

PERFORMANCE

PACK

Student Lesson Kit



**AMERICAN DAIRY
ASSOCIATION INDIANA INC.™**

WinnersDrinkMilk.com

WHAT IT TAKES TO BE THE BEST

Training

Training is just one part of what it takes to be the best. It's also important to understand how what we eat impacts our results. Fueling our bodies with the most nutritious foods will give us the energy and stamina to put in the work, the strength and power to perform and will support both our mental and physical health.

The Performance Pack: Student Lesson Kit is designed to enhance your knowledge of nutrition principles through nine simple activity sessions your coach or teacher will do with you and your team.

Sessions will discuss performance factors like:

- Hydration
- Meal timing
- Macro and micronutrients

Then you will apply that knowledge to build your own meal and snack plans.

Before Beginning

Before beginning, please download the following resource from the American Dairy Association Indiana Inc. website: "A Coach's Guide to Nutrition" by following this link: winnersdrinkmilk.com/schools/food-service-directors



PERFORMANCE STARTS WITH YOU

Respecting the Performer Within

True performance is not what the spectators see, it is how we embrace the inner champion. Each game, performance, competition, and practice pushes you to become better at your skill. The same goes for the person inside.

Before we begin to talk about nutrition, we need to evaluate ourselves individually. We're all different, coming together as a team. Each person brings something to the team to make it functional. Let's take time to focus on how you see you.

Reflect and answer the following questions below. This is for you - not anyone else.

1. What does my body do for me?
2. What do I love about my body?
3. What's unique about me?
4. What can I do to help my body stay strong and healthy?

If you have ever envisioned yourself scoring the winning point or hitting the note during a solo, then you know the importance of positive self-talk. Here are some examples of positive statements to have in your back pocket:

- "I feed my body healthy, nourishing food and give it healthy, nourishing exercise because it deserves to be taken care of."
- "When I compare myself to others, I destroy myself. I don't want to destroy myself so I'll just continue on my journey, not worrying about other people's journeys."
- "As long as I am good, kind and hold myself with integrity, it doesn't matter what other people think of me."
- "Just because someone looks perfect on the outside, doesn't mean they have a perfect life. No one has a perfect life, we all struggle. That's just what being human is."

You can use any of the phrases above or from page 51 in "A Coach's Guide to Nutrition," but you know yourself best.

Create a positive self-talk statement to use.

MACROS: CARBS IN ACTION

Carbohydrates

Carbohydrates, or carbs (for short), come from a variety of sources and provide the vitamins and minerals we need for daily activities.

To make sure we are getting enough carbs throughout the day, let's calculate the amount of carbs needed for competition and normal days. These calculations should be used as a guideline - not the final say.

Instructions: Determine your Activity Intensity or Type of Activity (column 1). Using the corresponding Recommended Carbohydrates (column 2), multiply your body weight by the number in column 2 to determine how many grams of carbohydrate you need. This will give you a general range needed, depending on what your activity levels are for the day.

ACTIVITY INTENSITY	RECOMMENDED CARBOHYDRATES (grams/pound)	YOUR TOTAL (grams)
Very light intensity program	1.4 - 2.3	
Moderate intensity training (60 minutes/day)	2.3 - 3.2	
Moderate to high intensity (1-3 hours/day)	2.7 - 4.5	
Moderate to high intensity (4-5 hours/day)	3.6 - 5.5	

Now that we have a range of how many carbs we need for each day, let's plan one day's worth of carbs for each day. Here are some examples of carbs in items.



WHOLE GRAIN PASTA
(½ cup)
18g



WHOLE GRAIN BREAD
(1 slice)
22g



BROWN RICE
(½ cup)
17g



OATMEAL
(½ cup, cooked)
12g



BROCCOLI
(1 cup)
6g



SWEET POTATO
(1 cup, or 1 large)
27g



RED BELL PEPPER
(1 cup, sliced)
9g



PEAS
(1 cup)
21g



CARROTS
(1 cup)
11g



APPLE
(1 cup, or 1 small)
15g



BANANA
(1 cup sliced, or 1 large)
51g



STRAWBERRIES
(1 cup)
13g



ORANGE
(1 cup, or 1 large)
18g



GRAPES
(1 cup)
16g



PEAR
(1 cup, or 1 medium)
27g



MILK
(1 cup)
12g



VANILLA GREEK YOGURT
(1 cup)
22g

DID YOU KNOW?

