FUEL YOUR GAME DAY—EVERY DAY IS GAME DAY

ACTIVITY: PROTEIN ROUTINE

OVERVIEW

Ever wonder how much protein you need to eat every day? This activity will help you learn why protein is an essential fuel your body needs to maximize growth and performance potential. You'll get tips that will help you track your intake, show you how to boost the protein in your meals, and of course, how to include protein in your daily nutrition routine in fun, tasty, and healthy ways!

By the end of the activity, you'll have your very own Protein Routine!

TIME

2 to 3 class sessions
(45 minutes each)

INTRODUCTION

BUILD YOUR PROTEIN ROUTINE

As you continue to grow, your need for protein is increasing. Protein gives your body the building blocks to build muscles, bones, skin, hair, and more. Protein is one of the most important nutrients your body needs, especially while you're growing.

Here are some important facts to know:

- Protein is found in every single cell in your body, and it's constantly being used to build and repair your body.
- Your body doesn't store protein like it stores fat or carbs. That means you need to eat it every day!
- Protein helps your body repair tissues, build a strong immune system, and stay energized.
- Protein is essential for building muscles, strong bones, and overall health.
- Protein keeps your nails, skin, and hair healthy and strong.
- When you get hurt or sore, protein helps your body heal.
- Eating protein-rich foods helps you feel full longer, so you're not hungry right after eating

Now go get started on building your protein routine!

ACTIVITY: PROTEIN ROUTINE

PART ONE: PROTEIN BASICS

STEP 1: PROTEIN GUT CHECK

How much protein is in one of your favorite foods?

You can do this alone, in a small group, or with a partner: Pick one of your favorite foods and explore how much protein it has per serving. To do this, you can use the nutrition label (if there is one), or you can look it up online. Then, fill out the table below:

Food Name: _____

Protein per Serving: _____ grams

Consider and answer these questions:

- Is this more or less than you expected?
- Do you think it's a good source of protein?

STEP 2: PROTEIN DETECTIVES

Working in small groups, become a protein detective and build on the exploration of your favorite foods to discover even more about protein:

- Each student in your group should start by creating a list of their top 5 go-to protein foods for different meals (breakfast, lunch, dinner, snacks).
- Then, explore the below online resources to learn more about protein-rich foods. As you review, think about the top 5 foods you picked. Do you see them represented in these resources? Are there any interesting or surprising facts about protein that you come across?
  - USDA MyPlate shows which foods are considered "protein foods" and their suggested serving sizes.
  - USDA's Nutrition.gov Protein Resources page provides links to reputable government sources with information on protein.
  - Read How Much Protein Does a Serving of Milk Have? to learn about the benefits of dairy foods as sources of protein.

  - Compare the relative nutrition of a variety of milk alternatives with the What's In Your Glass? Comparison Chart.
  - High-protein foods: The best protein sources to include in a healthy diet provide an overview of protein and suggestions for protein-rich sources.
  - This USDA Protein Table lists the protein content of a variety of foods.
- When you're done with your online research and exploration, each student in your group can share at least one surprising protein fact that they learned. As you share with one another, write the facts on sticky notes.
- When your group is done, work with your teacher to create a "Protein Building Blocks" space on your classroom wall where each group can add their sticky notes! For example, your sticky notes might say things like this:
  - "Milk has 8g of protein per cup, while almond milk only has 1g."
  - "Sports drinks have 0g of protein."
  - "Greek yogurt has almost twice the protein of regular yogurt!"

STEP 3: COMPLETE VS. INCOMPLETE PROTEINS

Now that your detective work is done, it's time to learn more about what proteins are made of: They're made up of building blocks called amino acids. Your body needs 20 different amino acids to function properly! Out of those 20, 9 are called essential amino acids. They're called essential because your body cannot make them, and you must get them from food.

What is the difference between a complete protein and an incomplete protein:

- A complete protein contains all 9 essential amino acids in the right amounts your body needs.
- An incomplete protein is missing one or more of those 9 essential amino acids.

Here are some examples of complete proteins:

- Meat, poultry, and fish
- Eggs
- Dairy products (milk, Greek yogurt, cheese, cottage cheese)
- Soy foods (like tofu and edamame)
- Quinoa

Here are some examples of incomplete proteins:

- Beans
- Peas
- Nuts and seeds
- Whole grains
- Vegetables

But here's the cool part: you can still get all 9 essential amino acids from plant-based foods by pairing different foods together. These combinations are called complementary proteins.

