LESSON 2

BUILD FOODS

NUTRITION IN A BOX

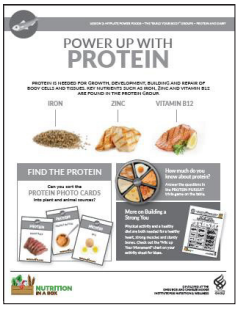
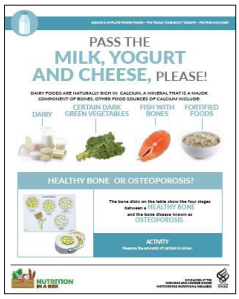
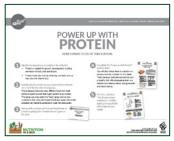
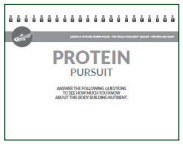
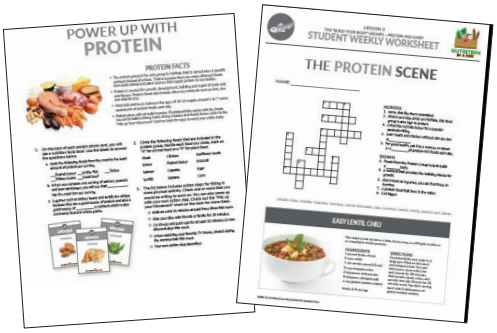
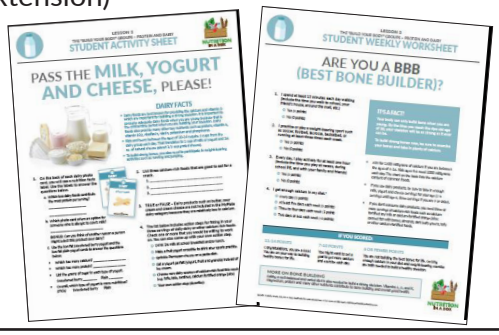
DEVELOPED AT THE
OHSU BOB AND CHARLEE MOORE
INSTITUTE FOR NUTRITION & WELLNESS

OHSU

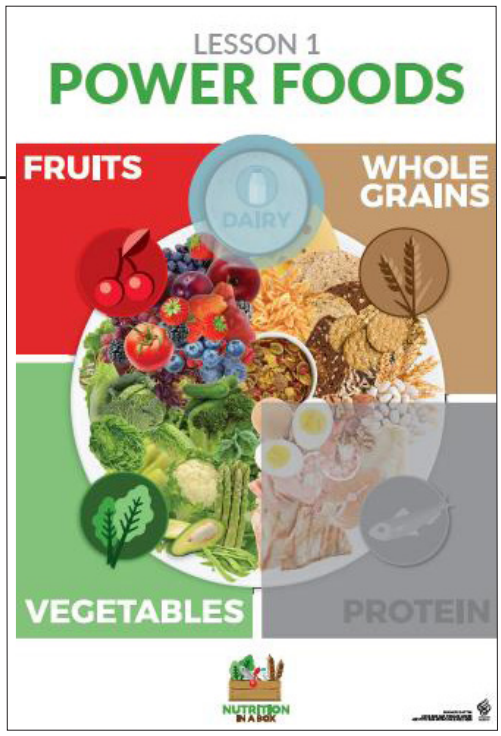
Lesson Plan 2: MyPlate Build Foods

The "Build Your Body" groups - protein and dairy

Summary of needed materials

	Station 1: Protein	Station 2: Dairy
Wall	"Power up With Protein" poster 	"Pass the Milk, Yogurt, Cheese, Please!" poster 
Table	• Table tent with instructions • Protein photo cards • "Protein Pursuit Trivia" flip deck   	• Table tent with instructions • Dairy photo cards • Materials to measure bone calcium at different ages and stages: white cornmeal, measuring cups, bags, marker) • Osteoporosis disk set   
Handouts	• "Power up With Protein" activity sheet • "The Protein Scene" worksheet (for lesson extension) 	• "Pass the Milk, Yogurt, Cheese, Please!" activity sheet • "Are you a BBB (Best Bone Builder)?" worksheet (for lesson extension) 
Resources	MyPlate paper plate 	MyPlate paper plate 

MyPlate Build Foods



Lesson Plan 2

The "Build Your Body" groups – protein and dairy

Lesson Overview

In this lesson, students will be introduced to MyPlate and given opportunities to complete activities related to dairy, protein and physical activity. To extend the lesson and involve their families, students will also receive the "Are you a BBB (Best Bone Builder)?" self-assessment activity sheet and "The Protein Scence" puzzle worksheet, which includes a recipe.

Objectives

The student will be able to:

1. Recognize that the MyPlate guide includes five food groups that are important for good health.
2. Identify a variety of both animal and plant sources of protein contained in both the protein and the dairy group.
3. Identify that protein plays a role in growth, development, building and repair of body cells and tissues.
4. Describe the role dairy foods play in building a strong skeleton.
5. Recognize that foods in both the protein and dairy group provide a number of key nutrients important for good health.
6. Describe how physical activity is also an important component of building bones, skeletal muscles and strengthening the heart muscle.
7. Develop a strategy

Academic Integration

Health, Science, Math, Language Arts, Critical thinking

Leader Background

The MyPlate food guide provides a graphic presentation of a healthful, balanced diet. It was designed as an easy tool to remind Americans to eat all five food groups in the proper proportions. By eating foods from all the food groups every day, our bodies will get the nutrients needed for growth, energy, repair and good health. The choosemyplate.gov website contains a wealth of information on food groups, serving sizes and meal plans. Individuals can enter their age, gender, height, weight and activity level and receive a recommended meal plan based on their estimated caloric need.