Did you know all of these food examples are considered carbs?
Before today, what did you consider a carb?

MACROS: CARBS IN ACTION CONT.

MEAL	COMPETITION DAY	NORMAL DAY
Breakfast		
Lunch		
Dinner		
Snack		

The estimated need for carbs throughout the day for me is _____ grams.

TEAM QUESTION

What are dietary fibers and added sugars?

On the Nutrition Facts Panel, these two terms are listed underneath the total carbohydrate amount. Dietary fiber refers to the carbs that are not digestible to the body. Fruits, vegetables, whole grains, and legumes contain dietary fiber. This is beneficial for your long-term health. Added sugars are simple carbs that are easily digested. Think of white sugar used in baking or coffee. While they can provide you with quick energy, they will not provide many of nutritional benefits.

MACROS: PROTEIN IN ACTION

Protein

Proteins are the building blocks for muscles. To help us know how much protein we should consume in our diets, let's calculate a range based on the activity intensity.

Determine your Activity Intensity or Type of Activity (column 1). Using the corresponding Recommended Protein (column 2), multiply your body weight by the number in column 2 to determine how many grams of protein you need. This will give you a general range needed, depending on what your activity levels are for the day.

TYPE OF ACTIVITY	RECOMMENDED PROTEIN (grams/pound)	YOUR TOTAL (grams)
Endurance Athletes	0.55 - 0.66	
Strength/Resistance Athletes	0.73 - 0.77	

The estimated need for protein throughout the day for me is _____ grams.

Now let's build a day's menu based on the protein range you need. Use the chart below as an idea generator.



FISH (tuna, salmon; 3 ounces)
19g



CHICKEN (3 ounces)
23g



HAMBURGER (90% lean; 4 ounces)
22g



BEANS (1/2 cup)
20g



MILK (1 cup)
8g



CHEESE (1 ounce)
7g



GREEK YOGURT (3/4 cup)
16g



EGGS (1 egg)
6g



TOFU (1/2 cup)
10g



PEANUT BUTTER (2 tablespoons)
8g

MACROS: PROTEIN IN ACTION CONT.

MEALS	PROTEIN ITEMS
Breakfast	
Lunch	
Dinner	
Snack	

PERFORMANCE TIP

During a meal, a serving size of protein would take up approximately a fourth of your plate, or a serving size about a deck of cards.

MACROS: PROTEIN IN ACTION CONT.

Vegetarian Diets

Review pages 46 and 47 “A Coach’s Guide to Nutrition” to have a better understanding of the vegetarian diets.

Because vegetarian diets may exclude certain food groups, it’s important to monitor intake for vitamins and minerals and be sure to eat appropriate amounts to fulfill daily needs. Nutrients like iron, omega-3, calcium, Vitamins D and B12, although easily found in animal foods, may be more difficult to find in plant sources or may require you to eat larger amounts of them to meet your needs.

Using the protein needs range from above, let’s plan protein sources for the following meals based on lacto and lacto-ovo vegetarian eating types. As you enter each protein source (use protein examples as a reference), search what nutrients are in each protein source.

Our goal is to provide these vegetarian eating habits with variety too, so try to not use the same protein source throughout the day. Once you find them, list out the missing nutrients (in the last column) that other protein sources have, such as iron, omega-3, calcium, and vitamins D and B12.

MEALS	LACTO-VEGETARIAN	LACTO-OVO VEGETARIAN	NUTRIENTS MISSING
Breakfast			
Lunch			
Dinner			
Snack			

That was hard! Especially identifying different protein sources throughout the day. The important note here is that vegetarian diets can provide enough protein needs, but these types of diets require planning and assistance from a Registered Dietitian Nutritionist (RDN) to ensure they don’t impair performance.

MACROS: PROTEIN IN ACTION CONT.

Bulking Up

It's common to hear peers talking about "bulking up" and the pressure culture can place on this phrase. Contrary to cultural views, a diet based on healthy habits utilizing Macros to MyPlate can help facilitate weight loss or gain. The simple change to the plate doesn't relate to proportions but the quantity of food consumed. Therefore, if you are wanting to gain muscle, you should strive for an exercise based on weightlifting and resistance training while adding more healthy foods throughout the day.

