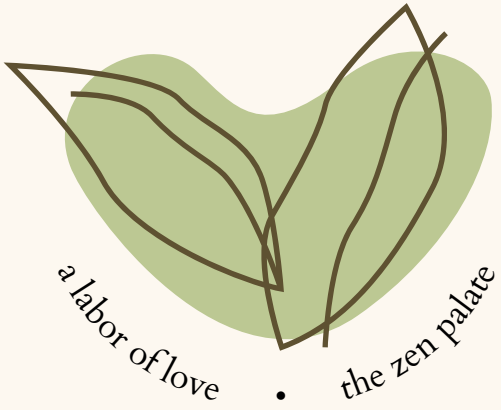
The *Nuanced Nutrition* Curriculum



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The *Nuanced Nutrition* Curriculum

An Educational Resource Written by Students, Dietitians, and Psychologists to Help You Become a Zestful, Empowered, and Nuanced Eater

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with Sara Leung, RD and Laura Machado, PsyD

original illustration by Shreya Pitre

This curriculum is dedicated to all the incredible mentors, teachers, educators, counselors, family, and friends who have nurtured our curiosity and seasoned our lives with their wisdom. Whether you sparked our love of learning, or shared a delicious meal, your presence in our lives cannot be overstated.

With heartfelt gratitude,
The Zen Palate

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The *Nuanced Nutrition* Curriculum

Introduction

The Nuanced Nutrition Curriculum is a free, educational resource written by high school students, dietitians, and psychologists to cultivate a culture of conscious, compassionate, and curious eating. The curriculum utilizes the language practiced by anti-diet health professionals to encourage students to do the same with the hope of reclaiming the power given to weight discriminatory jargon and morality terms. The versatility of the curriculum allows it to be a textbook or a guide, in classrooms and clubs, or as a leisure read. By educating students on the facts of nutrition and food sciences, the curriculum fosters connection and conversation about social dialogue and food beliefs which can lead to independent, informed, and empowered food choices. Our hope with this resource is to showcase the basics of nutrition through a non-diet lens while also acknowledging the insidious nature of diet culture and how it has endeavored to usurp nutrition information into restrictive and unrealistic categories.

While you read through the chapters, we want to acknowledge the privileges that we as the authors hold, as well as the privileges that are helpful and not often available to people wanting to make changes to their nutrition and lifestyle. If you recognize that you do not hold one or more of these privileges, please know this does not mean you cannot make meaningful changes to your nutrition and health.

- Regular and reliable transportation
- Mobility and being able-bodied
- Access to fresh produce
- Access to farmers' markets
- Time allocated to cooking
- Access to medical/health care
- Economic resources to make diverse food choices

As you make your way through the material, keep in mind that food is meant to be fun and enjoyable. The curiosity that is required for kids to learn about foods often leads them to play with their food. However, outdated viewpoints have taught that kids should only eat and not play with their food. This is an inherent fallacy, for as we know, kids learn best through play. This is no different for teens or adults. While we're not suggesting you make a mess with food, we are encouraging an approach to learning about food with the same wholesome curiosity you may have had when you tried ice cream for the first time. It may seem silly or unnecessary, but *The Nuanced Nutrition Curriculum* was born out of necessity as a result of decades of nutrition textbooks and other material that have been riddled with weight stigma, fat phobia, and the entire rainbow of diet culture since the 1900's! We at The Zen Palate believe this information will allow individuals to make authentic, sustainable, and morality-free choices about their nutrition and will establish a language around food that is inclusive, compassionate, and curious.