Lesson 2 focuses on the two food groups that build the body, including protein and dairy. The lesson stations are designed to emphasize the diversity among protein sources and emphasize the role that dairy plays in bone building. Both groups also contribute additional key nutrients to the diet and these will be highlighted as well. Since physical activity is an important component of building bones (through weight bearing activities), skeletal muscles (through resistance/strength activities) and the heart muscle (through cardio-based activities), there will also be a physical activity component to this lesson. Below are overviews of the protein and dairy groups.

Protein

The protein group encompasses a diverse group of foods that are rich in nutrients such as protein, B vitamins, iron and zinc. Foods included in the protein group are from both animal and plant sources. Protein is vital because it contains essential amino acids, the building blocks for growth, development and repair. Most kids and teens between the ages of 10-14 require around five to seven ounces of meat or meat equivalents each day. To maximize nutrition, choose seafood, lean meats, poultry without the skin, beans, nuts and seeds. The 2015-2020 Dietary Guidelines for Americans recommend that seafood should be the protein on your plate twice each week. Most Americans of all ages eat an adequate amount of total protein, but do not always distribute intake throughout the day. Newer research indicates it may be helpful to include a protein source with most meals and snacks. Eating protein throughout the day helps to regulate appetite and blood sugar.

Choose For Today:
Eating iron-rich foods is important for maintaining the red blood cells that deliver oxygen throughout your body. Iron deficiency anemia is associated with low energy, difficulty concentrating and even lowered math scores!

Choose For Tomorrow:
Iron-rich foods such as meat, poultry, seafood and legumes are important for building healthy babies. Women who begin their pregnancy with adequate iron stores are more likely to avoid anemia and will also have babies born with adequate iron stores.

Dairy

Dairy foods provide a nutrient-rich package containing calcium, protein, vitamin A, vitamin D, vitamin B12, riboflavin, niacin, potassium and phosphorus. Children and teens ages 9-18 require three servings of dairy daily, but surveys show that many children and teens fall short in their consumption of dairy foods. A serving of dairy is 8 ounces or 1 cup of yogurt, milk or 1½ ounces of cheese. To cut down on saturated fat, a switch to fat-free or low-fat milk is recommended for adults and children ages two and up. Fat-free and low-fat milk have the same key nutrients as whole milk, but fewer calories and fat. In the MyPlate guide, calcium-fortified soymilk also counts as a dairy serving. Dairy foods such as butter, sour cream and cream cheese are classified as fats in the MyPlate guide.

Choose For Today:

Strong bones are important for the active or athletic student. Reduce your chance of injury or fracture by consuming 3 servings of dairy and other calcium rich foods each day.

Choose For Tomorrow:

Your body can only build bone when you are young. By the time you reach the ripe old age of about 30, your skeleton will be as strong as it ever can be. A good diet and weight bearing exercise such as running and jumping will help to prevent the bone-thinning disease known as osteoporosis.

Glossary/Vocabulary:

- **Amino acids:** See protein definition below
- **Calcium:** A mineral needed for the development and maintenance of healthy bones and teeth
- **Iron:** A mineral found in the protein group, carries oxygen in red blood cells and muscle cells
- **Nutrients:** Over 40 different compounds found in food that the body needs to live, grow, and stay healthy
- **Phytonutrients:** Non-nutrient plant compounds with multiple health promoting roles, including the protection of body cells and prevention of chronic disease
- **Potassium:** Mineral that maintains heart beat, regulates body fluids, and helps nerves and muscles function
- **Protein:** Provides the building blocks needed for growth, replacement and maintenance of body tissues. Protein is made of smaller units known as amino acids. There are 20 total amino acids, nine of which are considered “essential” because they must be supplied from the foods we eat. Non-essential amino acids can be made by our bodies. Animal proteins are considered “complete” proteins because they contain all nine essential amino acids. Plant-based proteins are often lacking in one or more amino acids so vegetarians need to eat a variety of plant-based foods to take in all 9 essential amino acids.
- **Vitamin A:** Plays a role in keeping skin, mucous membranes, eyes, and bones healthy
- **Vitamin B12:** Found in animal products and some fortified cereals, B12 is important in red blood cell formation and also works with other B vitamins to help release the energy in food.
- **Vitamin D:** A partner with calcium in building and maintaining strong bones
- **Zinc:** A mineral found in the protein group, necessary for healing, taste perception, growth and development

Teaching the Lesson

1. Introduce students to the lesson by providing a brief overview of the MyPlate guide (e.g. the plate shows the food groups we need and the proportion that each group should make to our diet each day). Remind students that we don't always eat foods separately divided on a plate. Ask them to think of mixed foods that may not be served on a plate (e.g. bowl, smoothie, combination foods which include protein and dairy).