Review page 53 "A Coach's Guide to Nutrition" to understand the idea of quantity of food.

Now, let's put this knowledge to practice referring from the menu you created earlier. What food items would you add to your current menu?

MEALS	FOOD ITEMS TO ADD
Breakfast	
Lunch	
Dinner	
Snack	

TEAM QUESTION

Should I add protein powder/shakes in my day?

Performers like yourself do not need a protein powder or shake to consume more protein. All the needed protein can be consumed through food alone, which provides a higher variety of vitamins and minerals than shakes and powders.

MACROS: FAT IN ACTION

Fat

Fats get a bad rap. Consuming fat doesn't mean you are going to be fat. You can gain an excess of weight by over consuming any macronutrient type. A performer at your age needs fat to grow and absorb needed nutrients.

Review the sources of fat found on page 15 of "A Coach's Guide to Nutrition."

Now, let's break down the different types of fat.

Types of Fat

Trans Fats - human made/solid at room temperature, found in fried foods, cookies, etc.

Saturated Fats - solid at room temperature, white portions on a steak, or butter.

Unsaturated Fats - liquid at room temperature, like olive oil

Monounsaturated Fats - avocado, canola oil, almonds

Polyunsaturated Fats - sunflower seeds or oil, flaxseed oil

- **Essential Fatty Acids** - humans do not produce these but must consume them from the diet
 - **Omega-3** - promotes heart health, found in salmon, walnuts
 - **Omega-6** - olive oil, pecans

Consuming healthy, unsaturated fats more frequently will help you to absorb needed nutrients while also obtaining heart health properties.



OCCASSIONALLY

MODERATION

GO FOR IT

MACROS: FAT IN ACTION CONT.

Test Your Knowledge

Now that you are an expert at categorizing fat, let's put your knowledge to the test. Of the following items below, indicate what type of fat they are. If you aren't familiar with the fat source, simply look it up.



Steak: _____



Sunflower Oil: _____



Walnuts: _____



Olive Oil: _____



Crisco/Lard: _____



Avocado: _____

MACROS: FAT IN ACTION CONT.



Almonds: _____



French Fries : _____

The food we consume impacts our performance. Because we have discussed each macronutrient, let's take a deeper dive into our own eating habits. This lesson isn't to be shared with anyone else as we are simply identifying eating patterns. This practice is called a food recall.



MACROS: FAT IN ACTION CONT.

My Food Recall

Over the weekend through Monday, write down everything you consume, whether it is a drink or food. When you write down the food item, it is beneficial to write down how much of that item you consumed. For example, snacking on almonds you could write down 8 almonds; drinking water you could write 1 bottle of water; or eating grilled chicken you could write 4 chicken tenders or a chicken breast the size of a fist.

DAY	FOOD ITEM	PORTION SIZE
Saturday		
Sunday		
Monday		

TEAM QUESTION

Are fats actually good for me?

Yes! Fat provides energy to your body along with essential fatty acids and vitamin E. Additionally, consuming fat allows you to absorb vitamins A, E, D, and K.

NUTRITION FACTS PANEL

Putting Knowledge to Action

Now that you are professional at breaking down the Nutrition Facts Panel, let's put our knowledge to the test. From our lesson today, let's compare the Nutrition Facts Panels below to see how they match up with our MyPlate goals.

Let's identify what is missing from a meal. Using the handout, write down macronutrients that need to be added to create a Performance Plate.

HOW TO CREATE A MEAL

What is missing from the meal?



BREAKFAST

Two-egg omelet with sautéed spinach, tomatoes and cheese, sliced strawberries and a glass of milk



LUNCH

Hot ham and cheese sandwich with apple and chocolate milk



DINNER

Baked salmon with broccoli and brown rice, glass of milk.

NUTRITION FACTS PANEL CONT.

Regular Yogurt

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (53g)	
Amount per serving	
Calories	230
(% Daily Value*)	
Total Fat 5g	10%
Saturated Fat 1g	2%
Trans Fat 0g	
Cholesterol 5mg	0%
Sodium 100mg	2%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	14%
Total Sugars 15g	
Includes 10g Added Sugars	20%
Protein 10g	
Vitamin D 2mcg	10%
Calcium 240mg	30%
Iron 8mg	45%
Potassium 240mg	5%
*Percent Daily Values are based on a diet of other people's secrets.	

