



How Do Germs Spread?

Do you get told to wash your hands after playing outside or using the bathroom, even when there isn't any dirt on them? Try this experiment to see why you should wash your hands, even if they look clean!

What You Need:

- Hand lotion
- Glitter
- Sink or large bucket
- Paper towels
- Soap
- Water
- A helper

What You Do:

1. Put a drop of lotion on your hands and rub them together to spread the lotion out evenly.
2. With your hands over a sink or large bucket, have your helper put a pinch of glitter in the palm of one of your hands.
3. With your hands still over the sink, make a fist with the hand that has glitter on it, then spread your fingers out. What do you see?
4. Now press the palms of your hands together and pull them apart. What do you notice about your hands?
5. Touch your helper's hand. Now do you see anything on it?
6. Get a paper towel and use it to wipe your hands clean of all the glitter. Is it working?
7. After using the paper towel, try using soap and water to wash your hands. Did the glitter come off?

What Happened:

After getting the glitter on your hands, you should have noticed it spreading very easily to anything you touched, even your helper's hand. When you tried to use a paper towel to remove the glitter, some of the glitter probably came off, but most of it stayed on your hands. But when you used soap and water to wash your hands, the glitter came off pretty easily. The glitter is acting the same way that the germs on your hands act - there are a lot of them, they spread around easily, and it can be tough to get them off. The difference is that germs are so small you can't see them without a microscope, so you have to know when you may have come into contact with germs and wash your hands often.

If you accidentally touched your mouth, nose, or eyes while doing this experiment, you may have found glitter getting left behind near these areas. Germs travel the same way and can easily enter your body if you touch your face with dirty hands, which can make you sick. That's why it's important to wash your hands before you eat. It is also important to wash your hands after touching something that might have germs, such as when you use the bathroom or play outside. If you don't, the germs can easily spread to more places and to other people and cause sickness.

Get Energized!

Subjects: Science, Math

Theme: Move

Grades: 3-5

Lesson Overview:

In this activity, students will use analytical and graphing skills to explore the concepts of potential and kinetic energy. They identify potential and kinetic energy in a variety of exercises and determine at what point in an exercise the potential energy is greatest and how it aids in performing that particular exercise. Students perform repeated trials and determine the mean, median, and mode of their data. They then create bar graphs to illustrate their results. Finally, they consider how what they have learned can be applied to a healthy lifestyle.

Time Frame:

This lesson requires 75 minutes to complete.

Teacher Prep/Materials:

Gather a variety of pictures of individuals doing exercises. Include examples of kinetic energy (e.g., athletes in motion) and potential energy (e.g., a diver at the edge of a diving board, a swimmer or runner at the starting block).

Vocabulary:

Potential Energy - The energy possessed by a body as a result of its position or condition rather than its motion.

Kinetic Energy - The energy possessed by a body because of its motion.

Classroom Activities:

Engage

1. Ask students, "Why is it important to get exercise throughout the day?"
2. List students' answers on the board.
3. Explain to students that exercise helps keep their bodies and minds healthy but that in order to do exercise we need energy.

Organize students into small groups and have them brainstorm a definition for "energy." Have groups share their answers. Develop a class definition of energy and record it on the board.

5. Provide students with definitions of potential and kinetic energy. Explain that when we exercise, both potential and kinetic energy are involved.
6. Give each group a variety of pictures of individuals doing exercises. Direct the groups to divide the pictures into two categories: kinetic energy and potential energy.
7. Have groups share their results and discuss any differences and/or misconceptions.
8. Have students perform different exercises such as: sit ups, hop on one foot, jumping jacks, etc. For each exercise, ask students, "At what points can we see examples of kinetic and potential energy?" Take students through as many exercises as it takes for them to get comfortable with identifying potential and kinetic energy.
9. Explain to students that next they will investigate potential and kinetic energy in one exercise: jumping.

Explore

1. Organize students into groups of three or four. They may stay in their same groups or you can create new ones. Explain to the groups that they will be jumping in two different directions – upward and forward – and will record the data about how high and far they jump.

2. Have students stand straight-legged and jump up. They will use a meter stick to measure how high they jumped in centimeters. Students will repeat this jump three times and record the data.
3. Next, have students slightly bend their knees and jump upward again. They will do this three times, measure their jumps and record their data.
4. Finally, have students bend their knees deeply and jump upward. They will do this three times, measure their jumps and record their data.
5. Students will then repeat steps 2-4, but this time will jump forward. They will measure their jumps in centimeters and record their data.
6. Have students determine the mean, median, and mode of their data for each type of jump (e.g., forward with straight knees, upward with deeply bent knees). Optional: Students can also determine mean, median, and mode for all upward jumps and all forward jumps.
7. Have students graph their results. Optional: Students can use a tool like Excel.
8. Ask students to work in their small groups to compare their graphs and determine which type of jumping enabled them to jump the highest and the farthest.

Explain

1. Gather students together and discuss the results from the experiment.
2. Ask students to consider how the experiment relates to potential and kinetic energy. Use the following questions to guide the discussion:
 - Which part of the exercise involves potential energy?
 - Which part of the exercise involves kinetic energy?
 - In which position(s) does the jumper have the greatest potential energy?
 - What is the relationship between the amount of potential energy and the height/distance of the jump?

Lead students to understand that the greater the potential energy, the greater the height/distance of the jump.

3. Explain to students that as we exercise, we convert potential energy into kinetic energy. Movement strengthens our bodies, relieves stress and helps us think more clearly. Lots of potential energy is present when we sit and watch television, but if it isn't converted into kinetic energy through exercise, it doesn't benefit our minds and bodies.
4. Have students track their potential and kinetic energy over the course of a day. How many minutes or hours do they spend sitting still (e.g., while playing video games or watching television)? How many minutes or hours do they spend moving around in some form of exercise?
5. Have students create circle graphs representing the total number of minutes or hours of movement.
6. Have students analyze their results and come up with a plan to increase the amount of kinetic energy and decrease the amount of potential energy in their daily routines.