2. Lesson 2 focuses on the two MyPlate groups that build the body, including protein and dairy. The lesson stations are designed to emphasize the diversity among protein sources, teach key facts about protein and emphasize the role that dairy plays in bone building. Dairy foods contribute a number of key nutrients, yet are often lacking in the diets in children ages 10-14. Total protein intake is generally adequate in this age group, though not always optimally distributed throughout the day. This is especially true for kids and teens who skip meals.

3. Explain to students that as they travel through the lesson, they will complete an activity at each station and also complete an activity sheet that corresponds to each station. Encourage students to read the information and follow the instructions on the instructional poster and table tent for each station.

4. Below is sample dialogue that you can use when explaining the activities to the students:

   - The first station in this lesson focuses on the protein group. The protein group is the only group in MyPlate that is named after a specific nutrient instead of a food. That is because there are many different foods from both animal and plant sources that supply protein to our bodies. Protein is needed for growth, development, building and repair of body cells and tissues. Proteins are made up of 20 units called amino acids, nine of which are considered "essential" because they must be supplied from the foods we eat. Protein foods also include other key nutrients such as iron, zinc and vitamin B12. In this station, you will test your knowledge of protein by playing a trivia game. Next, you will sort the In A Box food photo cards into plant and animal based protein sources.

   - Included in the protein station is a "Mix up Your Movement" chart, which highlights different physical activities and how they also play an important role in building bones, skeletal muscles and the heart muscle. Different areas of fitness are highlighted in the chart. Encourage students to spend three to five minutes engaging in a physical activity such as marching, hopping or jogging in place. If students prefer, they can instead set a goal for physical activity on their activity sheet.

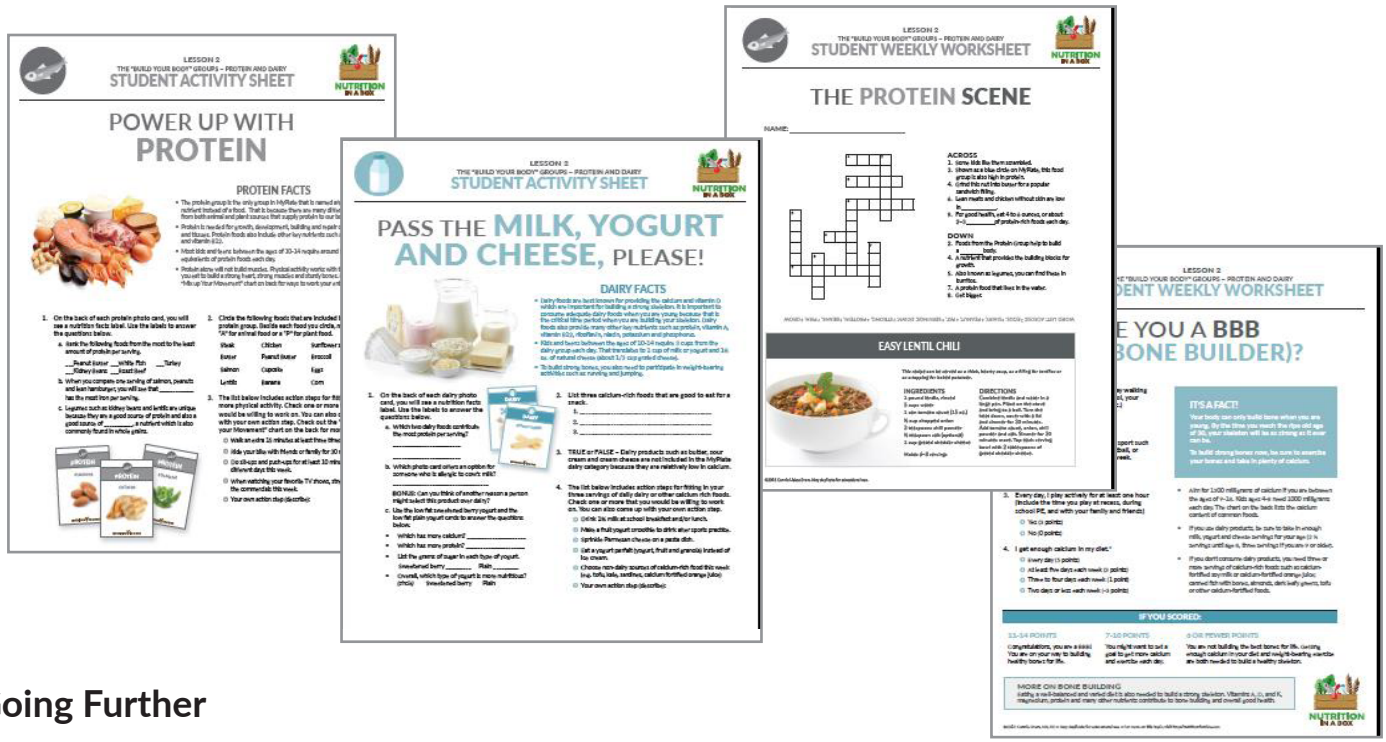
   - The second station focuses on dairy foods. Dairy foods are best known for providing the calcium and vitamin D which are important for building a strong skeleton. It is important to consume adequate dairy foods when you are young because that is the critical time period when you are building your skeleton. Children and teens ages 9-18 require three servings of dairy each day. A serving of dairy is 8 ounces or 1 cup of yogurt, milk or 1½ ounces of cheese. Dairy foods also provide many other key nutrients such as protein, vitamin A, vitamin B12, riboflavin, niacin, potassium and phosphorus. At this station, you will measure the amount of calcium found in the body's skeleton from newborn to adult. You will also get the opportunity to examine sample bone disks which show what a normal bone looks like and how it looks as it loses mineral content. This illustrates why it is so important to build strong bones now that will carry you through your entire life.