chapter 1

The Human Digestive System

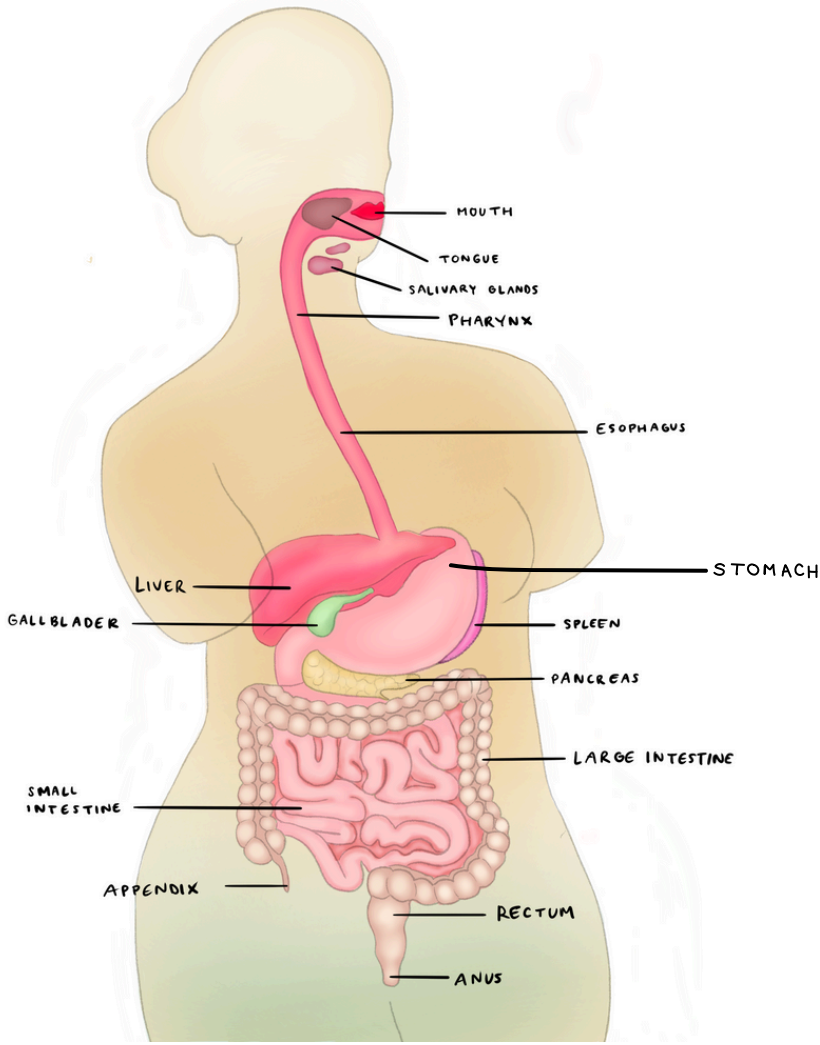

Figure 1.1 The components of the human digestive system

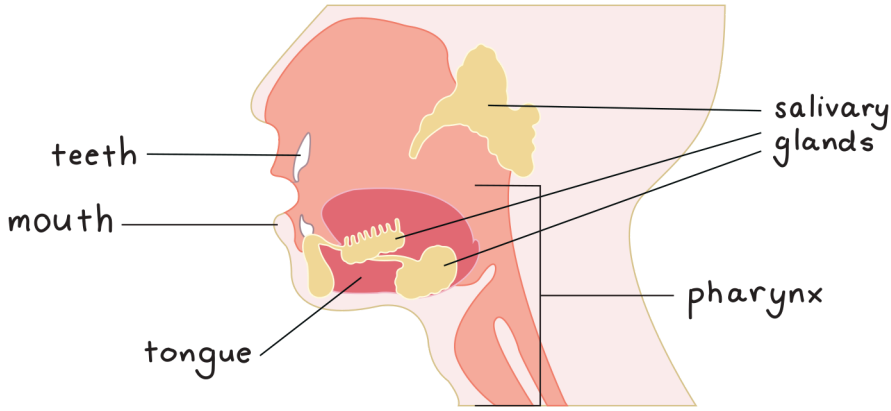

Figure 1.2 Parts of the Mouth & Pharynx

- Digestion begins in the **mouth**, an oval-shaped cavity inside the skull. When food is broken down through chewing, the salivary glands produce saliva. Saliva helps break down the starches in the food.

- **Teeth** break down food for swallowing and further digestion. The incisors, located in the middle front of the lower and upper jaws, cut and gnaw pieces of food. The molars, in the back of the mouth, grind and chew.

- Running from the hyoid bone in the middle of your neck to the floor of the mouth, the **tongue** moves food around the mouth to help the process of chewing and swallowing.

- The **pharynx** is a muscular funnel that helps breathing and directs food and liquid to the digestive system. It helps get air into the lungs and sends food and fluid to the stomach. It also ensures particles of food and liquid don't travel to the trachea and lungs.

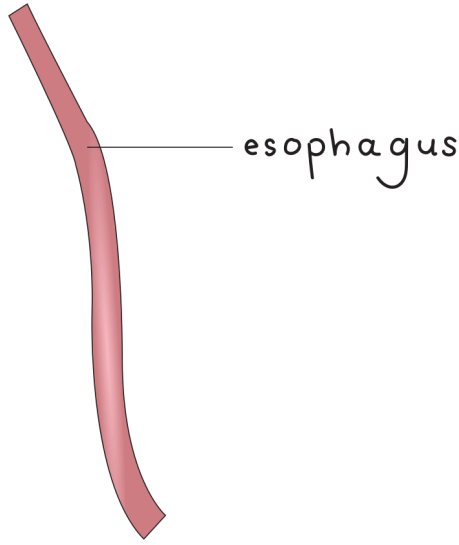

Figure 1.3 Esophagus

- The **esophagus** is a muscular tube that connects the pharynx (throat) to the stomach. The esophagus contracts as it moves food into the stomach. A "valve" called the lower esophageal sphincter (LES) is located just before the opening to the stomach. This valve opens to let food pass into the stomach from the esophagus, and it prevents food from moving back up into the esophagus from the stomach (University of Michigan Health, 2019).

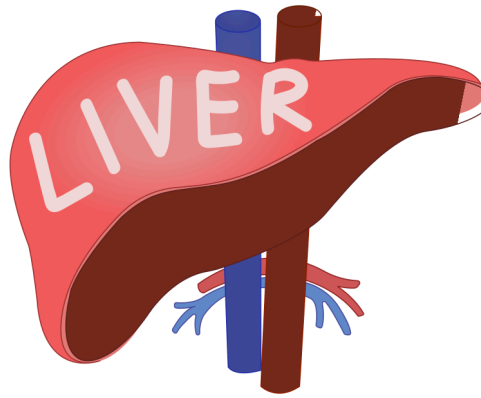

Figure 1.4 Liver

- The **liver's** two main responsibilities in the process of digestion are to make and secrete bile and to process and purify the blood containing newly absorbed nutrients that are coming from the small intestine. Bile has two main purposes- to help absorb fats and to carry waste from the liver that cannot go through the kidneys (University of Michigan Health, 2019).

Zestful Dialogue: People often believe that we need to embark on cleanses, detoxes or other ways to "clean out" our digestive system. Often times this comes from the misguided belief that the food we eat stays in our bodies and turns into toxins that we need to remove. While it is true that during digestion, food waste is produced, the good news is that we already have two organs to detox our bodies for us. Our kidneys do a great job of removing waste products, excess substances, and toxins, which are excreted as urine. Our liver breaks down toxins and other waste products that cannot be filtered through the kidneys. That waste is excreted as feces.

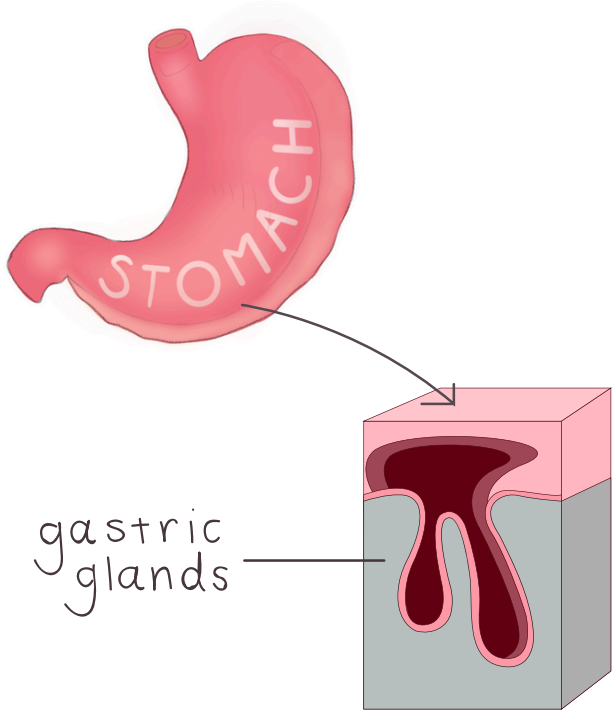

Figure 1.5 Stomach & Gastric glands

- An organ with strong muscular walls, the **stomach** holds the food and mixes it with acid and enzymes that continue to break the food down into a liquid or paste.

- **Gastric glands** produce digestive substances and mucus secreted by the stomach to aid in digestion.

