

Rate Your Diet

Pillar: Healthy Eating

Division: II

Grade Level: 4-8

Core Curriculum Connections: Math

I. Rationale:

This activity allows students to analyse their eating patterns to determine whether they measure up to the recommendations for healthy eating in *Eating Well with Canada's Food Guide*. Students will track their food intake for several days to understand their typical eating habits. Various calculations and graphs will be completed with the data they collect to represent a picture of the nutritional content and balance of their diets. The goal is for all students to recognize the importance of achieving a balanced diet by consuming adequate servings and varied choices from each of the four food groups.

II. Pillar Focus (Health Eating):

Students will track, record, and analyse their food intake and identify ways to make improvements to their general eating habits and food choices.

III. Curriculum Outcomes: Math

STATISTICS AND PROBABILITY (Data Analysis)

General Outcome: Collect, display and analyze data to solve problems.

Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
2. Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.	1. Differentiate between first-hand and second-hand data. 2. Construct and interpret double bar graphs to draw conclusions.	1. Create, label and interpret line graphs to draw conclusions. 2. Select, justify and use appropriate methods of collecting data, including: <ul style="list-style-type: none"> • questionnaires • experiments • databases • electronic media. 3. Graph collected data, and analyze the graph to solve problems.	1. Demonstrate an understanding of central tendency and range by: <ul style="list-style-type: none"> • determining the measures of central tendency (mean, median, mode) and range • determining the most appropriate measures of central tendency to report findings. 2. Determine the effect on the mean, median and mode when an outlier is included in a data set. 3. Construct, label and interpret circle graphs	1. Critique ways in which data is presented in circle graphs, line graphs, bar graphs and pictographs.

IV. Materials:

- [Canada's Food Guide](#)
- ["Eating Well with Canada's Food Guide: A Resource for Educators and Communicators."](#)

V. Procedure:

1. Review material in Eating Well with Canada's Food Guide: ["A Resource for Educators and Communicators."](#)
2. Distribute a copy of the student handout: *"What's Wrong With This Picture?"* and discuss the food intake and eating habits of Ned Willbedead. Talk about Ned's meals, snacks, and energy requirements. Refer to [Canada's Food Guide](#) by displaying a copy on the smart board or passing out a copy to students. Compare Ned's diet with the actual recommendations in the food guide for a student his age. Is he meeting his nutritional requirements in each of the food groups? What should he be eating more of? Less of?
3. Distribute the student handout for the activity: *"How Does Your Food Intake Rate?"* (3 days prior to activity completion) and instruct students to keep track of everything they have to eat and drink over a 3-day food period. Encourage students to involve their parent(s) to help them in this process. Reinforce the importance of accuracy and honesty in keeping track of their food intake. Be sure to mention that although the assignment will provide a general idea of what they usually eat, to get a true picture of dietary intake, it is best done over a week or longer to identify real patterns and trends in eating habits.
4. Following the completion of the 3-day food record, have the students analyze their food intakes. Instruct students to calculate the total number of servings from each food group for each of the three days and then calculate their average daily intakes of each food group (students in younger grades will need help with this).
5. Have students design various types of graphs to compare their average daily intake of each food group to the recommended number of servings in Canada's Food Guide. Remind students that it is more reliable to look at average food intake rather than what we do on individual days. Represent serving data accordingly:
 - a. **Grade 4:** bar graphs or pictographs. (two separate graphs – one for individual and one for recommended)
 - b. **Grade 5:** double bar graphs (one with their intake and one with the average intake of the class).
 - c. **Grade 6:** line graphs (different color for each line)
 - d. **Grade 7:** Determine the measures of central tendency (mean, median, mode) and range of the class's results and discuss the effect of outliers if present. Construct circle graphs (one with their intake and one with the recommended intake)
 - e. **Grade 8:** Have students choose one of four different ways to represent their food intake: circle graphs, line graphs, bar graphs, or pictographs. Have them discuss the reasons for their choice and critique the way the data is represented in all four different types of graphs.
6. By looking at their individual graphs students should be able to see if they are getting an adequate number of servings from each food group, are below the recommended intake, or above the recommended intake.
7. Discuss the results. Are certain food groups missed on a regular basis? If so, what nutrients may be low and what are possible health consequences (both short-term and long-term health benefits)? Emphasize the importance of consuming adequate servings from each of the four food groups. Design grade level specific math questions and word problems to analyse the data further.

VI. Extensions and Variations:

1. Have students analyse their own eating habits and write goals that focus on ways to improve their eating patterns. Then, have students switch graphs with a partner, analyse their eating habits, and write improvement goals for each other. Compare partner's recommendations with their own.
2. Have students create word problems based on the information in the graphs and then partner up and solve each others' math questions.

VII. Assessment Ideas:

- Completed graphs and teacher developed questions based on the information in the graph.

How Does Your Food Intake Rate?

DAY	1				2				3			
Breakfast												
Snacks in AM												
Lunch												
Snacks in PM												
Supper												
Evening Snacks												
Totals for Each Day	Vegetables and Fruit	Grain Products	Milk and Alternatives	Meat and Alternatives	Vegetables and Fruit	Grain Products	Milk and Alternatives	Meat and Alternatives	Vegetables and Fruit	Grain Products	Milk and Alternatives	Meat and Alternatives
Average Daily Intake	Vegetables and Fruit (___+___+___)/3 = ___			Grain Products (___+___+___)/3 = ___			Milk and Alternatives (___+___+___)/3 = ___			Meat and Alternatives (___+___+___)/3 = ___		
Recommended Daily Amounts	Vegetables and Fruit			Grain Products			Milk and Alternatives			Meat and Alternatives		

Refer to Eating Well with Canada's Food Guide for the recommended servings for your age and gender.

Table from Alberta Health Services- Nutrition Resource Kits for Schools

STUDENT HANDOUT

“WHAT’S WRONG WITH THIS PICTURE?”

DAILY FOOD INTAKE OF Ned Willbedead

Ned Willbedead is a 13-year-old male in eighth grade. He considers himself to be very healthy because he is able to play on his soccer team and doesn't get sick very often. He had shots when he was young to prevent him from getting measles, mumps, tetanus and whooping cough. However, he did get chicken pox when he was in second grade. He doesn't think he is overweight or underweight, but feels he eats the right amount to help him grow and keep up his physical activities.

Ned's dietary intake for three days looks like this.

	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>
BREAKFAST:	nothing	2 frozen waffles with syrup and margarine	cold cereal with 2% milk
SNACK:	diet soda bag of chips		
LUNCH:	hamburger lg. french fries lg. soda	2 sl. pepperoni pizza lg. french fries med. apple lg. soda	lg. french fries cupcake lg. soda
SNACK:	candy bar	bag of chips	
DINNER:	2 pcs. baked chicken 1/2 c. corn 1c. salad with dress- ing	lg. beef burro 3/4 c. refried beans diet soda	spaghetti with sauce 2 sl. bread Fudgsicle ice water
SNACK:	2 choc. chip cookies	2 choc. chip cookies 1 med. banana	Fudgsicle