5.. Ask students to take a copy of the "Are you a BBB (Best Bone Builder)?" self-assessment activity sheet and "The Protein Scene" puzzle/recipe worksheet. These sheets can be assigned as a lesson extension, homework and/or shared with families.

Activity Sheets

Students will complete the activity sheet corresponding to each station using information from the lesson stations as well as the summary information included on the sheet.

"The Protein Scene" and the "Are You a BBB (Best Bone Builder)?" activity sheets are designed to extend the lesson from classroom to home.



Going Further

Resources:

1. Choose MyPlate section on protein – https://www.choosemyplate.gov/protein-foods
1. Choose MyPlate section on dairy – https://www.choosemyplate.gov/dairy
1. Choose MyPlate SuperTracker self-assesment tool - https://supertracker.usda.gov/
1. Oregon Dairy and Nutrition Council - http://www.oregondairycouncil.org/
1. Oregon Nutrition Education Program, Extension Family & Community Health, College of Public Health and Human Sciences, Oregon State University http://extension.oregonstate.edu/nep/
1. Oregon Ag in the Classroom Foundation – My Oregon Grown plate - https://oregonaitc.org/resources/lesson-plans/oregon-plate-nutrition-lessons-2/
1. Oregon Food Corps - https://foodcorps.org/apply/where-youll-serve/oregon/
1. U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015 – 2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Available at http://health.gov/dietaryguidelines/2015/guidelines/.

PASS THE MILK, YOGURT AND CHEESE, PLEASE!

DAIRY FOODS ARE NATURALLY RICH IN CALCIUM, A MINERAL THAT IS A MAJOR COMPONENT OF BONES. OTHER FOOD SOURCES OF CALCIUM INCLUDE:

DAIRY

CERTAIN DARK GREEN VEGETABLES

FISH WITH BONES

FORTIFIED FOODS

HEALTHY BONE OR OSTEOPOROSIS?

The bone disks on the table show the four stages between a **HEALTHY BONE** and the bone disease known as **OSTEOPOROSIS.**

ACTIVITY

Measure the amount of calcium in bones at different stages of life.

PASS THE MILK, YOGURT AND CHEESE, PLEASE!

HERE'S WHAT TO DO AT THIS STATION:

1 **Identify the importance of dairy in the daily diet.**

- Dairy foods are naturally rich in calcium, the mineral that is a major component of bones. Other food sources of calcium include certain dark green vegetables, calcium-set tofu, fish with bones and fortified foods.
- Eating a well-balanced and varied diet is also needed to build a strong skeleton. In addition to calcium, you need vitamin D, protein and many other nutrients to build and maintain a strong skeleton.
- To build strong bones, you need to participate in weight-bearing activities such as running and jumping.

2 **View the bone density discs on the table.**

Low bone density can cause your bones to become brittle and fragile. The bone disks on the table show the four stages between a healthy bone and the bone disease known as osteoporosis.

3 **Complete the "Pass the Milk, Yogurt and Cheese, Please!" activity sheet.**


LESSON 2
STUDENT ACTIVITY SHEET
PASS THE MILK, YOGURT AND CHEESE, PLEASE!
DAIRY FACTS

4 **At home, complete the "Are You a Best Bone Builder?" worksheet and review the "Mix Up Your Movement" worksheet.**


STUDENT WEEKLY WORKSHEET
ARE YOU A BBB (BEST BONE BUILDER)?

Activity – Measure the amount of calcium in bones.
On the table, you will find a bag filled with corn meal, which represents the calcium in bones. You will measure the amount of calcium in the bones of a healthy skeleton at different ages and stages by following the directions below.

1. A newborn baby has about ¼ cup of calcium in their bones. Measure ¼ cup of corn meal and place it in the bag labeled "newborn."
2. A 10 year-old has about 4 cups of calcium in their bones. Measure 4 cups of corn meal and place it in the bag labeled "10 year-old."
3. A 15 year-old has about 9 cups of calcium in their bones. Measure 9 cups of corn meal and place it in the bag labeled "15 year-old."
4. An adult has about 11 cups of calcium in their bones. Measure 11 cups of corn meal and place it in the bag labeled "adult." *Interesting fact: An adult with osteoporosis may have as little as 6.5 cups of calcium in their bones.*

LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT ACTIVITY SHEET

NUTRITION IN A BOX

PASS THE MILK, YOGURT AND CHEESE, PLEASE!

DAIRY FACTS

- Dairy foods are best known for providing the calcium and vitamin D that are important for building a strong skeleton. It is important to consume adequate dairy foods when you are young because that is the critical time period when you are building your skeleton. Dairy foods also provide many other key nutrients such as protein, vitamin A, vitamin B12, riboflavin, niacin, potassium and phosphorus.
- Kids and teens between the ages of 10-14 require three cups from the dairy group each day. A one cup serving is equivalent to one cup of milk or yogurt and one and a half ounces of natural cheese (about one third cup grated cheese).
- To build strong bones, you also need to participate in weight-bearing activities such as walking, running and jumping.