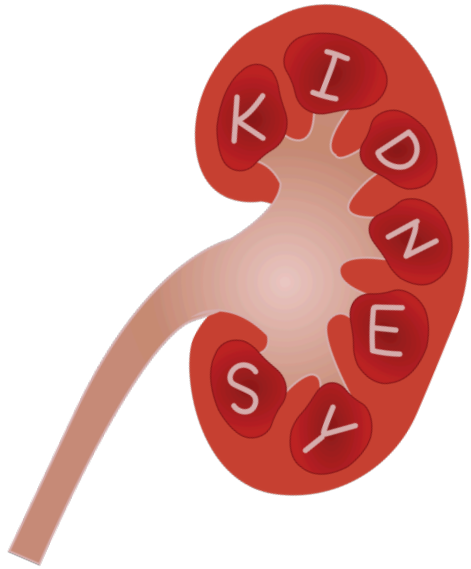

Figure 1.6 Kidney

- The **kidneys** remove waste and extra fluid from your body. They also remove acid that is produced by the cells of the body and maintain a healthy balance of water, salts, and minerals—such as sodium, calcium, phosphorus, and potassium—in your blood.

Zestful Dialogue: Adequate hydration is essential for good kidney health. In order to support all the functions of the kidney, individuals need to maintain adequate hydration. Chronic dehydration can lead to kidney stones, chronic kidney disease, increased UTI's, electrolyte imbalance, and much more. It's also good to note that all liquids are hydrating except for alcohol. This means you don't have to drink plain water in order to meet your hydration needs.

Figure 1.7 Pancreas

- Your **pancreas** is located behind your stomach and is attached to both your gallbladder and your small intestines. Among other functions, the pancreas aids in digestion by producing digestive enzymes and secreting them into the duodenum (the first segment of the small intestine). These enzymes break down protein, fats, and carbohydrates.

Figure 1.8 Small Intestine

- Almost 20 feet long, the **small intestine** is the workhorse of the digestive system. It will continue to break down food with enzymes released by the pancreas and bile released from the liver. It is made up of three segments, the duodenum, which continues the breakdown of food; and the jejunum and ileum, which are mainly responsible for the absorption of nutrients (University of Michigan Health, 2019).

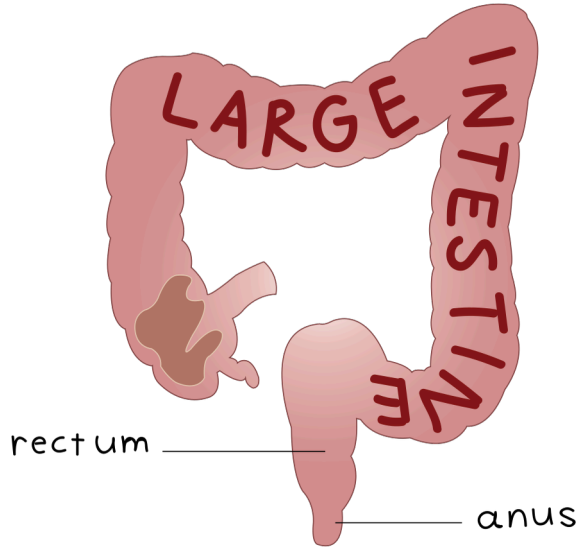

Figure 1.9 Large Intestine, Rectum, & Anus

- The **large intestine** is a 5 to 7-foot-long muscular tube that connects the small intestine to the rectum and is responsible for processing waste so that defecation is easy and convenient. It is made up of the ascending (right) colon, the transverse (across) colon, the descending (left) colon and the sigmoid colon, which connects to the rectum.

- An 8-inch chamber that connects the colon to the anus, the **rectum** receives stool from the colon, sends signals to the brain if there is stool to be evacuated, and holds stool until evacuation can happen.

- The last part of the digestive tract, the **anus**, consists of pelvic floor muscles and two anal sphincters (internal and external). Together their jobs are to detect rectal contents, whether they are liquid, gas, or solid and then control when stool should and shouldn't be excreted from your body.

chapter 2

Energy Expenditure

Zestful Dialogue:

When we think about calories and how we discuss those numbers, the assumption is often to find out how to not go over your caloric requirements. Subjective opinions drive the numbers conversation. So it's important to ask yourself: ***Do these numbers help me? Or make my food choices more complicated?*** Given the way calories and body size are linked in diet culture, it stands to reason the value in understanding calories is in an effort to not gain weight. However, that's not often how it's delivered, rather the discussion is around how to be "healthy." We put "healthy" in quotations to highlight the notion that the word health has become usurped by the diet and wellness industry as a trojan horse to continue to fat shame, body shame, and by extension, food shame individuals into compliance with diet rules. If we stick to the science of it all, calories are a piece of information about a food, not a judgment on that food or on you as the consumer of that food.

Calories are the heat energy produced by burning a food in a **bomb calorimeter**. First, dehydrated food is inserted into the instrument and attached to ignition wires. Then the chamber is pumped full of oxygen, and at last, they light the whole thing on fire, letting it explode. The heat increase from the beginning to the explosion is measured and translated into how many calories that food is. This instrument is somewhat similar to our digestive system and our overall process of eating. As you can see in the image (to the right/left), there are subtle differences between our body and the calorimeter. For one, we don't light our body on fire and let it explode.

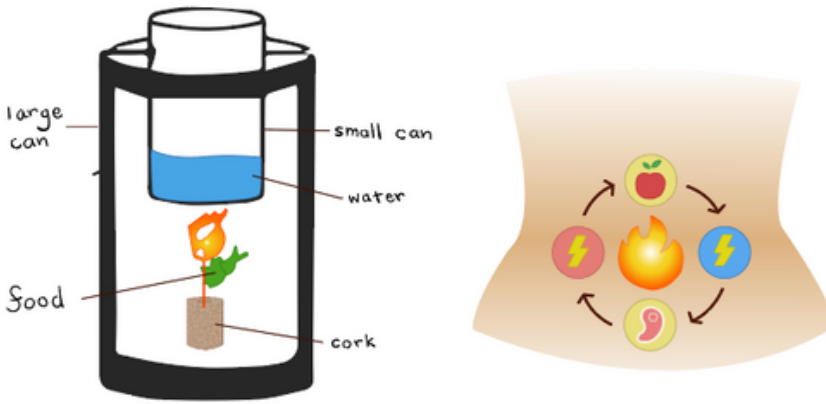

Figure 2.1 Bomb Calorimeter and the Human Body

The bomb calorimeter represents a body that eats in "perfect conditions," which means that external factors like genetics, age, activity levels, hormone levels, gender, and muscle-to-fat ratio have no impact on someone's metabolism. However, we are affected by these factors every day, and more importantly, they are integral to our internal digestive system. We can know how many calories are in a food, and what we do with that information either leads to a healthy or unhealthy relationship with food and our bodies. If your goal is to distance yourself from diet culture and cultivate authentic eating, one of the first things to consider is to ask yourself: ***"What is my relationship with calories? How do I feel when I hear something is 'higher in calories' or 'lower in calories?' Do I categorize foods as good or bad based on how many calories it has?"*** If so, you might want to challenge that thought process of how you categorize foods based on their caloric content.