Extend

1. Students can use one or more of the following *fit* Kids resources to learn more about movement and exercise:
 - Get Off Your Butt (Article):

http://fit.webmd.com/kids/move/article/off-your-butt?ecd=cpl_dsc_lnk_1890_vid12

- Track Your Exercise (Article):

http://fit.webmd.com/kids/move/article/track-your-exercise?ecd=cpl_dsc_lnk_1890_vid16

- How Exercise Benefits Your Whole Body (Article):

http://fit.webmd.com/kids/move/article/exercise-helps-body?ecd=cpl_dsc_lnk_1890_vid11

Students can incorporate this information into their action plans.

Students can implement their action plans and keep journals in which they reflect on a daily or weekly basis on how their minds and bodies feel after getting more exercise.

3. Students can research the various muscle groups involved in certain movements. Since there is always pushing and pulling occurring with movement, students can identify how specific muscle groups exhibit the types of energy in the lesson.

4. Students can then create exercise routines involving those groups of muscles that are designed to convert potential to kinetic energy.

Evaluate

Have students answer the following questions and support their claims with evidence:

1. What is the difference between kinetic and potential energy?
2. How does potential energy relate to the ability to jump higher or farther?
3. Have students analyze pictures and identify them as potential or kinetic energy.
4. How do potential energy and kinetic energy relate to a healthy lifestyle?

The Low-Down on Sugar

Purpose

Youth will assess the amount of sugar in popular beverages.

Youth will identify healthier drink alternatives.

Materials

Sample high-sugar drinks (actual cans/bottles or labels)

Sugar (2 lb. or 5 lb. depending on size of group)

Measuring spoons

Plastic bags

Clean-up materials

Ahead of Time

1. Collect labels or cans/bottles of drinks.
2. Make copies of *The Low-Down on Sugar Handout*.

What to do

1. Introduce the activity:

Bring in various beverages; ones with added sugar (e.g., soda, fruit drinks) and ones without added sugar (i.e., 100% fruit juice, orange juice).

***Tip:** You can substitute other high sugar foods like breakfast cereals, candy, cookies instead of drinks.

Ask youth to place the drinks in order of lowest amount of sugar to the highest without looking at the labels. Make a note of this sequence.

3. Find out if youth agree or disagree that all sugars are the same. Review the types of carbohydrates.

Complex carbohydrates (starches) are found in grains (like bread, pasta and rice) and vegetables. Foods that are high in complex carbohydrates are also loaded with vitamins and minerals.

Simple carbohydrates (sugars) occur naturally in foods like milk and fruits and are also added to foods like soft drinks, candy, ice cream and cookies. Vitamins, minerals, protein and fiber usually accompany sugars that occur naturally in foods. Refined sugars like table sugar, corn syrup, honey, maple syrup that are added to foods provide "empty" calories.

4. Have the youth read the labels on the containers of drinks or other high-sugar foods to find out how much sugar they contain. It is important for them to keep in mind that the amount of sugars listed on the Nutrition Facts Panel represents "total sugars" in the food. This includes those that have been added and those that occur naturally. For example, 1 cup of milk contains 11 grams of natural sugars and 100% orange juice (without added sugar) contains 20 grams of natural sugar. The same amount of orange soda contains 32 grams of added sugar. Once they have checked their label to identify how much sugar is in their food, have them measure out the amount of sugar. Use the 4 grams of sugar = 1 teaspoon rule. Pile the sugar on a piece of paper in front of the container. Then have the youth put the drinks in order from lowest in sugar to highest. Check to see if the order is the same as what they originally thought. Ask if they were surprised by the amount of sugar in particular drinks.

5. Ask youth if they pay attention to how much added sugar they get in their diet. Find out why they do or do not pay attention. Review some of the consequences of a high sugar diet:
 - Weight gain
 - Cavities
 - Foods made with lots of refined sugar fill you up and can crowd out other healthier foods from your diet
6. Have youth brainstorm healthier drink alternatives. Some possible responses are:
 - 100% fruit juice without added sugar
 - 1% or fat-free milk
 - Iced tea
 - Sparkling water
 - Water

*Tip: Taste test a healthier alternative to soda, 100% fruit juice with club soda.

7. Pass out *The Low-Down on Sugar* handout. Review ways youth can decrease the amount of added sugar in their diet.

Cut back on soda and juices or fruit drinks with added sugar.

Drink 100% fruit juice with no added sugar, unsweetened iced tea, water or 1% milk. Always check the ingredients list for added sugars.

Reach for fresh fruit. Canned and dried fruit also make good snack choices. Make sure to buy canned fruits packed in water, juice or light syrup rather than in heavy syrup, and dried fruit with no added sugar. Always check the ingredients list to make sure!

Buy fewer snack foods that are high in sugar such as cookies, cakes and candies. Try vanilla wafers, graham crackers, bagels and English muffins, nuts (dry roasted), sunflower seeds, air-popped popcorn or baked tortilla chips instead.

Watch out for cereals with added sugar by checking the nutrition facts label for the amount of sugar. Look at the ingredients list to make sure that sugar isn't one of the first 2 ingredients. Try choosing a cereal with no more than 8 grams of added sugar.

The Low Down on Sugar

Everyone likes sugar's sweet taste. But eating too many sugary foods and drinks can make you gain extra weight and get cavities. Plus, sugary stuff can take away your hunger. If you are not hungry, it will be hard to eat the types of foods that you need to help you grow and feel your best.

WHAT IS SUGAR?

Sugar is a type of carbohydrate. Sugar is found naturally in healthy foods like milk and fruits. These foods have vitamins, minerals, protein and fiber.

The problem is when sugar is added to junk foods like soft drinks, candy, ice cream and cookies. This sugar is called "table sugar, corn syrup, high-fructose corn syrup, honey and maple syrup." Sugary foods and drinks are not healthy – they provide lots of calories but no vitamins or minerals.

