notes
- Optional materials:
 - » Interactive White Board for mind mapping
 - » *Real Life Teens: Obesity & Health* DVD — WA28036
 - » Type 2 Diabetes Model — SB46335



Type 2 Diabetes Model

Set Up

Supply big sheets of paper for students to record information in their groups, reference books or information from a doctor or medical clinic, and Internet access.

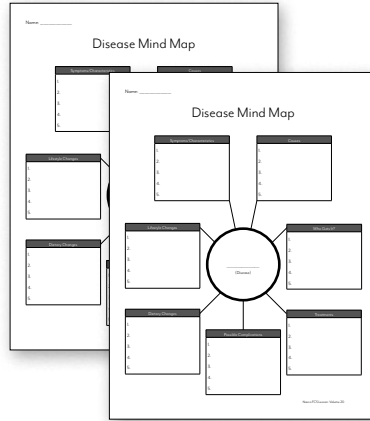
Day 1 Activity

Have a class discussion about diseases that are possibly related to nutrition. Break into groups and develop a Disease Mind Map for the following diseases (included with download)

- High Blood Pressure
- Diabetes
- Heart Disease
- Kidney Failure
- Obesity

Possible categories to map include:

- Symptoms/Characteristics
- Causes
- Who Gets It? (young, old, is it contagious, etc.)
- Lifestyle Changes
- Dietary Changes
- Treatments
- Possible Complications



Day 2 Activity

Have each group present their Disease Mind Map and what they learned to the rest of the students. Encourage students to make some conclusions about similarities in various diseases. What are the differences? Does good nutrition and exercise come up often? What does that tell us?

Summation

How important is good nutrition to good health?

Enhancement

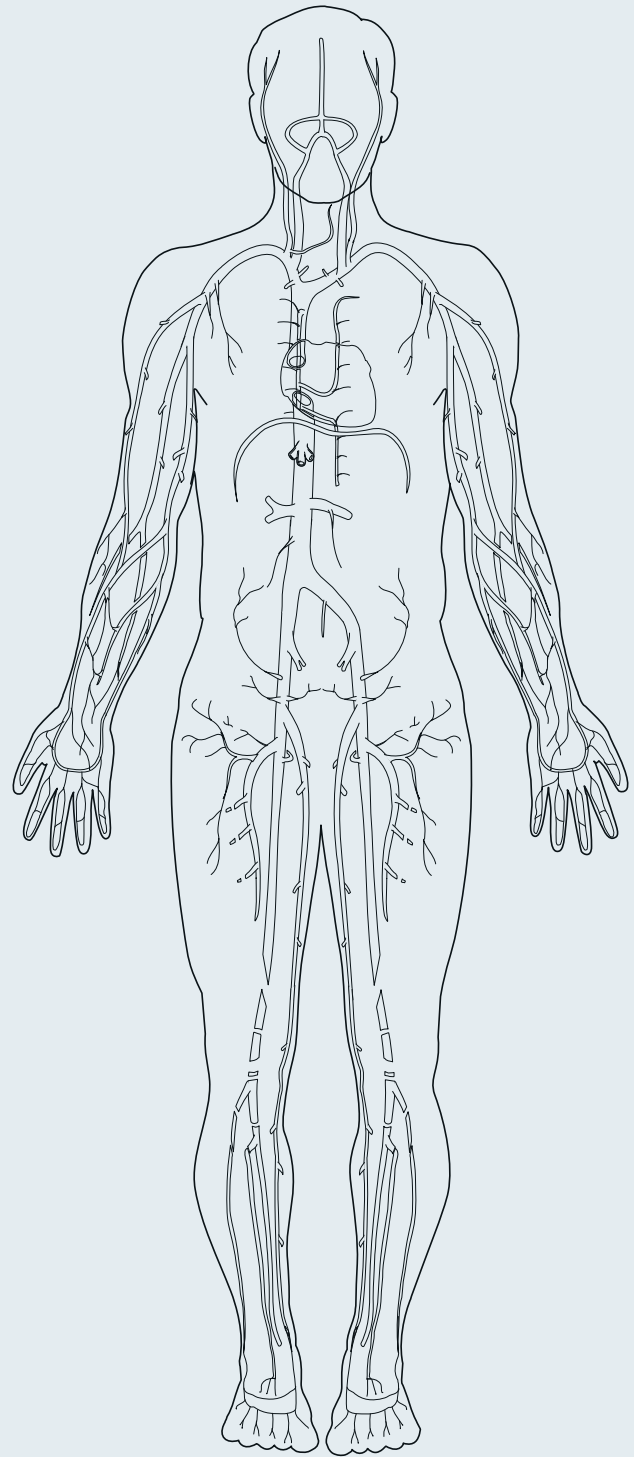
The students could interview someone who has one of these diseases to verify their Disease Mind Map, possibly over the telephone. Possible questions might include: How did you first know you had this disease? How long have you had it? How has it affected what you do in your life? How expensive is it to manage your disease? Is there anything you would have done differently? What do you think I can do to stay healthy myself?

Another option is to find an article about an individual who has a disease. Maybe an athlete or famous person students respect who has diabetes or heart disease.

Extended Activity Ideas:

Have students...

1. Share appropriate intake with others. This could involve handing out the MyPlate Dietary Guidelines sheet or book marks with the information in the lunch area at lunch time and before or after school, or they could place posters in several locations at school.
2. Share appropriate intake levels with younger students by mentoring an elementary school class or a group of students.
3. Interview someone who has one of the diseases and see if the information gathered in class is consistent with what the person tells them.



Suggested websites with helpful information:

greenfacts.org/en/diet-nutrition/index.htm
diabetes.org/diabetes-basics/symptoms/
kidney.org/kidneydisease

NascoHealthcare.com/nutrition
ncbi.nlm.nih.gov
webmd.com/diet/guide/what-is-obesity

HANDOUT

DISEASE MIND MAP

Volume 20 / High School

Name: _____