Rewording by Sara

The following statements are some of the most frequent nutrition guidance provided. However, some of this information lacks the nuance that is necessary to navigate your personal nutritional needs. Through the Zestful Dialogue provided with each of the statements, we hope that you will be able to recognize the disparities between the tips or advice on the internet from a dietician's perspective and advocate for a more holistic approach for your needs.

Try to control when and where your child eats by providing regular daily meal times with social interaction and demonstration of healthy eating behaviors (Johns Hopkins Medicine, 2015).

"Eating at consistent times can be helpful in establishing a routine that will allow for regular hunger and fullness cues. You can ask yourself: Do I prefer to eat alone? While conversing with people? While listening to music? Your answers to these questions can help you create a positive eating environment."

Involve children in the selection and preparation of foods and teach them to make healthy choices by providing opportunities to select foods based on their nutritional value (Johns Hopkins Medicine, 2015).

"Involving yourself in the procurement and preparation of food will help to improve your relationship with food while also familiarizing yourself to any new foods or foods you might be nervous to try. A great way to do this is by asking to go grocery shopping with parents, visiting a farmers' market, and/or asking to help prepare dinner."

For children in general who eat a typical American diet, reported dietary intakes of the following are low enough to be of concern by the USDA: calcium, magnesium, potassium, and fiber. Select foods with these nutrients when possible (Johns Hopkins Medicine, 2015).

“Teenagers thrive on a variety of foods, including the ones that are higher in certain micronutrients, such as calcium, magnesium, potassium, and fiber. Foods such as milk/yogurt, peanut butter, bananas, and fortified foods such as tofu, and many cereals have a good amount of these micronutrients. ”

Most Americans need to reduce the amount of calories they consume. When it comes to weight control, calories do count. Controlling portion sizes and eating unprocessed foods helps limit calorie intake and increase nutrients. Parents are encouraged to provide recommended serving sizes for children (Johns Hopkins Medicine, 2015).

“Our health is a unique combination of our genetics, lifestyle, privileges and not something that can be overly simplified by focusing on calories. Instead, think about what foods you love and work to create meals that are balanced and filling. When we focus on abundance we are creating a healthy relationship with food, which is far more sustainable than hyper-focusing on calories. ”

Parents are encouraged to limit children’s video, television watching, and computer use to less than 2 hours daily and replace the sedentary activities with activities that require more movement (Johns Hopkins Medicine, 2015).

“At The Zen Palate, we fear we live in a culture that devalues and dismisses the importance of rest. While it is important to move your body, it’s also good and necessary to rest your body. Allowing permission to rest, whether it’s reading a book, playing a game, or watching a movie, keeps us connected to our body so we don’t experience burnout!”

Children and adolescents need at least 60 minutes of moderate to vigorous physical activity on most days for maintenance of good health and fitness and for healthy weight during growth (Johns Hopkins Medicine, 2015).
“According to the Office of Disease Prevention and Health Promotion, it is recommended that teens get an average of 60 minutes of active play per day. This can be in the form of playing sports, riding a bike, going for a swim, or simply taking a walk. The key here is consistency, it’s easier to stick with an activity that you actually like. Don’t keep trying to be a runner if you hate running. ”

To prevent dehydration, encourage children to drink fluid regularly during physical activity and drink several glasses of water or other fluid after the physical activity is completed (Johns Hopkins Medicine, 2015).
“Drinking water or non-caffeinated beverages throughout the day, and especially when being active, will help prevent dehydrations. Some signs of dehydration include headaches, feeling thirsty, feeling tired, dry mouth, or feeling lightheaded or dizzy. An easy way to know if you’re drinking enough is to check the color of your urine output. If it’s dark yellow, you might need to drink more, if it’s clear, you might be drinking too much! Aim for pale yellow!”

chapter 3

The Fundamentals of Nutrients

What are nutrients?

Nutrients are substances required by the body to perform basic functions. They are obtained from the foods we eat to provide our bodies with energy, contribute to our body structures, and regulate chemical processes in the body. Nutrients allow us to detect and respond to environmental surroundings, engage in physical activities, excrete waste, and more!

Zestful Dialogue: Have you ever heard someone say they're "counting macros?" Typically, this is brought up in the context of trying to "eat better" or lose weight. Scientifically speaking, macronutrients refers to the three main categories that foods fall into: Carbohydrates, Proteins, and Fats. While you will learn more about each of those groups, keep in mind that your beliefs about a food go far beyond the definition of their function. In the context of dieting, labeling a food group, or characteristics within a food group, as "good" or "bad" can quickly become a slippery slope. While reading through these sections, feel free to come back to these questions, as they will help to form a complex, nuanced and authentic relationship with food. ***What are my currently held beliefs about this food? Is my belief rooted in morality? Is this belief holding me back from being curious about this food? Can I challenge my currently held beliefs for ones that are less black and white***?

The Macronutrients

What are carbohydrates?

Carbohydrates are molecules composed of carbon, hydrogen, and oxygen and found in grains, dairy, fruits, and vegetables. There are two types of carbohydrates: simple and complex. Simple carbohydrates, also known as sugars, are made up of shorter chains of molecules and are therefore digested quickly. Complex carbohydrates are also known as polysaccharides, which are long chains of monosaccharide units. Since the longer chains take longer to break down, they are digested in the body more slowly than simple carbohydrates. Both simple and complex carbohydrates are turned to glucose (blood sugar) in the body and are used as energy.

Zestful Dialogue: There are so many misconceptions when it comes to carbohydrates and our bodies. For brevity's sake, our brains require glucose to function properly, carbs should make up 50% or more of your total nutrition, and the fiber we get from some carbohydrates is helpful in lowering cholesterol levels and supporting good digestion. In summation, carbohydrates are very necessary and should not be avoided!

What are proteins?

Proteins are molecules composed of amino acids. There are 20 amino acids necessary to build a protein, nine of which we must get from food. There are two types of proteins: complete and incomplete. Animal products such as meat, dairy, eggs, and seafood, provide complete protein (meaning they have all nine essential amino acids). Plant-sources of proteins, such as in nuts, beans, soy and other plant-based products, provide incomplete protein because they're missing one of the nine essential amino acids. The good news is that combining two different plant sources of protein makes it a complete protein!