HAVE YOU EVER THOUGHT ABOUT HOW MANY TEASPOONS OF ADDED SUGAR YOU EAT EACH DAY?

Take a closer look at how much sugar is added to some of the foods you might be eating throughout the day.

how much

sugar?

Food	Teaspoons of sugar	Food	Teaspoons of sugar
Strawberry frosted toaster pastry	5	Vanilla cream stuffed cupcake	6
Large fruit roll	2	Chocolate flavored puffed cereal	4
Hard candy, 6 pieces	4	Jelly beans, 10 large	4
Fruit drink, 1 cup canned	7	Soda	10

GOT A SWEET TOOTH?

Here are some things you can do to eat less sugar.

Cut back on soda and juices or fruit drinks loaded with sugar. Instead try 100% fruit juice with no added sugar, unsweetened iced tea, water or 1% milk. Always check the ingredients list for added sugars.

Reach for fresh fruit. Canned and dried fruit also make good snack choices, if the canned fruits are packed in water, juice or light syrup instead of heavy syrup; and the dried fruit has no added sugar. Always check the ingredients list to make sure!

Buy fewer cookies, cakes, and candies. These snack foods are high in sugar. Try vanilla wafers, graham crackers, bagels and English muffins, nuts (dry roasted), sunflower seeds, popcorn without butter or baked tortilla chips instead.

Watch out for added sugar in cereals. A good rule is to check the nutrition facts label for the amount of sugar. Look at the ingredient list to make sure that sugar isn't one of the first 2 ingredients. Choose a cereal that is good source of fiber and has at least 10% of the Daily Value for fiber.

Buyer Beware

Check your foods nutrition facts label for sugar content. Keep in mind that the sugar column on the Nutrition Facts label includes both naturally occurring sugar (like those in fruit or milk) and sugar that has been added to food (cakes and cookies) or drinks (soda and fruit drinks). No daily reference value has been established for sugars because no recommendations have been made for the amount of sugar to eat in a day.

Always check your ingredient list for more information on added sugars. Make sure sugar isn't one of the first 2 ingredients. Other names for sugar include: honey, corn syrup, molasses, high-fructose corn syrup.

TIP: If you still want the fizz, dilute 1 cup of 100% fruit juice with 1/2 cup club soda.

Did you know that fat-free or reduced fat foods are sometimes high in sugar? Sugar is added to replace flavor that is lost when the fat is taken out.

MADE FROM: SUGAR, PARTIALLY HYDROGENATED VEGETABLE SHORTENING (SOYBEAN AND COTTONSEED OILS), UNBLEACHED ENRICHED WHEAT FLOUR (FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE (VITAMIN B1), RIBOFLAVIN (VITAMIN B2), FOLIC ACID), SEMI-SWEET CHOCOLATE (SUGAR, CHOCOLATE LIQUOR, COCOA BUTTER, CHOCOLATE LIQUOR PROCESSED WITH ALKALI (DUTCHED), MILK FAT, SOY LECITHIN ADDED AS AN EMULSIFIER, VANILLA EXTRACT), EGG WHITES, OATMEAL, CONTAINS 2 PERCENT OR LESS OF: BUTTER, SALT, LEAVENING (CREAM OF TARTAR, BAKING SODA), SOY LECITHIN AND NATURAL FLAVORS.

Nutrition Facts	
Serving Size 3 Cookies (35g /1.3oz)	
Servings Per Container 5	
Amount Per Serving	
Calories 190	Calories from Fat 90
% Daily Value*	
Total Fat 10g	15%
Saturated Fat 3.5g	18%
Cholesterol 0mg	0%
Sodium 100mg	4%
Total Carbohydrate 22g	7%
Dietary Fiber 1g	4%
Sugars 13g	

Eating on the Run

Purpose

Youth will assess their fast food choices.

Youth will identify ways to improve their fast food choices.

Materials

Shortening

Plastic bags

Measuring spoons

Clean-up materials

Depending on the activity you choose, you may also need:

Nutrition Facts Information from fast food restaurants

Ahead of Time

1. Collect materials.
2. Make copies of *Eating on the Run* handout.
3. Put into a plastic bag the recommended daily value of fat for an active youth (about 80 grams, 20 teaspoons or 6 tablespoons of fat).
4. Decide which activity option you will do.

What to Do:

1. Introduce the activity. Ask youth how many times a week they eat fast food. Find out whether they think it's possible to eat healthy at a fast food restaurant.
2. Choose one of the following activities to measure out the amount of fat in fast foods.
Use the 4 grams of fat = 1 teaspoon rule.
 - A. Youth can bring in nutrition facts information from their favorite fast food restaurant available at the restaurant or on its web site. Have them choose the meal that they usually order, find out how much fat is in the food or meal, and measure out the amount of fat into a plastic bag.
 - B. Assign foods from the *Eating on the Run* handout.
 - C. Collect nutrition information from various fast food restaurants, or make copies of the CANFit Fast Food Survival Guide booklet. Assign an item for each youth to measure.
3. Have youth share the amounts of fat in their meal/foods and what they thought about those amounts. (Were they surprised? Disgusted? Did they already know?)
4. Review the maximum daily amounts of fat that should be consumed by adolescents (an average active 11-18 year-olds should consume no more than 60-95 grams of fat per day). Compare the bag of 80 grams of fat (the maximum daily amount) to the bags of fat from the fast food foods. Does their fast food contain more than maximum amount for the entire day?
5. Distribute the *Eating on the Run* handout. Discuss ways that youth can make healthier choices when they eat fast food.