Here are some examples of complementary protein pairs:

- Beans + Rice
- Peanut Butter + Whole Wheat Bread
- Hummus + Pita Bread

You don't need to eat complementary proteins within the same meal for them to count as complete pairs, but they should be consumed within the same day: This is why it is so important to eat a variety of protein sources every day!

You can also pair an incomplete protein with a complete protein to receive a more complete amino acid profile. You might be doing this intuitively every morning. Pouring milk into your whole grain cereal or Greek yogurt with homemade granola creates complementary protein pairs!

Here are some other complementary protein pairs using dairy:

- Cooked oats + Milk
- Whole wheat toast + Cheese
- Muesli + Greek yogurt

Protein Pairing Challenge

Can you think of any favorite meals that already include complete protein combinations? Go ahead and practice what you learned by playing the **Complementary Protein Memory Game**

Once you've completed the game, you've mastered protein basics and can move on to Part Two: Building your Protein Routine!

PART TWO: BUILDING YOUR PROTEIN ROUTINE

STEP 1: TRACK YOUR PROTEIN

Start by thinking about what you ate yesterday. Then, fill out the ***My Daily Protein Tracker*** worksheet to record what you remember eating. Here are some tips and steps to follow:

- Use food labels or online sources to calculate the protein.
- Total your daily protein.
- Compare the amount to your daily target (Daily Reference Intake of: 34–52g).
- Think about how much protein you might need depending on your growth and activity level.

Bonus Option: Watch a video of an Olympic athletes' "What I Eat in a Day." Write down each food that she ate, estimate the portion size, and look up the grams of protein for the food. Finally, calculate her protein intake for the full day.

STEP 2: PUMP UP THE PROTEIN

Pick a low-protein recipe and give it a protein makeover!

Look at the recipes below. Each of the original recipes has been updated with a protein boost! Read through each of the boosted recipes to get ideas of how to add protein to some of your favorite foods. Use the ***Pump Up the Protein Recipe Rewrite*** worksheet to write a new version of one of your favorite recipes of your choice to increase the protein power!

RECIPE 1:

Oatmeal with Brown Sugar (Original)

- ½ cup rolled oats
- 1 cup water
- 1 tbsp brown sugar

Protein Boosted Version:

- ½ cup oats + 1 cup milk (8g)
- Add 2 tbsp Greek yogurt (6g)
- Top with 1 tbsp chia seeds (3g) + almond butter (4g)

Total: ~21g protein

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RECIPE 2:

Pasta with Marinara (Original)

- 1 cup pasta
- ½ cup tomato sauce

Protein Boosted Version:

- Use lentil or chickpea pasta (13g)
- Add 3 oz ground turkey or tofu (15g)
- Sprinkle 2 tbsp Parmesan cheese (3g)

Total: ~31g protein

RECIPE 3:

Fruit Smoothie (Original)

- 1 banana
- ½ cup frozen berries
- ½ cup juice

Protein Boosted Version:

- Add 1 cup Greek yogurt or ⅔ cup cottage cheese (16g)
- 1 tbsp peanut butter (4g)
- 1 tbsp flaxseed (3g)

Total: ~23g protein

RECIPE 3:

PB&J Sandwich (Original)

- 2 slices white bread
- 2 tbsp peanut butter
- 1 tbsp jelly

Protein Boosted Version:

- Use whole grain bread (8g)
- 2 additional tbsp peanut butter (8g)
- Serve with 1 cup milk (8g)

Total: ~24g protein

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STEP 3: PROTEIN PRESENTATION AND SHARING

Select from the options below to create a project that is designed to show what you've learned about protein.

Choose one of the following projects:

1. Design a ***Protein-Packed Recipe Card*** using the provided worksheet.
   - Include ingredients, steps, and protein facts.
   - Illustrate it and combine with your classmates' recipes to create a recipe book.
2. Create a social media post using the ***Social Media Post Planner*** worksheet.
   - Design an Instagram story, TikTok script, or infographic.
   - Share a protein-packed snack or meal idea.
   - Add hashtags and fun facts!
3. Create your own project! Do you have an idea for something you can create to demonstrate your new knowledge and understanding of protein? Go for it! Just be sure to work with your teacher on your ideas for your project before you get started.

REFLECTION & CHALLENGE

The final step to building your protein routine is to reflect on all that you learned and consider the new information you now have about protein and the important role it plays in your daily nutrition. Work in a group to reflect and answer the following questions:

- "One new thing I learned about protein today is..."
- "One way I can add more protein to my routine is..."
- "A complete protein snack I want to try is..."
- "A creative recipe using Greek yogurt is..."