Zestful Dialogue: The main misconception of protein is simply that more is better. This notion is touted by diet culture, weight loss programs, protein powders, and anyone who has something to sell. In reality, too much protein can lead to dehydration and kidney stones. Long-term overconsumption of protein can lead to kidney disease. As with all foods, there is a balance that is sustainable for both the health of the body and overall relationship with food.

What are lipids?

Lipids are a family of molecules composed of carbon, hydrogen, and oxygen. They play many important roles in the body, including: hormone production, energy storage, forming the structural component of cells, absorption of fat-soluble vitamins, and providing insulation and protection to our body's vital organs. The two types of dietary fats are saturated and unsaturated. Saturated fats are found mostly in animal products, such as meat and dairy, and also coconut oil. Unsaturated fats are found mostly in plant products, such as oils, avocado, nuts, seeds, and some fish.

Zestful Dialogue: Contrary to the myth that more protein is better, the opposite is true of the myth surrounding fats, which is "Stop, don't eat too much fat, it'll make you… fat!" While that statement is rife with fatphobia and simply untrue, it also grossly overlooks the vast benefits that dietary fats play in our bodies. While there will always be categories foods can be placed in, our aim at The Zen Palate is to challenge the notion that our relationship with food can or should be black and white. There may be foods that are high in saturated fat that are also delicious! Wouldn't it be great to be able to have them without feeling shame, guilt or regret?

The Micronutrients

(Vitamins and Minerals)

What are micronutrients?

While **micronutrients** (vitamins and minerals) do not provide the body with usable energy, they perform vital functions that help with enzyme production, boost the immune system, support normal growth and development, and help cells and organs do their jobs.

Zestful Dialogue: The main misconception related to micronutrients is that everyone should be taking a multivitamin. The reality is layered. First, it's important to know that no supplements, including multivitamins, are regulated by the FDA. Simply put, the supplements may in fact not have what they say they have. Second, a well-balanced diet often negates the need for a multivitamin. On the same token, an excess of micronutrient supplements does not negate the need for actual food.

What are vitamins?

Vitamins are a groups of organic compounds essential for normal growth and nutrition. Vitamins can be found in foods and different organic matters including the sun which provides Vitamin D or it can be found in supplements if the body has a deficiency. While it is always important to enrich your diet, talk to a dietician or your doctor about personalizing your needs.

What are minerals?

Minerals are solid inorganic substances that form crystals and are classified depending on how much of them we need. Trace minerals are only required in a few milligrams or less. Some are essential for enzyme function, others are used to maintain fluid balance, build bone tissue, synthesize hormones, transmit nerve impulses, contract and relax muscles, and protect against harmful chemicals.

What is water?

Water, H2O, plays many vital roles in our body. Here are the main ones: regulating body temperature, moistening tissues in the eyes, nose, and mouth, protecting body organs and tissues, carrying nutrients and oxygen to cells, lubricating joints, and lessening the burden on your kidneys and liver by helping to flush out waste products, and dissolving minerals and nutrients to make them accessible to your body.

Zestful Dialogue: The idea that we need to all be drinking at least 8 cups of water per day is simply too general to be appropriate for everyone. In truth, the amount of hydration one needs will vary depending on their activity if they're feeling ill, if they're taking certain medications, and other factors. The good news is that you don't need to drink plain water to meet your hydration needs. You get water from all beverages, including caffeinated ones, along with fruits and vegetables, especially watermelons and cucumbers.

What are electrolytes?

Electrolytes are minerals in your blood and other body fluids that affect many bodily functions, including the amount of water in your body, the acidity of your blood (pH), your nervous system, and muscle function. The main electrolytes to be aware of are calcium, chloride, magnesium, phosphate, potassium, and sodium.

Zestful Dialogue: The PR for electrolytes has been impressive as of late. The wellness industry, a 60+ billion-dollar-a-year industry, is heavily pushing electrolyte tablets, powders, drinks, etc., under the guise of more is better. On the contrary, most things have an upper limit, and the same goes for electrolytes. Too much sodium (hypernatremia) and too much potassium (hyperkalemia) can result from an overconsumption of electrolytes. Symptoms of overconsumption can range from nausea and weakness to cardiac arrest in severe cases.

Functions of Nutrients

Empowered Facts: Vitamins

- Vitamin A: Essential for vision, immune function, and cell growth.
- Vitamin B1 (Thiamine): Involved in energy metabolism and nerve function.
- Vitamin B2 (Riboflavin): Essential for energy production and healthy skin.
- Vitamin B3 (Niacin): Involved in energy metabolism and helps maintain healthy skin and nerves.
- Vitamin B6: Important for protein metabolism, brain development, and immune function.
- Vitamin B12: Essential for nerve function, blood cell production, and DNA synthesis.
- Folate: Crucial for cell growth and development, especially during pregnancy.
- Vitamin C: A powerful antioxidant that supports immune function and collagen production.
- Vitamin D: Essential for calcium absorption and bone health.
- Vitamin E: A potent antioxidant that protects cells from damage.
- Vitamin K: Important for blood clotting and bone health.

Empowered Facts: Minerals

- Calcium: Essential for building and maintaining strong bones and teeth.
- Phosphorus: Works with calcium to build strong bones and teeth.
- Potassium: Essential for maintaining fluid balance, nerve function, and muscle contraction.
- Sodium: Helps regulate fluid balance and nerve function.
- Magnesium: Involved in energy metabolism, muscle function, and nerve function.
- Iron: Essential for oxygen transport in the blood.
- Zinc: Involved in numerous enzyme reactions, immune function, and wound healing.
- Iodine: Essential for thyroid hormone production, which regulates metabolism.
- Selenium: An antioxidant that protects cells from damage.
- Copper: Involved in many enzyme reactions, including those involved in iron metabolism.
- Fluoride: Helps prevent tooth decay.

chapter 4

The Six Food Groups

Foreword by Laura

You're about to dive into the world of food groups. Sometimes, learning about food groups can be the beginning of a dangerous path toward disordered eating or eating disorders (more on the difference between those two categories later; kudos to my formerly cross-fitting husband, who thought we should eat like cave people). We hope the information presented here is nuanced enough that it does not harm but instead helps to create a sustainable, informed, and safe relationship with food. We just want you to be conscious as you read this section.

Our minds are always wanting to help, and sometimes they try to help in ways that actually end up hurting us. Maybe you have a corner of your mind that wants to lose weight or change your body composition. If so, stay aware of how that part of your mind may interpret any reading you do about nutrition. If you notice your mind coming up with ideas or rules for yourself to "lose weight," "tone up," "get healthier," or anything similar as you read this, that is a time to slow down and be cautious before following your mind's ideas.