HIGH FAT, HIGH SUGAR ACTIVITY SHEET

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

Medium Fries, 20 grams of fat
McDonald's Big Mac, 30 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

2 Reese's Peanut Butter Cups,
14 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

Pizza Hut Personal Pan Supreme Pizza,
28 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

Nachos with cheese, beans, ground beef,
and peppers, 31 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

KFC 3-piece chicken meal with fries,
biscuit, and coleslaw, 94 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of sugar for your identified food(s).

(1 tsp = 4 grams) (1 Tbsp = 12 grams)

McDonald's Large Drink (24 oz),
80 grams of sugar

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

Taco Bell Salad,
52 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of sugar for your identified food(s).

(1 tsp = 4 grams) (1 Tbsp = 12 grams)

7-11 Big Gulp (64 oz), 212 grams of sugar

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of fat for your identified food(s).

(1 tsp = 4 grams)

Outback Steak House Bloomin' Onion,
90 grams of fat

WHAT ARE WE EATING?

Fill your plastic bag with the appropriate amount of sugar for your identified food(s).

(1 tsp = 4 grams)

Snickers candy bar (16 oz.),
14 grams of fat

**See the difference for yourself.
What choice will you make next time you eat out?**

EATING ON THE RUN

Poor Choice	Calories	Fat	Smart Choice	Calories	Fat	Calories / Fat Saved
McDonald's Quarter Pounder w/ Cheese™	520	29	McDonald's Hamburger	260	9	260/20
McDonald's Crispy Chicken Deluxe™	500	50	McD's McGrilled Chicken Classic™	250	3	250/47
McDonald's Large Fries	450	22	McDonald's Small Fries	210	10	240/12
Burger King Whopper™	630	39	Burger King Hamburger	260	10	370/29
Burger King Double Whopper w/ Cheese™	950	63	Burger King Hamburger	260	10	690/53
Burger King Chicken Sandwich	700	43	BK Broiler Chicken Sandwich™	267	8	433/35
Jack in the Box's Bacon Ultimate Cheeseburger™	1150	89	Jack in the Box's Hamburger	280	12	870/77
Jack in the Box's Spicy Crispy Chicken	560	27	Jack in the Box's Chicken Fajita Pita	280	9	280/18
Carl's Jr. Double Western Bacon Cheeseburger	1,030	63	Carl's Jr. BBQ Chicken Sandwich	310	6	720/57
Carl's Jr. Regular Fries	370	20	Carl's Jr. Baked Potato Lite	290	1	80/19
KFC Original Recipe, Breast™	400	29	KFC Tender Recipe, Breast without skin	169	4	231/25
KFC Potato Wedges	280	13	KFC Mashed Potatoes and Gravy	120	6	160/7
			KFC Red Beans and Rice	130	3	150/10

A growing 11-18 year old's TOTAL daily calorie and fat intake should be between 2000-3000 calories and 80-100g of fat!

Eating on the Run

Although fast food is often quick, easy and cheap, many fast foods are loaded with fat, sugar, calories and salt. Eating fast food on a regular basis can be bad for your health unless you learn to make better fast food choices.

Here are some simple guidelines you can follow.

PASS ON THE SODA

Soda is loaded with sugar and calories. One 12 oz soda contains about 10 tsp of sugar. Most fast food chains offer better drinks like orange juice, 1% or fat-free milk, unsweetened iced tea, or bottled water.

WATCH OUT FOR FRIED FOODS

Fried chicken and fish sandwiches, chicken nuggets and fries are loaded with fat. To save on fat and calories order a broiled or grilled chicken or fish sandwich, or stick to a regular hamburger. Instead of fries, try a baked potato or a side salad. Choose Mexican food with a soft (rather than fried) tortillas, such as burritos, soft tacos or fajitas. Try low-fat Chinese foods like won-ton soup and stir-fried dishes. Order steamed rice instead of fried rice or chow mein.

WATCH OUT FOR ADDED FAT

Not having cheese or mayo can decrease the amount of fat and calories in your fast food meal. Avoid specialty burgers that have special sauces or bacon. Bacon and sauces are loaded with fat and cholesterol.

ATCH YOUR PORTION SIZES

If you decide on a burger and fries, order the regular or smaller sized versions. You can get two smaller sized hamburgers without cheese instead of eating a 1/4 pound cheeseburger for fewer calories and less fat.

NEVER “SUPER SIZE”

A regular cheeseburger meal provides 680 calories. When you “super size” that, the extra fat from your “super size” fries and sugar from the 42 oz super size soda adds another 660 calories, bringing the total calories of a “super size” cheeseburger meal to a whopping 1,340. This is more than half of the calories you need for an entire day.

ASK TO SEE THE NUTRITION INFORMATION

Most fast food restaurants now have nutrition information on all of their menu items available at the restaurant or on the Internet. Take some time to look and see what is in each menu item before you make your order.

What Does a Body Good? ⁴⁻¹³

I. Topic Area

Nutrients and Recommended Daily Allowances

II. Introductory Statement

Students will become better acquainted with essential nutrients in various foods and better able to classify foods by their nutrient strengths.

III. Math Skills

- Percent
- Graphing
- Whole number computation
- Constructing a table
- Problem solving

Science Processes

- Observing
- Classifying
- Recording data
- Applying and generalizing

IV. Materials

Nutrition labels from various foods
Crayons or colored pens or pencils

V. Key Question

Which has more nutrient value: a piece of cheese pizza or a Big Mac type hamburger?

VI. Educative Input

1. In its widest sense, nutrition has to do with nourishing or supplying the ingredients necessary for the maintenance of life.
2. Most foods have some caloric value but many "junk" foods are high in calories and low in nutrient value.
3. Define R.D.A. (Recommended Daily Allowance). R.D.A. refers to the amounts of essential nutrients considered to be adequate to meet known nutritional needs of healthy people as derived by the Food and Drug Administration.
4. Nutrients are chemical substances obtained from food during digestion. *Essential* nutrients are those that the body cannot make or is unable to make in sufficient amounts to nourish itself. All of the 50 or so nutrients known to be needed by people can be classified into six categories: protein, carbohydrates, fat, vitamins, minerals, and water.
5. Nutrient information listed on foods is voluntary unless a manufacturer adds nutrients or makes a nutritional claim on a label or in advertising. It is then mandatory.