1. On the back of each dairy photo card, you will see a nutrition facts label. Use the labels to answer the questions below.

a. Which two dairy foods contribute the most protein per serving?

_____

_____

b. Which photo card offers an option for someone who is allergic to cow's milk?

_____

BONUS: Can you think of another reason a person might select this product over dairy?

c. Use the low-fat berry yogurt and the low-fat plain yogurt cards to answer the questions below.

- Which has more calcium? _____
- Which has more protein? _____
- List the grams of sugar in each type of yogurt.

  Sweetened berry _____ Plain _____
- Overall, which type of yogurt is more nutritious? *(circle)* Berry Plain

2. List three calcium-rich foods that are good to eat for a snack.

1. _____
2. _____
3. _____

3. TRUE or FALSE – Dairy products such as butter, sour cream and cream cheese are not included in the MyPlate dairy category because they are relatively low in calcium.

4. The list below includes action steps for fitting in your three servings of daily dairy or other calcium rich foods. Check one or more that you would be willing to work on. You can also come up with your own action step.

- ○ Drink 1% milk at school breakfast and/or lunch.
- ○ Make a fruit yogurt smoothie to drink after sports practice.
- ○ Sprinkle Parmesan cheese on a pasta dish.
- ○ Eat a yogurt parfait (yogurt, fruit and granola) instead of ice cream.
- ○ Choose non-dairy sources of calcium-rich food this week (e.g. tofu, kale, sardines, calcium fortified orange juice)
- ○ Your own action step (describe):

LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT ACTIVITY SHEET

Answer Key

NUTRITION IN A BOX

PASS THE MILK, YOGURT AND CHEESE, PLEASE!

DAIRY FACTS

- Dairy foods are best known for providing the calcium and vitamin D that are important for building a strong skeleton. It is important to consume adequate dairy foods when you are young because that is the critical time period when you are building your skeleton. Dairy foods also provide many other key nutrients such as protein, vitamin A, vitamin B12, riboflavin, niacin, potassium and phosphorus.
- Kids and teens between the ages of 10-14 require three cups from the dairy group each day. A one cup serving is equivalent to one cup of milk or yogurt and one and a half ounces of natural cheese (about one third cup grated cheese).
- To build strong bones, you also need to participate in weight-bearing activities such as walking, running and jumping.

1. On the back of each dairy photo card, you will see a nutrition facts label. Use the labels to answer the questions below.

a. Which two dairy foods contribute the most protein per serving?

Cottage Cheese

Greek Yogurt

b. Which photo card offers an option for someone who is allergic to cow's milk?

Soy Milk

BONUS: Can you think of another reason a person might select this product over dairy? They are a vegetarian.

c. Use the low-fat berry yogurt and the low-fat plain yogurt cards to answer the questions below.

- Which has more calcium? Low fat plain yogurt
- Which has more protein? Low fat plain yogurt
- List the grams of sugar in each type of yogurt.

  Sweetened berry 39 Plain 16
- Overall, which type of yogurt is more nutritious? *(circle)* Berry Plain

2. List three calcium-rich foods that are good to eat for a snack. Many choices of various types of yogurt, cheese, milk, soy milk

1. _____
2. _____
3. _____

3. TRUE or FALSE – Dairy products such as butter, sour cream and cream cheese are not included in the MyPlate dairy category because they are relatively low in calcium.

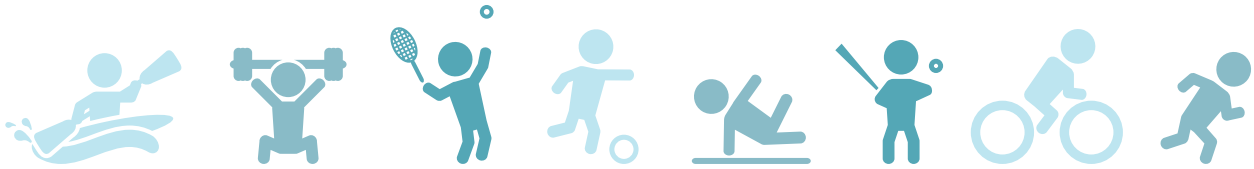
4. The list below includes action steps for fitting in your three servings of daily dairy or other calcium rich foods. Check one or more that you would be willing to work on. You can also come up with your own action step.

- ○ Drink 1% milk at school breakfast and/or lunch.
- ○ Make a fruit yogurt smoothie to drink after sports practice.
- ○ Sprinkle Parmesan cheese on a pasta dish.
- ○ Eat a yogurt parfait (yogurt, fruit and granola) instead of ice cream.
- ○ Choose non-dairy sources of calcium-rich food this week (e.g. tofu, kale, sardines, calcium fortified orange juice)
- ○ Your own action step (describe):

STUDENT WEEKLY WORKSHEET

MIX UP YOUR MOVEMENT!

AIM FOR A TOTAL OF 60 MINUTES OF PHYSICAL ACTIVITY EACH DAY.