Pause now and wonder: what do you think is the best way to eat? We all have some assumptions or preconceived ideas about the right way of eating. All sorts of sources and experiences lead us to form these assumptions. It could be how your family or peers eat or talk about food (your parents who think their "Meatless Monday" meals are the healthiest). It could be something you learned in health class ("Eat healthy by avoiding sugar"). It could be something an influencer or content creator shares ("High-Protein Meal Ideas to Boost Your Gains").

Ideas about how we should eat are so pervasive that we often can't pinpoint where they come from. These ideas just float in the air around us. Just like fish may not notice water, we may not notice assumptions and ideas about food that are all around us.

When we have a preconceived notion about the best way to eat as we read about nutrition, we are at risk of confirmation bias. Confirmation bias is the tendency to interpret information in such a way that it confirms our previously held beliefs. We minimize or discount information that doesn't support what we already believe and emphasize information that does. We don't want to do this.

We urge you instead to come to this chapter with a metaphorical empty plate or try to experience this chapter with a beginner's mind. Beginner's Mind is a term that originates in Buddhism; it means to come into situations without preconceived notions, with an attitude of openness and curiosity. Let your mind soak up the information about various food groups. If you can soak up this information without biases, you're setting the foundation for an eating style that works in favor of you.

Ultimately, accessing information without preconceived biases leads to a more authentic, enriched, and empowered food experience.

Empowered Facts: The Food Groups

There are six **food groups** that make up the food that we eat. Grains, vegetables, fruits, dairy, proteins, and fats are known for making up the traditional "balanced plate." In this chapter, we will explore the facts behind each food group as we define them and provide examples. Then, we'll explore the feelings that arise from the morality and beliefs assigned to each food group. Finally, we'll open up the space for you to do the following: feel more comfortable and confident in your understanding of the versatility of food, independently decide what a balanced plate looks like for you, and make empowered, nuanced food decisions for your life. Let's begin!

What are grains?

Grains, such as wheat, rice, oats, barley, and corn, are a vital component of a balanced diet. Whole grains, in particular, are high in fiber, B vitamins, and minerals. Fiber aids in digestion and helps regulate blood sugar levels. B vitamins are essential for energy metabolism and brain function. Whole grains also contain minerals like iron, magnesium, and selenium, which play various roles in the body. Whole grains retain the entire grain kernel, including the bran, germ, and endosperm. Examples of whole grains include whole wheat bread, brown rice, oatmeal, and whole-grain pasta. Refined grains have been milled to remove the bran and germ, leaving only the endosperm. This process removes much of the fiber and nutrients. Examples of refined grains include white bread, white rice, and white pasta. B vitamins and other essential nutrients are often added to refined grains to retain some of the benefits found in whole grains.

What are vegetables?

Vegetables provide a wide range of vitamins, minerals, and fiber. Dark green vegetables like spinach, kale, and broccoli are rich in vitamins A, C, and K, as well as folate and iron. Orange vegetables such as carrots, sweet potatoes, and pumpkin are excellent sources of vitamin A, essential for good vision and immune function. Legumes, including beans, peas, and lentils, are excellent sources of protein, fiber, and B vitamins.

What are fruits?

Fruits offer a wide array of vitamins, minerals, and fiber. Berries, citrus fruits, and tropical fruits are rich in vitamin C, which is a powerful antioxidant that supports immune function and collagen production. Other fruits, such as bananas and avocados, are good sources of potassium, a mineral essential for heart health and blood pressure regulation. Fruits also contain fiber, which aids in digestion and helps regulate blood sugar levels.

What is diary?

Dairy found in products such as milk, yogurt, and cheese, is an excellent source of calcium and vitamin D, which are essential for building and maintaining strong bones and teeth. It also provides protein in varying amounts, which is important for muscle growth and repair. Additionally, it contains potassium, which helps regulate blood pressure, and phosphorus, which works together with calcium to strengthen bones. Fermented dairy products, like yogurt, are rich in probiotics, which can promote gut health.

What is protein?

Since we covered proteins in the previous chapter, we want to clarify that **proteins** are macromolecules and are also considered a food group. Protein plays a crucial role in building and repairing tissues, producing enzymes and hormones, and supporting immune function. Animal-based protein sources, such as meat, poultry, fish, and eggs, are complete proteins, meaning they contain all nine essential amino acids. Plant-based protein sources, such as beans, lentils, tofu, tempeh, nuts, and seeds, are incomplete proteins, meaning they lack one or more essential amino acids. However, by combining different plant-based protein sources, you can obtain all the essential amino acids you need.

What are fats?

Similar to proteins, **fats** are also macromolecules and make up a food group. Fats can be divided into two main categories: saturated and unsaturated fats. Trans fats are also considered a category but are not as frequent as saturated and unsaturated. Saturated fats are found primarily in animal products like meat, butter, and cheese, as well as some plant-based sources like coconut oil and palm oil. Unsaturated fats, including monounsaturated and polyunsaturated fats, are found in sources like olive oil, avocados, nuts, fatty fish, flaxseed, and sunflower oil.

Extra Notes

What are sugars and sweets?

No, we're not trying to trick you. Yes, we know that **sugar** is not its category of food. We wanted, however, to address the not-so-subtle tricks that the diet and wellness industry uses to trick people into believing that sugar is on an island by itself. That it has no place in healthy eating. That it is indeed its very own devilish category. We will get more into this in our discussion, but for scientific purposes, we at The Zen Palate believe that sugar, which is a carbohydrate, is simply that. It's fast energy. It's not good, it's not bad. It's just fast energy.

What are sugar alcohols and ethyl alcohols?

No, we're not trying to trick you again. Yes, there is such a thing as **sugar alcohol**. No, it is not the alcohol you've heard of. Don't worry, we'll explain the difference.

First, sugar alcohols, also known as polyols, are a type of carbohydrate that is often used as a sugar substitute. Since they have a minimal impact on blood sugar levels, they are often found in products marketed to people with diabetes. Sugar alcohols are found naturally in some fruits and vegetables, and they are also produced commercially. Common sugar alcohols include erythritol, xylitol, sorbitol, and maltitol. Excessive consumption can lead to digestive issues like gas and bloating. Please note that sugar alcohols are not the same as artificial sweeteners. Products such as aspartame, sucralose, and stevia do not provide the body with energy.

Secondly, while we know the topic of alcoholic beverages is considered inappropriate for the primary age group of our readers, we wanted to acknowledge that **ethyl alcohol** found in these beverages is used in some recipes and some cultures for cooking. If you have more questions about the specifics of ethyl alcohol or want to know more information, you can reach out to us anytime through the contact page of our website.