VII. Management

1. If possible, start a collection of a variety of food labels containing nutrient information well ahead of scheduled activity. This will provide a "bank" of food labels from which to choose. Students may also copy information from labels at home or store.
2. Save complete label from food so that additional information such as cost and advertising claims may be further analyzed.

3. Students may wish to consult a Calorie Counter for parts of the activity. Calorie charts may be found in many cookbooks or encyclopedias.

VIII. Procedure

1. Collect food labels containing nutrient information.
2. Record information on labels provided on student worksheets.
3. Graph the nutrients. Color in each bar as indicated to show percentage of R.D.A.
4. Sort and classify foods according to nutrients.
5. Using a calorie guide, plan a nutritionally balanced day. Students must use all 2400 calories and show appropriate number of servings in each of the food groups.
6. Organize information into a Table and construct a circle graph to show Food Group proportions to total 2400 calorie allotment.

IX. What the Students Will Do

1. Collect food labels containing nutrient information.
2. Record and analyze nutritional information.
3. Graph the nutritional information.
4. Sort and classify foods according to eight essential nutrients.
5. Plan a 2400 calorie nutritionally balanced day and display in a circle graph.

X. Discussion Questions

1. Which foods provide large percentages of each nutrient?
2. Which foods are high in more than half the nutrients?
3. Are any foods high in all the nutrients?
4. Which foods have "empty" calories? That is, show relatively no or very low quantities of nutrients?

XI. Extensions

1. Identify the major vitamins and their respective functions and sources.
2. Choose a fruit or vegetable and research its origin and uses. Organize and write a Fruit and Vegetable Trivia Game by having students submit questions and answers from their research.
3. Write to the Food and Drug Administration, Washington, D.C. 20204 for answers to questions on ingredients and nutrition information of various foods.
4. See: "Good for Me! (All About Food in 32 Bites)" by Marilyn Burns (Little, Brown & Co.). This is an excellent resource of creative ideas to enhance the study of food and nutrition.

What Does a Body Good?

4-14
Name _____

B Find 2 foods at home with nutritional information.
C Record that information on the labels provided here: **B2**
A

#1

Food name and Brand _____

Nutritional Information (per serving): Serving size _____
 Servings per container _____

Calories _____ Protein _____ Carbohydrate _____ Fat _____

Percentage of U.S. recommended Daily Allowance (U.S.R.D.A.):

Protein _____
 Vitamin A _____
 Vitamin C _____
 Thiamin (B₁) _____

Riboflavin (B₂) _____
 Niacin _____
 Calcium _____
 Iron _____

#2

Food name and Brand _____

Nutritional Information (per serving): Serving size _____
 Servings per container _____

Calories _____ Protein _____ Carbohydrate _____ Fat _____

Percentage of U.S. recommended Daily Allowance (U.S.R.D.A.):

Protein _____
 Vitamin A _____
 Vitamin C _____
 Thiamine (B₁) _____

Riboflavin (B₂) _____
 Niacin _____
 Calcium _____
 Iron _____

What Does a Body Good?