French Fries – Large

French Fries - Large		PRINT	CLOSE
Nutrition Facts		INGREDIENTS	
Per Serving	(177g)	French Fries: Potatoes, canola oil, hydrogenated soybean oil, safflower oil, natural flavour (vegetable source), dextrose, sodium acid pyrophosphate (maintain colour), citric acid (preservative), dimethylpolysiloxane (antifoaming agent) and cooked in vegetable oil (Canola oil, corn oil, soybean oil, hydrogenated soybean oil with TBHQ, citric acid and dimethylpolysiloxane).	
Amount	% Daily Value	Salt: Salt.	
Calories 560			
Fat 27 g	42%		
Saturated 3.5 g	19%		
+ Trans 0.3 g			
Cholesterol 0 mg			
Sodium 430 mg	18%		
Carbohydrate 74 g	25%		
Fibre 6 g	24%		
Sugars 0 g			
Protein 6 g			
Vitamin A 0%	Vitamin C 0%		
Calcium 2%	Iron 8%		

Granola Bar

Ingredients: Whole Grain Oats, Sugar, Canola Oil, Rice Flour, Honey, Salt, Brown Sugar Syrup, Baking Soda, Soy Lecithin, Natural Flavor.	
CONTAINS SOY; MAY CONTAIN PEANUT, ALMOND AND PECAN INGREDIENTS.	
Nutrition Facts	
Serving Size 2 bars (40g)	Amount Per Serving
Calories 180	Calories from Fat 60
Total Fat 7g	11% DV
Saturated Fat 1g	2% DV
Trans Fat 0g	
Cholesterol 5mg	10% DV
Sodium 180mg	4% DV
Total Carbohydrate 29g	10% DV
Dietary Fiber 2g	8% DV
Sugars 11g	
Protein 3g	6% DV
Not a significant source of Vitamin A, Vitamin C and calcium. Percent Daily Values (DV) are based on a diet of other people's secrets.	
*16g of whole grain per serving. At least 48g recommended daily.	

Of the Nutrition Facts Panels above, which one would you add to your meals?

At which meal would you consume this item?

Are there other foods you would add to make this a Performance Plate?

HYDRATION

Strong Performance

The key to a strong performer is hydration. The goal is to never feel thirsty throughout the day by drinking plenty of fluids (before you start to feel thirsty). Not all fluids are created equal. Some fluids will drain your energy while other fluids, like milk, provide essential nutrients to your body. To start off, let's calculate how many ounces of water you should drink daily.

_____ pounds (weight) divided by 2 = _____ ounces of water daily

Some days our lives are so busy that it is difficult to drink plenty of water. When we get in this tight spot, what are signs to show us we are dehydrated? Besides feeling thirsty, the best way to know if you are dehydrated is to look at the color of your urine.