The Balanced Plate

Krishna: It hung on the wall like a forgotten art project from 1st grade. In place of scribbled crayons and dried paint in the color of a dead cactus was an oddly shaped plate with compartments for five words that made no real difference to my life. And yet, it was called MyPlate. Unveiled in 2011 by Former First Lady Michelle Obama and Agriculture Secretary Tom Vilsack, the purpose of MyPlate was to provide nutrition guidelines to Americans in an easily digestible, visual format. However, the oversimplification of the food groups coupled with the stark, divisive ratios on the plate catalyzed the exact opposite outcome: no one cared about the government's advice on eating. When I first became interested in the study of nutrition, my exposure to the science was limited to a semester's worth of an eighth-grade Health class and, of course, the MyPlate poster that loomed over my lunch table like the monsters of my six-year-old imagination. It wasn't that I detested the poster at first sight- no, that would come later. It simply didn't sit right with me to hold that plate in such high esteem and give it the power to say that I wasn't good enough. I would learn after conversations with Sara that those feelings I experienced fall under the umbrella of food shame. Idolizing that plate and allowing its significance in my life would lead to my use of the poster as a rubric to grade my plate, my eating, and, therefore, myself. And yet, I still say that it made no difference to my life.

The truth is, one way or another, I would have found some measure of eating “healthy” or “balanced” or “in moderation” to compare myself to. The words that could contain a semblance of a positive connotation for most people would instead fuel my disordered eating. The word “carb” would still scare me. The thought of eating fats would still lead to a spiral of thoughts about eating gasp more fats. My life would still contain a chapter where even the science of food could perpetuate stigmas that I could internalize and surrender to.

It gives me hope to know that, at least now, I have the perspective to realize that facts and feelings can mutually coexist without comparison- that, like many social norms and rules, we have the power to subvert what is expected of us and start reflecting on what we expect. Unfortunately, MyPlate doesn’t have the capacity to facilitate such nuance. It fails to accurately reflect the versatility of the American people’s diets, including people who have food allergies, are given specific diet plans by a registered dietician or their healthcare provider, or do not have access to each of the six, yes SIX, food groups at once. For these reasons and many more, as you will see, I strongly attest the sentiment that MyPlate is not and will never be the standard of balanced eating we hold ourselves to. (Dear USDA, dietary fats are a food group. Please take your role in providing accessible and accurate nutrition guidance seriously since we do actually need fats to survive. Love, Krishna).

Diya: Every day is different, as such are the meals that we eat. I don't eat the same meals consistently or even the same proportion. My meals, most of the time, vary depending on the day. My family likes to have an outline of what to make the following week so no one gets stressed about what to make that day. Usually, on Mondays, it's curry with a side of rice. However, his meal doesn't pertain to what you "should have" on MyPlate. MyPlate is a visual representation of vegetables, dairy, protein, fruits, and grains. Now, curry and rice only check off three boxes, vegetables and protein with a side of carbohydrates, of course. Some days, when I get home late, I'll just have cereal- now that isn't considered healthy eating. It's one of those times when you just don't have time to make anything and whip out the box of cereal and milk for convenience. On Tuesdays, it's Mexican-style food. With the sour cream, cheese, beans, lettuce, tomatoes, and taco shell, you already have most of the important parts of the My Plate, along with Fats that are missing from the diagram. So, I guess you could say my family follows this structure sometimes, but we never pair up our meals with fruits. Fruits are something we usually have as a snack or breakfast. On Wednesdays and Thursdays, it's pretty much whatever because everyone is busy on those days. So, we would just pop something in the microwave and let it do its work. Is it healthy? Most likely not, but it fills up our stomachs, right? On Fridays, it's Italian food, and that is the best day. I love Italian food so much.

We like to add a variety of vegetables because it's not healthy to just be eating plain pasta. The point is that we might not get to check off all these necessary food groups in one meal because what if we have certain cravings like ice cream or burgers? I think the guidelines for the MyPlate don't account for allergies which makes it too complicated to follow. It's steering in the direction of the high-carbohydrate, low-fat diet, limiting certain foods that we would want to eat.

Shivani: The USDA published an infographic called MyPlate about how a meal should be structured. Scientifically, it may be the best way to eat, although it is not a truly attainable standard. In my experience, it does the opposite of its goal. Instead of encouraging "healthy eating," it creates a standard, a norm, an expectation. As a teenager myself, I have experienced the negative consequences of these expectations in society. When there is a bar to reach, and you don't reach it, your progress declines. I can't have a balanced plate for every meal. What if I am craving a full plate of pasta? Then, this idea of the balanced plate goes down the drain. But that is not what creates these negative consequences. The real consequence is the mentality that now that I have ruined one meal, where is the point in continuing? It's like saying I failed, and I am going to continue to fail. Once a mistake has been made, a fear of repeating that mistake is created, too. This plate is factually accurate, but is it emotionally intuitive? Instead of it being a standard to achieve, it should be a subtle suggestion. Instead of having straight, solid lines, there should be some freedom. While I do know that this plate isn't something that is forced, it is still something on my mind when I am eating a meal.

Teenagers are easily influenced, especially through social media and societal practices. For example, when an article of clothing becomes popular, everyone wants to purchase it. I can't lie, I always succumb to the temptation of it. What makes this plate any different? When trying to enforce this expectation, it becomes popular, therefore becoming a standard. If I don't follow it, does that mean I'm weird? Does that mean I am going to become unhealthy? In reality, I think it makes it mentally unhealthy. Teenagers and kids tend to overthink things, as you might have experienced or may be experiencing. Don't worry, I do it too. Society should be accommodating for this human nature, not ignoring it. This plate is just a suggestion for eating healthy, but you shouldn't be afraid to take some meals that don't follow it. Ultimately, eating should be about nourishment and joy, not fear of failure. Society can promote healthier, more realistic attitudes toward food by recognizing our tendency to overthink, especially as teenagers. Remember: it's okay to explore, indulge, and enjoy. A single meal doesn't define your health—it's the overall journey that matters.

Sahiya: When I was 10 years old, my mom came back home from her new dietician with a MyPlate. I remember being so excited to have a structured guideline for becoming a healthier version of myself, although we never even used MyPlate for its intended purpose. Instead, my South Indian family uses the MyPlate as any other plate and fills it with rice, curries, sambar, etc. This sparked a moment of realization within myself, where I recognized that although we were not following the state-mandated guidelines for healthy eating, our food was still rich in nutrients. The rice contained carbs necessary in many meals, lentils were rich in protein, and veggies were present in the spicy okra curry. This leads to my point that MyPlate is simply not sufficient for every circumstance or every family, and instead can make people feel guilty for not eating the way they believe they are "supposed to." Not every meal needs to be 40% vegetables and 20% proteins. Instead, I would define a balanced plate as having different meals that make you feel enriched from the inside out. An example would be cereal and fruits in the morning, an avocado sandwich for lunch, and pasta salad with a side of apple pie for dinner! Moreover, speaking from a teenager's perspective, we are already pulled in fifty different directions and often lose sight of the importance of our health. So when given an easy-to-follow structure to keep up with our bodies, we'll take it, not realizing that the plate cannot be used as a functioning normality in our daily lives.