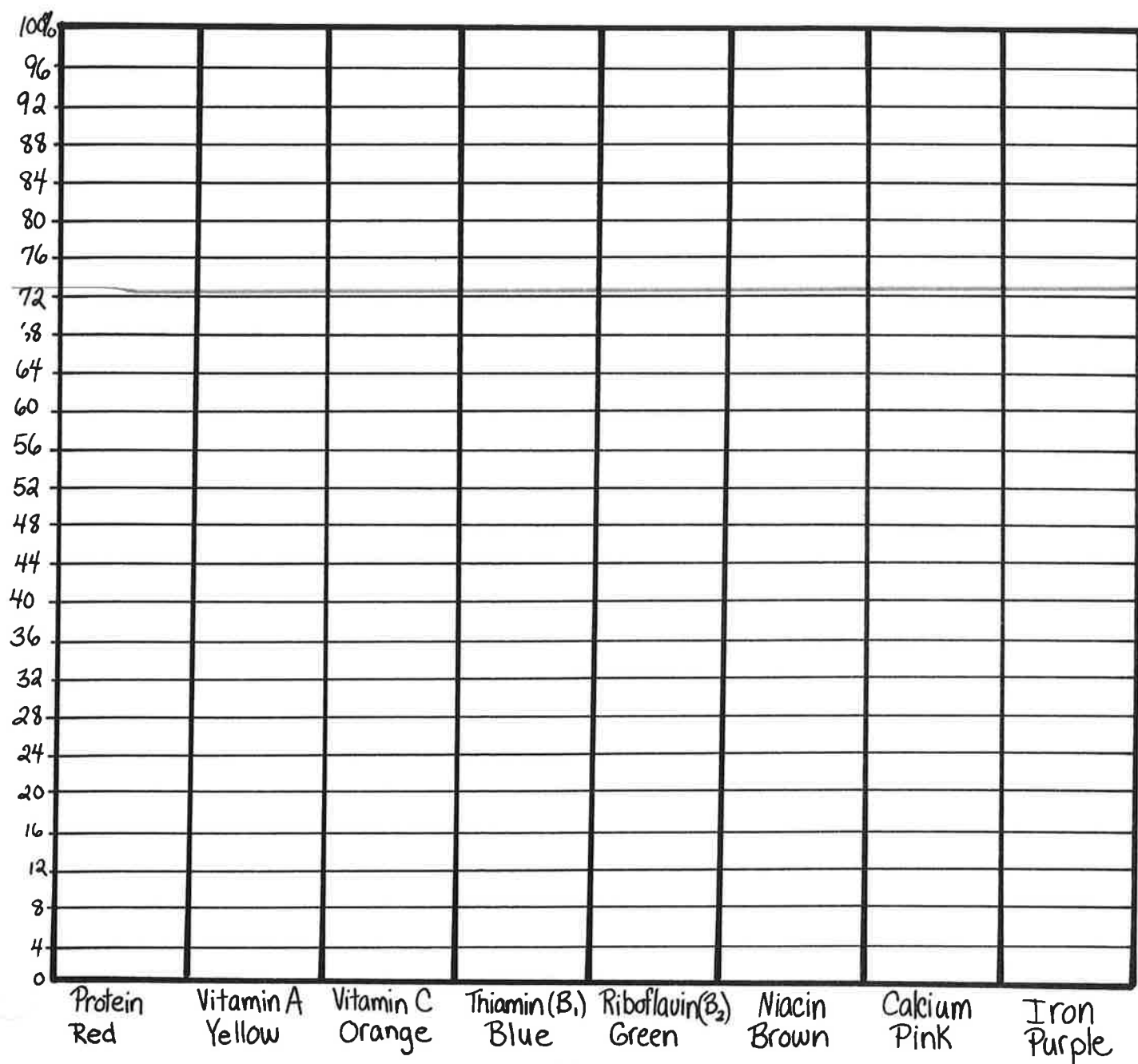
Name _____



Graph the nutrients.
Color in each bar as labeled.

Serving Size _____
Calories _____

Name of Food and Brand



What Does a Body Good? ⁴⁻¹⁶

• One Day • Planning Sheet •

Plan a balanced diet that totals 2400 calories



Food Group	# of Servings	Food Choices	# of Calories
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Dairy Products

4

_____	_____
_____	_____
_____	_____
_____	_____

total

Meat & Fish

2

_____	_____
_____	_____

total

Fruit & Vegetable

4

_____	_____
_____	_____
_____	_____
_____	_____

total

Grain , Cereal

4

_____	_____
_____	_____
_____	_____
_____	_____

total

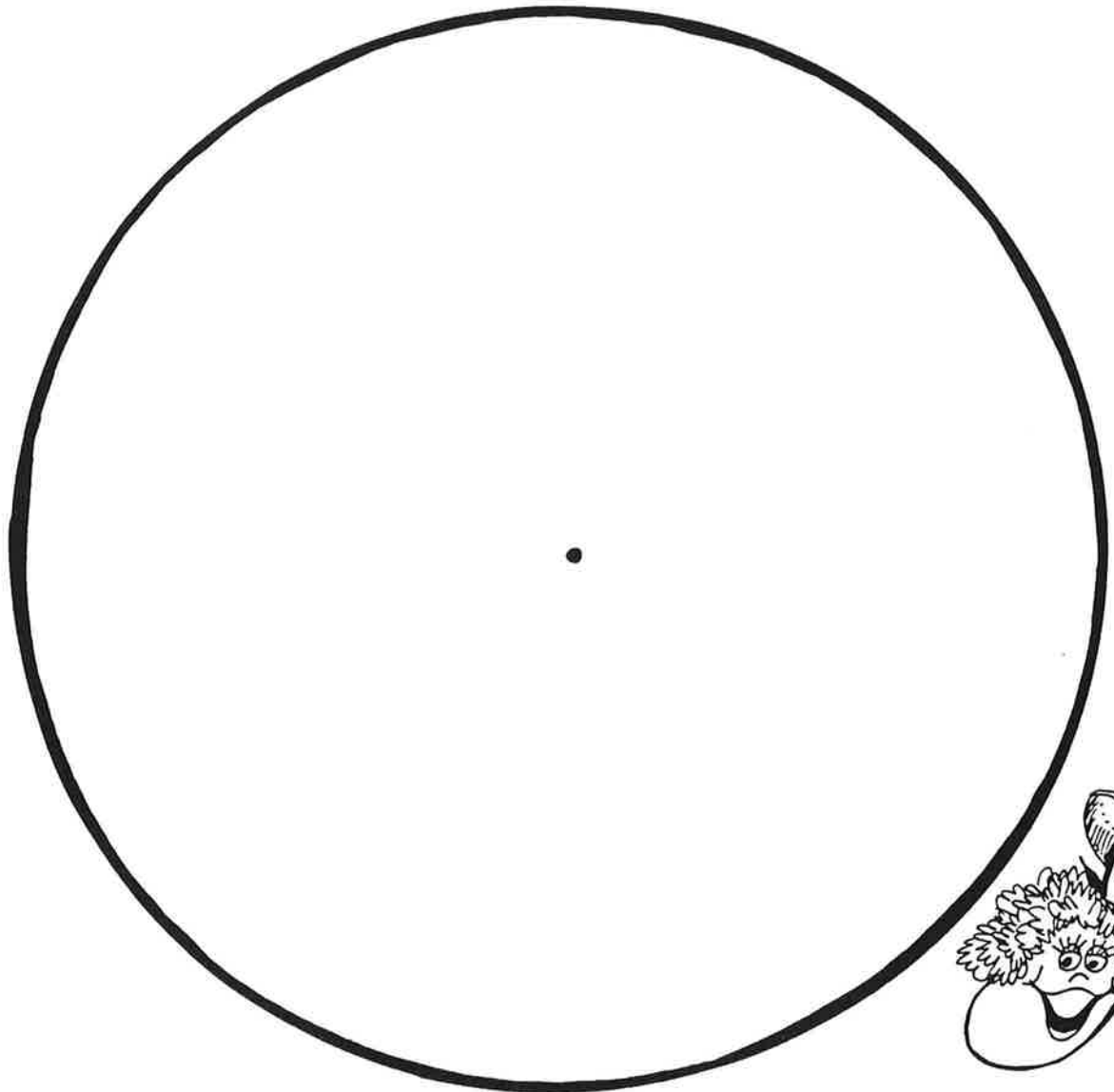
Other

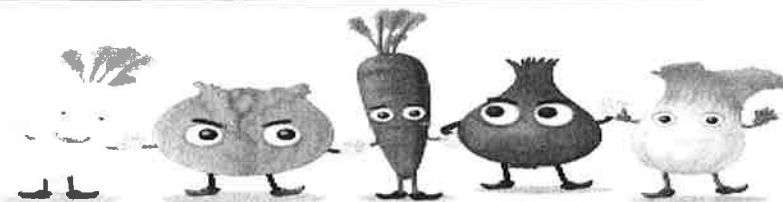
_____	_____
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total