TO HELP YOU:	PICK ACTIVITIES THAT:	EXAMPLES:
Strengthen your heart (and also improve your endurance)	Keep you moving (and breathing a little hard) for at least fifteen minutes at a time	Riding your bike, jump rope games, dancing to music, inline skating, running, jogging, swimming, all games that involve running such as basketball, rugby, baseball, football, soccer, or playing tag
Build sturdy bones	Are "weight bearing," which means your body works against gravity	Walking, running, marching, hopping, skipping, karate, gymnastics, tennis, jump rope, all games that involve running such as basketball, rugby, baseball, football, soccer, or playing tag
Become stronger	Work your muscles	Tug-of-war, rope climbing, pumping higher on a swing, swinging bar to bar along play equipment, handstands, exercises such as sit-ups and push-ups
Move, reach and bend easier	Help you to stretch and become more flexible	Ballet and other dancing, gymnastics, stretching exercises, doing the splits, toe reaches, yoga
Enjoy moving your body and stay in good shape	Are FUN!	YOUR favorite activities, sports, and exercises!

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LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT WEEKLY WORKSHEET

ARE YOU A **BBB** (BEST BONE BUILDER)?

1. **I spend at least 15 minutes each day walking (include the time you walk to school, your friend's house, around the mall, etc.).**
   - ○ Yes (3 points)
   - ○ No (0 points)
2. **I practice or play a weight-bearing sport such as soccer, football, lacrosse, basketball, or running at least three times each week.**
   - ○ Yes (3 points)
   - ○ No (0 points)
3. **Every day, I play actively for at least one hour (include the time you play at recess, during school PE, and with your family and friends).**
   - ○ Yes (3 points)
   - ○ No (0 points)
4. **I get enough calcium in my diet.**
   - ○ Every day (5 points)
   - ○ At least five days each week (3 points)
   - ○ Three to four days each week (1 point)
   - ○ Two days or less each week (-3 points)

IT'S A FACT!

Your body can only build bone when you are young. By the time you reach the ripe old age of about 30, your skeleton will be as strong as it ever can be.

To build strong bones now, be sure to exercise your bones and take in plenty of calcium.

- Aim for 1,300 milligrams of calcium if you are between the ages of 9-18. Kids ages 4-8 need 1,000 milligrams each day. The calcium worksheet lists the calcium content of common foods.
- If you use dairy products, be sure to take in enough milk, yogurt and cheese servings for your age (2 ½ servings until age eight, three servings if you are nine or older).
- If you don't consume dairy products, you need three or more servings of calcium-rich foods such as calcium-fortified soy milk or calcium-fortified orange juice, canned fish with bones, almonds, dark leafy greens, tofu or other calcium-fortified foods.

IF YOU SCORED:

11-14 POINTS

Congratulations, you are a BBB! You are on your way to building healthy bones for life.

7-10 POINTS

You might want to set a goal to get more calcium and exercise each day.

6 OR FEWER POINTS

You are not building the best bones for life. Getting enough calcium in your diet and weight-bearing exercise are both needed to build a healthy skeleton.

MORE ON BONE BUILDING

Eating a well-balanced and varied diet is also needed to build a strong skeleton. Vitamins A, D, and K, magnesium, protein and many other nutrients contribute to bone building and overall good health.

NUTRITION IN A BOX

LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT WEEKLY WORKSHEET

CALCIUM CONTENT OF COMMON FOODS*

FOOD	MILLIGRAMS (MG) PER SERVING
Yogurt, plain, low fat *8 ounces*	415
Mozzarella, part skim *1.5 ounces*	333
Sardines, canned in oil, with bones *3 ounces*	325
Yogurt, fruit, low fat *8 ounces*	313–384
Orange juice, calcium-fortified *8 ounces*	300-350
Cheddar cheese *1.5 ounces*	307
Milk, nonfat *8 ounces*	299
Soy milk, calcium-fortified *8 ounces*	299
Milk, 2% milk fat *8 ounces*	293
Milk, whole *8 ounces*	276
Tofu, calcium-set *½ cup*	253
Salmon, pink, canned, solids with bone *3 ounces*	181
Cottage cheese, 1% milk fat *1 cup*	138
Ready-to-eat cereal, calcium-fortified *1 cup*	Check label*
Kale, raw, chopped *1 cup*	100
Turnip greens, fresh, boiled *½ cup*	99
Chinese cabbage, bok choy, raw, shredded *1 cup*	74
Almonds, dry roasted *1 ounce (approx. 23)*	70
Tortilla, corn *one 6 inch diameter*	46
Apricots, dried *½ cup*	35
Tortilla, flour *one 6 inch diameter*	32
Sour cream, reduced fat *2 tablespoons*	31
Bread, whole-wheat *1 slice*	30
Broccoli, raw *½ cup*	21

* CALCIUM CALCULATION – "ADD A ZERO"

Nutrition Facts food labels list calcium as a "percent daily value" (or % DV). Since the daily value is based on 1,000 milligrams, you can convert % DV of calcium to milligrams by simply adding a zero. For instance, a serving of yogurt that provides 25% DV for calcium contains 250 milligrams of calcium per serving.

POWER UP WITH PROTEIN

PROTEIN IS NEEDED FOR GROWTH, DEVELOPMENT, BUILDING AND REPAIR OF BODY CELLS AND TISSUES. KEY NUTRIENTS SUCH AS IRON, ZINC AND VITAMIN B12 ARE FOUND IN THE PROTEIN GROUP.