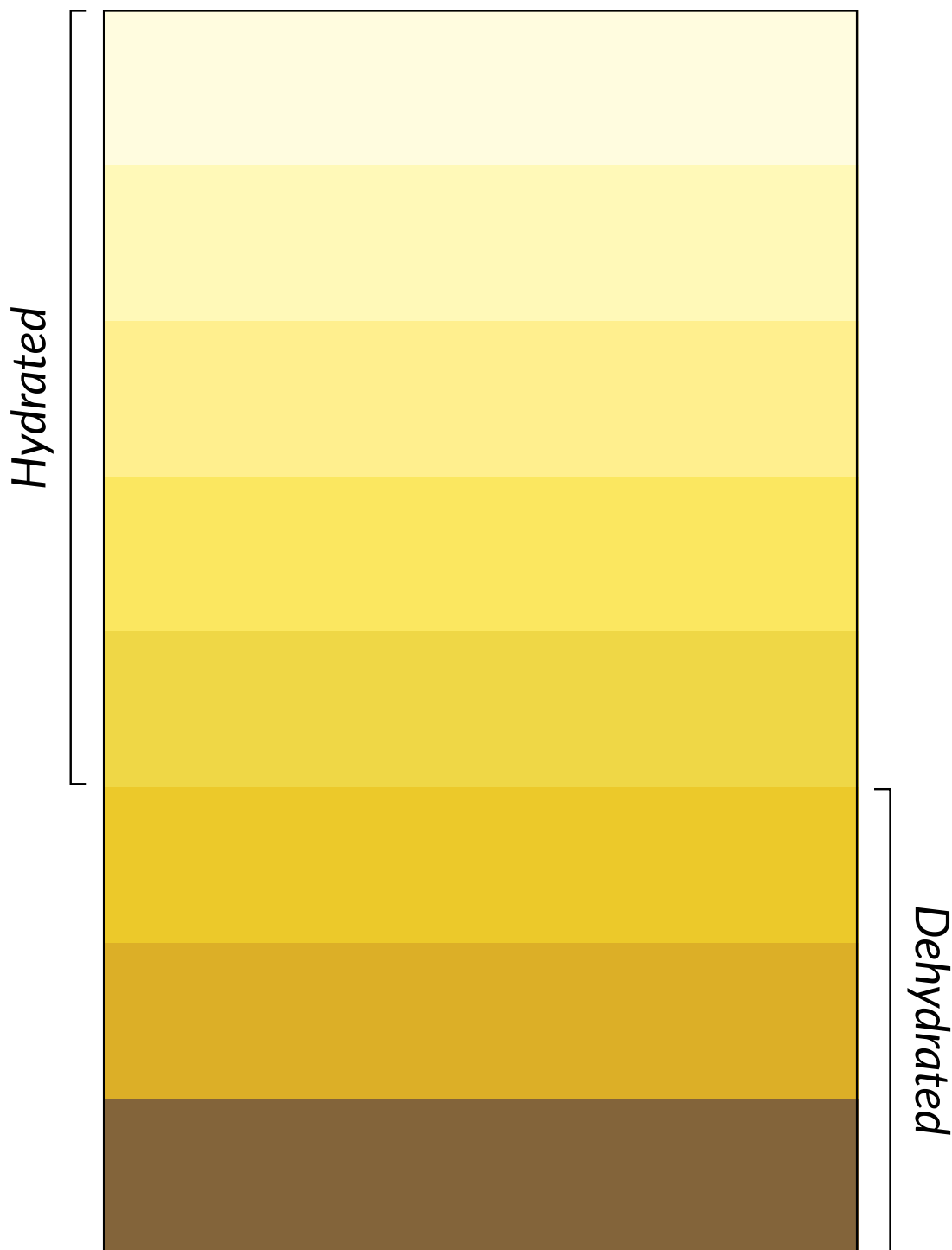


DID YOU KNOW?

Did you know? Milk is more hydrating than water because milk provides you with needed essential nutrients to stay active.

Looking at this chart, your urine's color needs to be closer to lemonade (light color) than apple juice (dark color) to signify you are well hydrated. More advanced dehydration warning signs are cramping, nausea, dizziness, and confusion.

Urine Hydration Chart



HYDRATION CONT.

Staying Hydrated

To keep you from dehydration, drink water throughout the day along with milk during mealtimes. Before practice starts (about 30 minutes), consume approximately one bottle of water. Because you are preparing yourself for practice, don't over drink water to where you can feel it moving around in your stomach. During competition, drink two or three gulps of water every 15 minutes to keep you hydrated (one gulp is about one-ounce).

Based on how long your practices are, complete the following to identify when you should drink water.

Practice Begins:

Length of Practice:

How many times should you drink two-three gulps of water during practice?

_____ length of practice (in minutes) / 15 minutes = _____ times to drink water

At the end of practice or competition, the optimal time to rehydrate is within the 30 minutes after the activity. This is the best time to consume chocolate milk because it provides essential nutrients and electrolytes to your tired body.

TEAM QUESTION

Are sports drinks good for me to drink?

If you are practicing for more than 60 minutes, adding in four to six gulps of a sports drink can help replace lost electrolytes.

HYDRATION CONT.

Caffeine: Is it up to the hype?

Do you need a pick-me-up? Feeling tired? Many adults consume caffeine daily to complete their tasks. For performers, caffeine shouldn't be your go-to source to feel energized. The NCAA lists caffeine as a banned substance. Performers must complete drug tests to make sure they aren't over the caffeine threshold. Energy drinks and coffee should not be over-consumed by performers because excess caffeine can cause dehydration, increased heart rate, elevated blood pressure, feelings of anxiety, impact calcium metabolism, upset stomach and disrupted sleep.