What Does a Body Good? ⁴⁻¹⁷

- Let the circle represent the recommended daily allotment for boys and girls (7-14 years old) - 2400 calories.
- Use the totals from your planning sheet and divide the circle below into 5 sections, Milk & Dairy Products, Meat & Fish, Fruit & Vegetable, Grain & Cereals, and Other.
- Each section should represent the correct percentage of the total 2400 calories.





Are You Meeting Your Nutrition and Physical Activity Requirements?

Grade Levels: 4th - 8th

Time: (5-6) 30 min sessions

Objective:

- Youth will assess their diet and activity behaviors
- Youth will identify ways to improve their diet and activity choices

Materials: (Handouts)

- My Food Record
- My Physical Activity
- My Physical Activity Record
- Are You Meeting Your nutrition and Physical Activity Requirements (read and fill-in handouts)
- Implementing Nutrition & Physical Activity / Planning a Project (STAFF READ and FOLLOW only)

Preparation

Ahead of time

- Make copies of *My Food Record* and *My Physical Activity Record* handouts

Session One- 30 minutes

1. What to Do

- Tell youth that they will be collecting information on their eating and activity patterns.
- Distribute ***My Food Record*** and ***My Physical Activity*** Record handouts.
- Have youth keep a record of all the food they eat and how much physical activity they get for an entire day.

2. Provide Instruction on how to complete the records. Explain that it is very important that they be specific about the kinds of food and the amount they eat. Offer examples

- 3 slices of cheese pizza-not pizza
- Carton of low-fat mild- not milk
- 1 12 oz can of soda- not soda
- 3 pieces of fried chicken with skin

3. Remind them to keep track of how much water they are drinking. Explain that physical activity also includes things like taking the stairs, walking to and from school, or household chores like mowing the lawn, washing the car, sweeping, vacuuming, going up and down stairs. This is in addition to exercises like playing basketball, running, or bike riding.

Session Two: 30 minutes

Ahead of Time

Make copies of *Are You Meeting Your Nutrition and Physical Activity Requirements?* Handouts

What To Do

1. Distribute and have youth complete the handout *Are You Meeting Your Nutrition and Physical Activity Requirements?*
2. Review the nutrition requirements below:
Requirements for fruits and vegetables, calcium and water
 - At least 5 servings of fruits and vegetables a day
 - 4 servings of calcium-rich foods (low-fat milk, yogurt or pudding, cheese, calcium fortified juice, calcium- fortified cereal, green leafy vegetables every day
 - 8 glasses of water every day
3. Review the requirements for physical activity below:
Requirements for physical activity
 - 60 minutes a day including:
 - At least 30 minutes of moderate exercise like playing basketball or football, swimming, laps or jumping rope every day
 - At least 30 minutes of regular daily activity like walking your dog, biking to and from school, and using the stairs
4. Review what happens when you do not meet your food and activity requirements below:
 - Become overweight or underweight
 - You can get cranky, moody, not able to concentrate
 - Have dull and dry hair, brittle nails, ashy and flaky skin
 - Get sick more often
 - Develop Diabetes
 - Suffer from stroke, high blood pressure, diabetes, certain types of cancer
5. Discuss the following:
 - Did the amounts or types of food you ate surprise you?
 - Were you more active or less active than you expected?
 - Did you meet your nutritional and physical activity requirements?
 - What ideas did you come up with to improve your choices?

Part Four: (30 min) Implementing a Nutrition and Physical Project

- Read and follow *Implementing a Youth Driven Nutrition and Physical Activity Project-* Handout

Part Five: (3 or more 30 min sessions) Planning a Project

- Read and follow *Planning a Project-* Handout

MY FOOD RECORD

NAME:
DATE:

LIST ALL FOOD & DRINK	SERVING SIZE
MORNING:	
BEFORE LUNCH:	
LUNCH:	
AFTERNOON:	
DINNER:	
AFTER DINNER:	

NAME:
DATE:

[illegible]

Are You Meeting Your Nutrition and Physical Activity Requirements?

Use your completed food and activity records to answer these questions and see!

FRUITS AND VEGETABLES provide important nutrients like vitamin A, vitamin C that help you:

- Keep your skin and eyes healthy
- Avoid getting sick
- Avoid getting constipated
- Reduce your risk of cancer and other diseases
- Grow to your potential
- Heal wounds faster

You need at least 5 servings a day!

Did you meet the recommendations? Yes ___ No ___

CALCIUM is important for:

- Building strong bones and teeth
- Making muscles work

Because you are still growing, you need at least 1300 mg. of calcium a day.
That means 4 servings of foods high in calcium every day.

Did you meet the recommendations? Yes ___ No ___

WATER helps you:

- Get rid of toxins that are produced by the body
- Avoid getting constipated

You should drink at least 8 glasses of water a day.

Did you meet the recommendations? Yes ___ No ___

WHAT ABOUT SODA?

Drinking too much sugary soda may:

- Cause weight gain
- Weaken your bones
- Give you cavities

The average 12 to 19 year old consumes about 18 oz. of soda a day. This adds up to an extra 15 tsp. of sugar per day!
And this doesn't include the sugar from eating other sugary foods like candy, cookies, cakes, and ice cream.

How many tsp. of sugar from soda did you have?