IRON

ZINC

VITAMIN B12

FIND THE PROTEIN

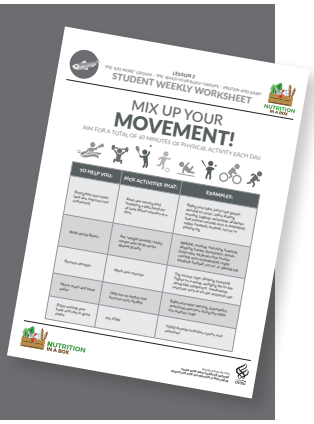
Can you sort the
PROTEIN PHOTO CARDS
into plant and animal sources?

How much do you know about protein?

Answer the questions in the PROTEIN PURSUIT trivia game on the table.

More on Building a Strong You

Physical activity and a healthy diet are both needed for a healthy heart, strong muscles and sturdy bones. Check out the "Mix up Your Movement" chart on your activity sheet for ideas.



POWER UP WITH PROTEIN

HERE'S WHAT TO DO AT THIS STATION:

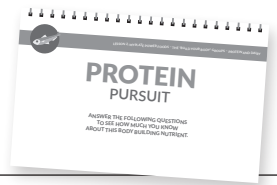
1 **Identify the importance of protein in the daily diet.**

- Protein is needed for growth, development, building and repair of body cells and tissues.
- Protein foods also include other key nutrients such as iron, zinc and vitamin B12.

2 **Explain why the protein group is named after a nutrient, not a food like the other food groups.**

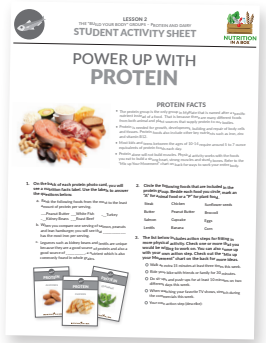
That is because there are many different foods from both animal and plant sources that supply protein to our bodies. This group was once called the "meat" group, but we now understand that many plant-based foods also supply the protein and other key nutrients contained in meat, fish and poultry.

3 **Pair up with a partner and test your knowledge of protein by playing the "Protein Pursuit" game on the table.**

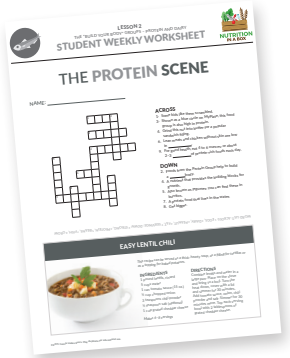


4 **Complete the "Power up with Protein" activity sheet.**

You will also notice there is a section on physical activity included on this sheet. That's because both physical activity and a healthy diet with adequate protein are needed for a healthy heart, strong muscles and sturdy bones.



5 **At home, complete The Protein Scene worksheet. Consider making the easy lentil chili recipe for your family!**



LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT ACTIVITY SHEET

NUTRITION IN A BOX

POWER UP WITH PROTEIN

PROTEIN FACTS

- The protein group is the only group in MyPlate that is named after a specific nutrient instead of a food. That is because there are many different foods from both animal and plant sources that supply protein to our bodies.
- Protein is needed for growth, development, building and repair of body cells and tissues. Protein foods also include other key nutrients such as iron, zinc and vitamin B12.
- Most kids and teens between the ages of 10-14 require around five to seven ounce equivalents of protein foods each day.
- Protein alone will not build muscles. Physical activity works with the foods you eat to build a strong heart, strong muscles and sturdy bones. Refer to the "Mix up Your Movement" worksheet for more ideas.

1. On the back of each protein photo card, you will see a nutrition facts label. Use the labels to answer the questions below.

a. Rank the following foods from the most to the least amount of protein per serving.

___Peanut Butter ___White Fish ___Turkey
___Kidney Beans ___Roast Beef

b. When you compare one serving of salmon, peanuts and lean hamburger, you will see that _____ has the most iron per serving.

c. Legumes such as kidney beans and lentils are unique because they are a good source of protein and also a good source of _____, a nutrient which is also commonly found in whole grains.

2. Circle the following foods that are included in the protein group. Beside each food you circle, mark an "A" for animal food or a "P" for plant food.

Steak	Chicken	Sunflower seeds
Butter	Peanut Butter	Broccoli
Salmon	Cupcake	Eggs
Lentils	Banana	Corn

3. The list below includes action steps for fitting in more physical activity. Check one or more that you would be willing to work on. You can also come up with your own action step. Check out the "Mix up your Movement" worksheet for more ideas.

- ○ Walk an extra 15 minutes at least three times this week.
- ○ Ride your bike with friends or family for 30 minutes.
- ○ Do sit-ups and push-ups for at least 10 minutes on two different days this week.
- ○ When watching your favorite TV shows, stretch during the commercials this week.
- ○ Your own action step (describe):

STUDENT WEEKLY WORKSHEET

NUTRITION IN A BOX

MIX UP YOUR MOVEMENT!

AIM FOR A TOTAL OF 60 MINUTES OF PHYSICAL ACTIVITY EACH DAY.