For teens, the recommended caffeine intake is 100 mg or one eight-ounce cup of coffee.

Looking at the beverage options below, which one meets the recommended caffeine amount for teens to drink daily?



COFFEE (8 ounces)
96MG



BLACK TEA (8 ounces)
47MG



GREEN TEA (8 ounces)
28MG



COLA (8 ounces)
22MG



ENERGY SHOT (1 ounce)
215MG



ENERGY DRINK (8 ounces)
72mg or more

HYDRATION CONT.

What's in your drink?

As a performer, what we drink really makes the difference in our performance. Hydration is key to keep moving and competing. Currently, almond and other milk alternatives are all the rage, but when compared to cow's milk, they can't hold a candle to that nutrient profile. Check out the Nutrition Facts Panels below.

To test your electrolyte knowledge, which of the following drinks is the best to refuel lost electrolytes? Why?

Chocolate Almond Beverage

120
CALORIES

5 tsp
ADDED SUGARS

% Daily Value



Saturated Fat (g)	0%
Sodium (mg)	7%
Protein (g)	3%
Vitamin D (mcg)	10%
Calcium (mg)	35%
Iron (mg)	8%
Potassium (mg)	4%
Vitamin A (mcg)	15%
Vitamin C (mg)	10%
Vitamin E (mg)	45%
Thiamin (mg)	4%
Riboflavin (mg)	30%
Niacin equivalents (mg)	2%
Folate (mcg)	0%
Vitamin B ₁₂ (mcg)	130%
Phosphorous (mg)	4%

SPORTS DRINK



Calories
120

	% Daily Value
Protein	0%
Vitamin A	0%
Vitamin C	1%
Vitamin D	0%
Calcium	2%
Sugar 22 g	
<small>(Includes 5.3 tsp. added sugar)</small>	

Serving Size = 12 ounces

Available in Schools



Calories
140

1% LOW-FAT REDUCED SUGAR CHOCOLATE MILK

	% Daily Value
Protein	17%
Vitamin A	15%
Vitamin C	0%
Vitamin D	10%
Calcium	25%
Sugar 18 g	
<small>(Includes 2 tsp. added sugar)</small>	

Serving Size = 8 ounces

Available in Schools



Calories
100

1% LOW-FAT MILK

	% Daily Value
Protein	16%
Vitamin A	15%
Vitamin C	0%
Vitamin D	15%
Calcium	25%
Sugar 12 g	
<small>(no added sugar)</small>	

Serving Size = 8 ounces

ALLERGIES AND INTOLERANCES

Allergies

Everyone has their own food sensitivities, such as an upset stomach, but that doesn't mean an individual has an allergy. The first obstacle we must overcome here is that the food doesn't cause the allergy. A person who has a food allergy exhibits an immune system response when consuming (or being near) the food their body is allergic to. Once a person digests an allergic food, the body views this food as an enemy and works very hard to defend itself. Because of this fight, **people with food allergies have the following common reactions:**

- Shortness of breath
- Itchy
- Hives
- Wheezing
- Sneezing
- Vomiting
- Coughing
- Diarrhea
- Swollen lips, throat, tongue
- Upset Stomach

Of the reactions, the deadliest is anaphylactic shock, which will get worse the longer it isn't treated. Anaphylaxis can cause death so it is important to recognize the symptoms and get help. Here are common symptoms of anaphylaxis: lightheadedness, difficulty breathing, confusion, or loss of consciousness. If you know someone that has a severe allergy, make sure you know how to use an epi-pen or get them help.

Performers who have an allergy to food cannot eat the food item and sometimes aren't able to even smell or touch it. Another immune system reaction to food is celiac disease, which is an autoimmune disease where the body attacks itself upon ingesting gluten.

PERFORMANCE TIP

An epi-pen is an epinephrine injection to help an individual during an allergic reaction come out of the reaction. Epinephrine is a hormone, adrenaline, that regulates your breath, heartbeat, and other everyday functions.

ALLERGIES AND INTOLERANCES CONT.