(Multiply the ounces of soda you drank by 8 and divide by 10)

_____ oz. of soda x 8 = _____ ÷ 10 = _____ tsp. of sugar

SO WHAT'S A SERVING?

Fruits and vegetables:

1 medium size piece of fruit

3/4 cup juice

1 cup canned or chopped fruit

1/2 cup cooked or chopped raw vegetables

1 cup leafy raw vegetables

1/4 cup dried fruit

Foods with calcium:

1 cup nonfat or low-fat milk yogurt or pudding

1 oz low-fat cheese

1 cup calcium fortified juice or calcium fortified cereal

1 cup black eyed peas

3 cups broccoli

6 corn tortillas

PHYSICAL ACTIVITY

Every day you should get at least 60 minutes of exercise. This includes 30 minutes of moderate exercise like playing basketball or football, swimming laps or jumping rope, and 30 minutes of regular activity like walking your dog, biking to school or to visit friends, or using the stairs.

Did you get at least 30 minutes of moderate physical activity? Yes ___ No ___

Do you get enough regular activity? Answer these questions to find out!

Activity	YES	NO
Do you walk or ride your bike to school or to visit friends?		
Do you do physical activities with friends and family like roller blading, Frisbee or shooting hoops at least once a week?		
Do you take the stairs instead of the elevator?		

If you answered no to 2 or more, you need to add more activity into your weekly routine.

What happens when you don't meet your food and activity requirements?

NOW

You can get cranky, moody, not able to concentrate
 Become overweight or underweight
 Have dull and dry hair, brittle nails, ashy and flaky skin
 Get sick more often
 Get constipated
 Develop diabetes

LATER...

Become overweight
 Suffer from:
 Stroke
 High blood pressure
 Diabetes
 Certain types of cancer

IMPROVING YOUR FOOD AND ACTIVITY CHOICES

What changes can you make to improve your food and activity choices? Check all that apply and add a brief comment on how you will make improvements.

IMPROVEMENT	HOW:
___ Eat more fruits and vegetables	
___ Eat/drink more high calcium foods	
___ Drink less soda	
___ Add more activity into my day	



Implementing a Youth-Driven Nutrition and Physical Activity Project

One of the most effective ways of motivating youth to improve their eating and activity habits is to engage them in activities that allow them to develop leadership skills. This chapter provides a step-by-step guide for working with youth to help them implement a nutrition and physical activity project.

This chapter also provides background information and techniques for assessment and evaluation. It also explains how to use assessment data to inform the design of a project and suggests strategies for bringing public attention to the project and the issue it addresses.

Assessment Methods

Why Assessment?

Assessment is a process of determining the nutrition and physical activity issues in a particular community. When planning a project to change behavior or educate, it is necessary to know the needs and assets of the target group. Information collected from an assessment will help youth identify relevant issues to focus on while conducting a nutrition and physical activity project.

Chapter 5 includes information about several resources, including the [CANFit Cultural Needs Assessment Guide](#) that can be used to learn more about conducting assessments. Three methods of assessment, community mapping, focus groups, and questionnaires, are described below.

Community Mapping or Environmental Scan

Youth explore their home, neighborhood, school, after-school program, and other places they spend time to determine the health-related strengths and weaknesses of the community. The goal is to identify physical and social institutions in the community that either encourage or discourage healthy eating and physical activity. Some examples are:

Grocery stores	Restaurants
Vending machines	Health care facilities
Parks	Walking/biking trails
Schools	Churches
Law enforcement	Crime
Local role models	Places for recreation
Employment opportunities	Liquor stores or convenience stores

When compiling a map or inventory of these resources, it is important to document not only their presence, but also their location, frequency, and what they offer. For example, if there is a neighborhood park, youth should ascertain when it is open, how clean it is, and who else uses it. Even though a community may have a park, people are unlikely to visit if it is unsafe, unclean, or only open during the day.

Focus Group or Survey

Another way to assess nutrition and physical activity issues is to ask the people in the community. Focus groups and surveys are two techniques that researchers use to collect data from people, and youth can easily apply them as well. A focus group consists of 5-10 people who provide the researcher with their opinions, attitudes, and values on a particular issue through a structured discussion. A survey is a more formal method, in which the participants are given a questionnaire (either written or oral) and asked to provide specific information.

With either technique, youth should aim to find out about participants' eating habits and physical activity patterns. Some examples of information to collect are:

- Knowledge of nutrition and physical activity
- Attitudes about food and physical activity
- Access to food and physical activity
- Food preferences
- Physical activity habits
- Body image and self-esteem
- Peer and family influence
- Health awareness

Planning a Project

Analyzing Data

Once an assessment is complete, the data must be analyzed. Survey responses need to be tabulated. Youth should create tables or graphs to paint a picture of the nutrition and physical activity issues in their community. Focus group data should be organized such that themes that were repeated during the discussion are clear. When reporting focus group results, it is necessary to include:

- Date, location, length of time, and facilitator(s)
- Number of groups held, demographics (gender, ages, ethnicity, income-level) of participants, number of participants in each group, and how they were recruited
- Purpose of focus group and a brief description of the project
 - Special circumstances (e.g., incentives, transportation issues, language, etc.)
 - Order of questions asked (script)
- Description of major themes discussed, including a summary of the contents and any representative quotes
- Discussion of implications of focus group(s), how the information will be utilized in your project, and any recommendations you have developed as a result of the responses

Deciding on a Project

The next step is to select one issue to build a project around. If one issue stands out from the assessment and analysis, this step is easy. On the other hand, if there are two or three issues that arise, youth should decide as a group the issue to concentrate on.

After deciding on an issue, youth should brainstorm ideas for a project. It is important that all youth participate in the brainstorming process, and that everyone's ideas are given consideration. Some questions to ask while narrowing down the ideas are:

- How much time do you have to complete the project?
- What specifically do we want to do – change a practice, provide education?
- Who will be the target audience?
- Which idea will make the most difference or have a lasting impact?