Now that you've built your Protein Routine, keep going: Work to increase and track your protein intake for the next 7 days, then, write a few sentences about what you noticed. For example, did you notice any positive changes in your energy or focus?

Congratulations on Building Your Protein Routine: Share What You've Learned with Others!

WORKSHEET: Complementary Protein Memory Game

This table shows how you can pair incomplete proteins to make complete proteins. Some foods, such as dairy products, meat, and eggs, are complete and contain all 9 essential amino acids. Many plant-based foods contain only some essential amino acids. Pairing certain foods with others will ensure that your meal contains all nine essential amino acids.

Legumes + Grains - OR - Nuts - OR - Seeds

Which foods are part of each category? Spend a few minutes researching which foods are considered legumes, grains, nuts, and seeds.

Memory Game Instructions:

1. Form a group of 3-5 players.
2. Designate one player as the judge. This player will only observe the game.
3. Cut out each of the food cards.
4. Shuffle the cards.
5. Place the cards face down on a table.
6. The first player turns over two cards in succession. The goal is to match two incomplete protein cards that create a complete protein (complementary proteins).
7. If the player thinks the two cards are not complementary, they will turn the cards back over, and their turn is over. If the player thinks they have a match of complementary proteins, the judge will determine if they are correct. If they are complementary, the player keeps the cards. If the judge determines that the cards are not complementary proteins, the player's turn ends, and they lose their next turn.
8. The deck also contains some **complete** protein foods. If a player turns over a complete protein card and correctly identifies it as such, the player can keep the card. If the judge determines that the player is incorrect, the player's turn is over and they lose their next turn.
9. Play continues until all cards have been collected.
10. The player with the most cards wins!

Post-Game Reflection Question:

- Why is it important to eat a variety of proteins each day?

WORKSHEET: Complementary Protein Memory Game

Black-eyed peas	Peanut butter	Rye bread	Kidney beans
Milk	Lentils	Greek yogurt	Bulgur
Brown rice	Corn	Sesame seeds	Oatmeal
Green Peas	Ground turkey	Garbanzos	Navy beans
Pistachio	Black beans	Flax sprouts	Cashews
Pumpkin seeds	Coconut	Soybeans	Split peas
Eggs	Lima beans	Pinto beans	Chedder

WORKSHEET: My Daily Protein Tracker

Instructions: Write down what you ate yesterday (or today so far). Use food labels or online resources to estimate the protein in each item. Add up your total protein for the day and compare it to the Institute of Medicine's recommendation (34-52g/day for ages 9-18). You should be on the higher end of the range if you are growing, taller, have more muscle mass, and/or have higher activity each day.

How active am I? ❑ Low Activity ❑ Moderate Activity ❑ High Activity

Am I still growing? ❑ Yes ❑ No

My protein target is _____ grams of protein daily.

Meal/Snack	What I Ate	Protein (g)	Dairy? (Yes/No)
Breakfast			
Morning Snack			
Lunch			
Afternoon Snack			
Dinner			
Total Protein			

Reflection Questions:

- Did I meet the daily recommended amount? _____
- One way I can add more protein to my day is: _____

_____

_____

WORKSHEET: Pump Up the Protein Recipe Rewrite

Instructions: Choose a recipe of your choice that you find in a cookbook or online. Rewrite the recipe by adding or swapping ingredients to increase the protein content. Use your knowledge of high-protein foods!

Original Recipe Name: _____

New High-Protein Recipe Title: _____

Ingredients:

-
-
-
-

Instructions:

1.

2.

3.

4.

5.

Estimated Total Protein in New Recipe: _____ grams

WORKSHEET: Protein-Packed Recipe Card

Instructions: Create a fun, colorful recipe card to share your high-protein meal or snack idea. Include a title, ingredients, steps, and the estimated protein per serving. Add drawings, tips, or slogans if you'd like!

Recipe Title: _____

Ingredients:

-
-
-
-

Instructions:

1.
2.
3.
4.
5.

Estimated Protein per Serving: _____ grams

Why is this a good source of protein?

WORKSHEET: Social Media Post Planner

Instructions: Create a social media post (Instagram, TikTok, or infographic-style) that encourages others to add more protein to their meals.

Post Format (circle one): Instagram TikTok Infographic

Topic or Tip: _____

Post Caption or Script: _____

_____

_____

_____

_____

Hashtags: _____

Sketch your post layout below *(Draw or describe layout below):*