Intolerances

Now let's discuss food intolerances. Unlike an allergy, food intolerances do not involve an immune system reaction. A person with a food intolerance may simply have an upset stomach after ingesting that food item. For example, a milk intolerance (commonly referred to as lactose intolerance) only means a physiological reaction occurs when drinking milk because the body doesn't have the enzyme, lactase, to break down the sugar in milk, lactose. People that experience lactose intolerance are still able to consume dairy foods like milk that is noted as lactose-free or foods that are lower in lactose, such as yogurt or cheese. There are many ways to overcome a food intolerance through over-the-counter medication or being mindful of how to consume the item.

Using your meal plan you created in "Macros: Protein in Action" lesson, create alternative meal items based on the food allergy or intolerance below.

	BREAKFAST	LUNCH	DINNER
Peanut Allergy			
Celiac Disease			
Milk Intolerance			

REFUEL: TIMING IS EVERYTHING

Consistent energy levels

To stay competition ready, performers must keep energy levels consistent. This would mean consuming enough calories throughout the day, about every three to four hours. As we have already learned, our meals need to have all three macronutrients. As a general rule of thumb, performers should consume three meals and three snacks per day.

While many classmates may not want to eat breakfast, this is an important meal to get your body up and moving. Breakfast literally means to break the long fast overnight by eating a well-balanced meal. School breakfast and lunch have been specifically tailored to meet students' needs.

What are some of your favorite breakfast food items?

Snacks 101

Usually when you hear someone snacking, there is a negative connotation to the meaning. For performers, snacks can aid in performance and recovery when planned appropriately.

Continuing our plan to eat every three or four hours means we should have one snack mid-morning, in the hour or two before a competition, and one within 30 minutes after a practice.

You may be asking yourself - what is a healthy snack? Healthy snacks include a carbohydrate and protein. Some examples are fruit smoothie, apple with peanut butter, or cheese with crackers. Because we may be traveling while eating our snacks, what are healthy snack options that can travel well?

Recovery

Studies have shown that consuming a healthy snack 30 minutes after exercise increases the performer's recovery process. For athletes, replacing glycogen stores in the muscles provides energy to the muscle to repair and grow. A recovery snack could also be in liquid form, such as chocolate milk, as this will get absorbed faster.

To continue the recovery process, consume a well-balanced meal two or three hours after exercise.

REFUEL: TIMING IS EVERYTHING CONT.

Put Your Meals to the Test

With the knowledge you have learned about macronutrients and your own food recall, let's plan a day's worth of meals/snacks. The meals can come from your food recall, school menus, or ideas from previous lessons. We will plan one day based on being at school and another day during the weekend. In this way, we can see how we need to adjust our eating habits.

Create a day's worth of meals/snacks below and identify when you would eat your snacks (based on practices or games).

	SCHOOL DAY	WEEKEND
Breakfast		
Lunch		
Dinner		
Snack		
Snack		
Snack		

What are the main differences on each menu? Did you calculate sleeping in on a weekend? Or if you have a weekend competition - which snack items pack easily?

Don't forget to drink water or milk!

MICRONUTRIENTS VS. SUPPLEMENTS

Micronutrients

During the course of these lessons, we have learned a lot about macronutrients and the important role they play in performers' nutrition. Micronutrients are just as important in everyday health. While micronutrients may not get the credit they deserve, proper micronutrient addition to our eating habits allows our heart to beat correctly and keeps us from having muscle spasms.

Micronutrients are the vitamins and minerals we consume—and yes, even water supplies us with micronutrients. Let's discuss some notable micronutrients:

	BENEFITS	WHICH FOODS PROVIDE THEM?	HOW MUCH SHOULD I HAVE?
Calcium	Strong bones	Dairy foods, salmon, soy products (like tofu)	1,300 milligrams (mg)
Potassium	Proper fluid balance, muscle health, absorbing nutrients	Vegetables, fruit	3,000 mg (males)
Sodium	Proper fluid balance, muscle health, nervous system	Table salt, most foods	2,300 mg (maximum to be consumed)
Iron	Body temperature regulation, circulatory system, immune health, Energy/focus	Beef, spinach, fortified foods, lentils	11 mg (males) 15 mg (females)
Vitamin D	Allows absorption of calcium, supports immune and mental health	Dairy foods, eggs, fish, sunlight (10 minutes)	15 micrograms (mcg) or 600 International Units (IU)
Vitamin A	Eyesight, night vision, growth, immune health	Dairy foods, orange/red vegetables (like carrots)	900 mcg RAE (retinol activity equivalent) (males) 700 mcg RAE (females)
Vitamin B12	Improve mood, brain health, circulatory health, support bone health, helps to make DNA, nerve system	Dairy foods, eggs, fish, meat, poultry	2.4 mcg

MICRONUTRIENTS VS. SUPPLEMENTS CONT.

