

Chapter 10

Meal Management

Meal planning is an important part of creating a healthy meal. You may do a lot of planning for special meals like birthdays and holiday dinners. But it is easy to forget to plan everyday meals. Try planning week day meals to help your family make healthy choices, spend less money and save time at the grocery store. In this chapter, your students will learn how to plan a healthy meal.

Enjoy making smart meal choices!

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Virtual Lessons:

(See *Virtual FoodMASTER CD*)

Dynamic Dinner

Dinner Decisions

Victorious Variety

Adding Variety

Menu Madness

Summary

Students will choose foods from each of the five food groups to create a meal. Next, students will calculate the cost of serving the meal to five people and to one person. Students will then be challenged to plan a meal that costs less than \$1.50 per person.

Objectives

1. Students will be able to name the five food groups.
2. Students will be introduced to serving sizes.
3. Students will be able to record data in a table.
4. Students will practice addition, multiplication and division to solve multi-step money mathematics problems.
5. Students will be able to plan a meal on a limited budget.

Academic Content Standards

MATHEMATICS COMMON CORE

Grade 5

- 5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

SCIENTIFIC INQUIRY:

Money Matters

Materials

For the teacher: 1 deck of cards (representing 2-3 ounces of meat), 1 tennis ball, 1 tablespoon, 1 set of measuring cups, 1 half-pint milk carton.

For each student: pencil.

Procedure

1. Read *Menu Madness* and complete the Doodle Bugs.
2. Explain to students that they will have a chance to plan a meal today.
3. Review the five food groups (grains, vegetables, fruits, dairy and protein foods). Help students get a feel for serving sizes. Explain that two to three ounces of meat is about the size of a deck of cards, one ounce or one cup of cereal is about the size of a tennis ball, one cup of milk is the amount served with school lunch. Show students a deck of cards, a tennis ball, a half-pint milk carton, a one-cup measure, a one-half-cup measure and one tablespoon.
4. Students will then follow the instructions to plan a menu. First, they will circle one food from each food group. Then they will record the food, price and number of servings needed to feed five people.
5. Next, students will calculate the cost of each food when feeding five people. Finally, students will use addition to calculate the total cost of feeding five people.
6. Students will complete the two questions and then move on to the challenge if time allows.

Teacher Tips:

- Students will usually pick one serving per person. Encourage students to consider if they want to serve more than one serving. For example, some students may choose to serve a peanut butter and jelly sandwich made with two pieces of bread instead of one. These students will need two servings of bread for each person or ten servings total; therefore, they will multiply the cost of one piece of bread by 10 servings.
- Extension: Plan a meal for four, six, seven or eight people using a photocopy of the chart.
- Extension: Read *Spaghetti and Meatballs for All! A Mathematical Story* by Marilyn Burns.

Nutritious and Delicious

Summary

Students will prepare, evaluate and eat a lunch meal.

Objectives

1. Students will be able to name the five food groups.
2. Students will correctly measure food.
3. Students will recognize one serving of grains (one ounce), one serving of vegetables (one-half cup) and one serving of dairy (one cup).
4. Students will be able to solve kitchen mathematics problems using subtraction.

Academic Content Standards

MATHEMATICS

Number and Operations Standard

Compute fluently and make reasonable estimates.

Expectation:

- Develop and use strategies to estimate computations involving fractions and decimals in situations relevant to students' experience.
- Use visual models, benchmarks, and equivalent forms to add and subtract commonly used fractions and decimals.

Measurement Standard

Apply appropriate techniques, tools, and formulas to determine measurements.

Expectation:

- Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.

Problem Solving Standard

Expectation:

- Solve problems that arise in mathematics and other contexts.

Connections Standard

Expectation:

- Recognize and apply mathematics in contexts outside of mathematics.

SCIENCE

Science in Personal and Social

Perspectives:

Content Standard F

Personal health.

Expectation:

- Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat.

SCIENTIFIC INQUIRY: Let's do Lunch

Materials

For the teacher: 1 set dry measuring cups, 1 set measuring spoons, 1 paper plate, 1 kitchen scale, 1 liquid measuring cup.