TO HELP YOU:	PICK ACTIVITIES THAT:	EXAMPLES:
Strengthen your heart (and also improve your endurance)	Keep you moving (and breathing a little hard) for at least fifteen minutes at a time	Riding your bike, jump rope games, dancing to music, inline skating, running, jogging, swimming, all games that involve running such as basketball, rugby, baseball, football, soccer, or playing tag
Build sturdy bones	Are "weight bearing," which means your body works against gravity	Walking, running, marching, hopping, skipping, karate, gymnastics, tennis, jump rope, all games that involve running such as basketball, rugby, baseball, football, soccer, or playing tag
Become stronger	Work your muscles	Tug-of-war, rope climbing, pumping higher on a swing, swinging bar to bar along play equipment, handstands, exercises such as sit-ups and push-ups
Move, reach and bend easier	Help you to stretch and become more flexible	Ballet and other dancing, gymnastics, stretching exercises, doing the splits, toe reaches, yoga
Enjoy moving your body and stay in good shape	Are FUN!	YOUR favorite activities, sports, and exercises!

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OHSU BOB AND CHARLEE MOORE
INSTITUTE FOR NUTRITION & WELLNESS
OHSU

LESSON 2

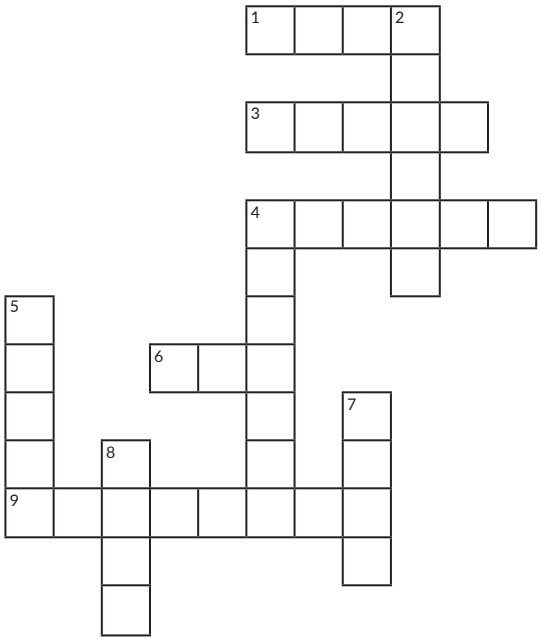
THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT WEEKLY WORKSHEET

NUTRITION IN A BOX

THE PROTEIN SCENE

NAME: _____



ACROSS

1. Some kids like them scrambled.
3. Shown as a blue circle on MyPlate, this food group is also high in protein.
4. Grind this nut into butter for a popular sandwich filling.
6. Lean meats and chicken without skin are low in _____.
9. For good health, eat four to six ounces, or about two to three _____of protein-rich foods each day.

DOWN

2. Foods from the protein group help to build a _____body.
4. A nutrient that provides the building blocks for growth.
5. Also known as legumes, you can find these in burritos.
7. A protein food that lives in the water.
8. Get bigger.

WORD LIST: *ACROSS:* 1 EGGS, 3 DAIRY, 4 PEANUT, 6 FAT, 9 SERVINGS; *DOWN:* 2 STRONG, 4 PROTEIN, 5 BEANS, 7 FISH, 8 GROW

EASY LENTIL CHILI

This recipe can be served as a thick, hearty soup, as a filling for tortillas or as a topping for baked potatoes.

INGREDIENTS

1 pound lentils, rinsed
5 cups water
1 can tomato sauce (15 oz.)
½ cup chopped onion
3 teaspoons chili powder
½ teaspoon salt (optional)
1 cup grated cheddar cheese

Makes 6–8 servings

DIRECTIONS

Combine lentils and water in a large pan. Place on the stove and bring to a boil. Turn the heat down, cover with a lid and simmer for 30 minutes. Add tomato sauce, onion, chili powder and salt. Simmer for 30 minutes more. Top each serving bowl with 2 tablespoons of grated cheddar cheese.

LESSON 2

THE "BUILD YOUR BODY" GROUPS – PROTEIN AND DAIRY

STUDENT WEEKLY WORKSHEET

Answer Key

NUTRITION IN A BOX

THE PROTEIN SCENE

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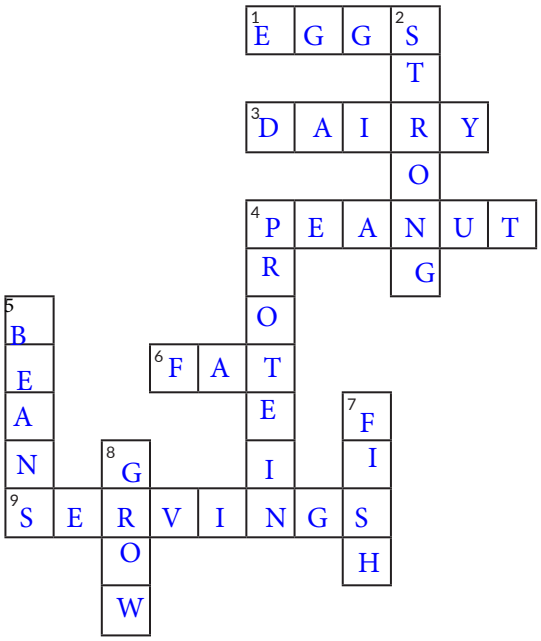

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