Electrolytes

Back in the hydration section, we mentioned electrolytes. The importance of electrolytes for proper hydration is that they are used by the body for fluid balance. When you are sweating all day during a competition, your body is losing important minerals, like sodium.

Necessary Micronutrients

A well-balanced Performance Plate allows us to meet our daily needs of micronutrients. Most healthy teens can consume their needed micronutrients from food to follow healthy habits that positively impact performance. This allows for a wide variety and sustainable nutrients throughout the day. Adding milk, yogurt, and cheese to your meals can assist you in meeting these needs.

Supplements

Supplements are consumed by individuals who are not able to absorb enough of the micronutrients in their body. This means they are not able to break down and digest the needed amount of the micronutrient. Individuals with chronic illnesses are more prone to this and need to take supplements to meet their daily needs. Supplements should not be taken in place of a healthy meal. They are not a replacement for nutrients consumed through foods.



Look for the USP label to ensure supplements have been independently tested for quality.

Serving Size 2 gummies	
Servings Per Container 45	
Amount Per Serving	% Daily Value
Calories 25	
Cholesterol less than 5 mg	Less than 1%**
Total Carbohydrate 5 g	2%**
Sugars 4 g	
Vitamin A (as Retinol Acetate) 4000 IU	80%
Vitamin C (as Sodium Ascorbate) 60 mg	100%
Vitamin D ₃ (as Cholecalciferol) 1000 IU	100%
Vitamin E (as d-Alpha Tocopherol) 30 IU	100%
Niacin (as Nicotinamide) 100 mg	100%

Choose a multivitamin with up to 100% of the daily value of most of its ingredients.

Supplements, also referred to as dietary supplements, do not fall under the strict guidelines that regulate the Nutrition Facts Panels. Instead, manufacturers are responsible for ensuring the safety and purity of these products. After speaking with your medical doctor, and if you would be an individual that would need a supplement, make sure to purchase supplements with the “USP Verified” seal. The USP Verified seal ensures the product has been tested for quality and proper labeling. Most multivitamins should contain 100% or less of the daily value of each ingredient listed.

MICRONUTRIENTS VS. SUPPLEMENTS CONT.

Micronutrients in Action

Using the micronutrient information from the previous page, let's put our knowledge to the test. Based on the daily requirements for each micronutrients, complete the daily need for each micronutrient by adding in other sources (last column). The goal is to have a variety of food options throughout the day to meet your needs. To find the amounts of micronutrients in food items, remember to refer to the Nutrient Facts Panel. The Daily Value percentages give you a clue as to how much is needed. At the end of the day, we should have 100% of the micronutrient listed. The micronutrients are at the bottom and will be listed in percentages. If you need a refresher, refer to the "Nutrient Facts Panel" lesson.

For example, to consume 1,300 mg of calcium in the day: one half pint of chocolate milk provides 25% of the daily needs, which can be figured to 325 mg for that one serving. What else could you eat in the day to meet the daily requirements for calcium?

	FOODS CURRENTLY CONSUMED	FOOD SOURCES TO COMPLETE DAILY NEEDS
Calcium	1 half pint of low-fat chocolate milk (25% DV), 1 cup of greek yogurt (25% DV)	Dairy products, salmon, soy products (like tofu)
Potassium	1 small banana (12% DV), 6 ounces of low fat cottage cheese (8% DV)	Vegetables, Fruit
Sodium	1 string cheese (8% DV), 2 tbsp of peanut butter (2% DV), 10 whole grain crackers (10%)	Table salt, most foods
Iron	4 ounces of 92% lean ground beef (15% DV)	Beef, spinach, fortified foods, lentils
Vitamin D	1 half pint of skim milk (25% DV)	Dairy Products, eggs, fish, sunlight (10 minutes)
Vitamin A	1 half pint of skim milk (25% DV)	Dairy Products
Vitamin B12	1 cup of Honey Nut cereal dry (20% DV)	Orange/Red Vegetables (like carrots)