For each student: 1 plate, 8-ounce cup, 1 slice 100% whole wheat bread, 1 slice turkey lunchmeat (1 ounce), 1 slice cheddar cheese (3/4 ounce square slice), 1/2 cups baby carrots, 1 ounce mini pretzels, 1 cup water. Optional: Light mayonnaise (1 tablespoon or less per child), mustard, leaf lettuce, table knife to spread mayonnaise and mustard.

Procedure

1. Read *Nutritious and Delicious* and complete the Doodle Bugs.
2. Read *Kids' Balanced Diet Recommendations* as a class paying special attention to foods that belong in each food group and serving sizes. Visuals may help such as pictures and measuring cups.
3. Set up a sandwich station (bread, turkey, cheese, mayonnaise, mustard, leaf lettuce and table knife), carrot station (carrots and measuring cups), pretzel station (pretzels, paper plate and scale) and water station (water and liquid measuring cup).
4. Students will complete *Scientific Inquiry: Let's do Lunch* by rotating through each station, measuring the correct amount of each food to create lunch.
5. When your students have visited each station, instruct them to complete the table by using the *Kids' Balanced Diet Recommendations* to help them decide on amounts. You may complete "whole wheat bread" as an example for the class (one slice of bread = one ounce from the grains group).
6. Students will then use the chart to evaluate their lunch and answer the remaining questions.
7. Students may enjoy eating the lunch they prepared!

Teacher Tips:

- Inviting an extra adult to help set up, assist with station management and clean up will help this lab run smoothly.
- Choose sliced turkey meat that weighs about one ounce per slice. Avoid, shaved or thinly sliced turkey which will have more slices per ounce.
- For convenience choose pre-sliced cheddar cheese (about three-fourths ounce per slice).
- Encourage students to eat their healthy meal (discourage trading food among students).
- Extension: As a class, plan a menu for the entire day. Compare your menu to the *Kids' Balanced Diet Recommendations*. Adjust the menu if needed to meet the recommendations.

Answer Keys

Menu Madness

Doodle Bugs

Circle: **Menu**
 Underline: **Grains, vegetables, fruits, dairy and protein foods**
 Fill-in the blank: **The milk group**

SCIENTIFIC INQUIRY:

Money Matters

Answers will vary. Example:

	Food	Price Per Serving	Servings for Five People	Total Cost
Protein Foods	Chicken salad	\$0.36	5	\$1.80
Grains	Whole wheat bread	\$0.10	10	\$1.00
Vegetables	Green beans	\$0.17	5	\$0.85
Fruits	Apple	\$0.40	5	\$2.00
Dairy	Skim milk	\$0.20	5	\$1.00
Other Foods				
Other Foods				
Total cost of five meals				\$6.65

How much will one meal cost? **Answers will vary. Example:** $\$6.65 \div 5 = \1.33

Did one meal cost more or less than \$1.50? **Answers will vary. Example:** Less than.

Answer Keys (continued)

	Food	Price Per Serving	Servings for Five People	Total Cost
Protein Foods	Peanut butter	\$0.10	1	\$0.10
Grains	Whole wheat bread	\$0.10	2	\$0.20
Vegetables	Baby carrots	\$0.45	1	\$0.45
Fruits	Grapes	\$0.35	1	\$0.35
Dairy	Chocolate milk	\$0.20	1	\$0.20
Other Foods	Grape jelly	\$0.14	1	\$0.14
Other Foods				
Total cost of five meals				\$1.44

Nutritious and Delicious

Doodle Bugs

Color: **2-2 1/2 cups**

Color: **3 cups**

Color: **0 cups**

SCIENTIFIC INQUIRY:

Let's Do Lunch

Grains:

Whole wheat bread = 1 ounce; pretzels = 1 ounce

Vegetables:

Baby carrots = 1/2 cup

Fruits:

None

Dairy:

Cheddar cheese = 1/2 cup

Protein Foods:

Deli turkey = 1 ounce

- Answers may vary. Example:** Yes, my meal is healthy because it includes most of the food groups.
- Yes. I'm missing the fruit group. I could add grapes (fruit suggestions will vary).**
- 3 ounces**
 - 3 ounces**
 - 1 1/2 cups**

Proficiency Questions (Workbook)

1. **d** 2. **c** 3. **b** 4. **a**

Proficiency Questions (Virtual CD)

1. **d** 2. **c** 3. **b** 4. **a**