Although factually accurate, the rigid lines that start to seem like prison bars emotionally toil with our relationships with food, soon leading to stresses and even disorders when we stray from the path the government works so hard to keep us on. And so, when tasked with the question of what does the MyPlate mean to me, I'd answer respectfully, that the MyPlate simply stands as a model of diet culture, but no longer holds any control over my diet. The MyPlate, in all its glory, does not define the confines of my relationship with food, and I strongly urge people to consider whether or not it will define theirs

chapter 5

The Facts Behind Food Labels

Empowered Facts: Defining Food Labels

Food labels are required by the Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) to provide information to help consumers make informed choices about their food. Most terms found on food labels are not approved by these organizations but are rather certified by third-party organizations for better marketing purposes. Although the distinctions between these terms and official labels can be confusing at first, understanding how to interpret the information can be extremely helpful in making independent and informed food choices.

Marketing terms found on food products:

- **Organic**: This term indicates that a product has been produced without the use of synthetic pesticides, fertilizers, or genetically modified organisms (GMOs). It also ensures that livestock is raised in humane conditions and fed organic feed (Mean, 2024).
- **Gluten-Free**: This term indicates that a product contains less than 20 parts per million of gluten, making it suitable for people with celiac disease or gluten sensitivity (Mean, 2024).
- **Low-Fat**: This term indicates that a product contains 3 grams of fat or less per serving (Mean, 2024).
- **Low-Sodium**: This term indicates that a product contains 140 milligrams of sodium or less per serving (Mean, 2024).
- **Reduced Fat**: This term indicates that a product contains at least 25% less fat than a regular version of the product (Mean, 2024).
- **Reduced Sodium**: This term indicates that a product contains at least 25% less sodium than a regular version of the product (Mean, 2024).
- **Light or Lite**: This term indicates that a product contains one-third fewer calories or half the fat of a regular version of the product (Mean, 2024).
- **High Fiber**: This term indicates that a product contains at least 3 grams of fiber per serving (Mean, 2024).

Many food labels do provide valuable insights into a product's origins and contents, but others are just unregulated marketing claims, making it important to understand the most common labels found on different food packaging. Let's go through some below:

- **USDA-Certified Organic:** Regulated by the USDA, this label ensures food is produced without synthetic pesticides, fertilizers, or GMOs. Organic meat, poultry, eggs, and dairy come from animals raised without antibiotics or growth hormones, fed organic feed, and provided year-round outdoor access and space for natural behaviors (Mean, 2024).
- **Natural:** This term is not defined or regulated by the FDA or USDA. It can sometimes mean that the product does not contain artificial flavors, colors, or preservatives. However, it does not necessarily mean that the food is healthy or free from harmful chemicals or additives, and it does not provide any information about whether products were produced in a responsible, sustainable manner — or whether animal products come from animals that were raised humanely (Mean, 2024).

- **GMO-Free:** This label signifies that the product contains no genetically modified organisms (GMOs), which are plants or animals with DNA altered through genetic engineering. While scientific consensus deems GMOs safe for consumption, some consumers avoid them over concerns about potential long-term health and environmental effects. The Non-GMO Project is a third-party organization that certifies and labels GMO-free products (Mean, 2024).
- **Cage-Free:** This label means the eggs are from hens not confined to cages, allowing them to engage in natural behaviors like perching, dust bathing, and socializing, with fewer health issues than caged hens. However, cage-free hens are typically housed in barns or sheds, often with limited space and no outdoor access (Mean, 2024).
- **Free-Range:** As defined by the USDA, this label applies to meat or poultry from animals given outdoor access for at least 51% of their lives. However, the quality and size of outdoor spaces are not regulated, and "free-range" claims are not independently verified or audited (Mean, 2024).

- **Hormone-free:** On beef and dairy products, this label means cattle were not given added growth hormones to stimulate growth or milk production. This label is also often used on poultry and pork products, but it can be misleading; the use of added hormones is prohibited in the raising of pigs and poultry in the United States, so all products from these animals are free from added hormones by default. “Hormone-free” claims can also be misleading because all animal products contain hormones that are produced by the animals’ bodies (Mean, 2024).
- **Antibiotic-free:** This label indicates that the animals were raised without the use of antibiotics. The overuse of antibiotics in animal agriculture leads to the development of antibiotic-resistant bacteria, which is a significant public health concern (Mean, 2024).
- **Grass-Fed:** This label indicates that animals, usually cattle, were primarily fed grass and not grain or grain byproducts, with access to pasture during the growing season. However, the USDA's grass-fed standard does not include requirements for animal welfare, environmental quality, or sustainability, and the claims are not independently verified or audited (Mean, 2024).

- **Pasture-raised:** This label means that the animals had continuous, free access to the outdoors for a significant portion of their lives. Like the “grass-fed” label, “pasture-raised” does not provide information about other aspects of animal welfare or require adherence to quality standards for the animals’ environment. It is also not independently verified or audited (Mean, 2024).
- **Humanely raised/Humane:** These labels imply that the animals were raised in a manner that prioritizes their welfare. However, they are not legally defined, regulated, verified, or audited in any way and can, therefore, be misleading (Mean, 2024).
- **Local:** This label has no federally defined or regulated meaning, with definitions varying by retailers and farmers’ markets. While it suggests proximity, it offers no details about production practices, meaning even products made with unhealthy or unsustainable methods can be labeled "local” (Mean, 2024).

Extended Label Claims

When you come across an organic label, the product can be classified as fresh or processed food produced by organic farming methods, such as being grown without the use of synthetic materials (ex, non-organic pesticides). Organic labels can only be certified and put on specific foods by a certification officer (Dunckel et al., 2020).

However, for all-natural labels, there are no laws in place to define the conditions by which the food had to be sourced, so producers of that food can decide to put all-natural labels as they please. All natural means that the food does not contain artificial ingredients and should be minimally processed, meaning the artificial ingredients do not fundamentally alter the product (Dunckel et al., 2020).

The gluten-free label excludes any foods that contain gluten, which is a protein found in wheat and several other grains. All finished products bearing the GFCO logo or labeled gluten-free must meet a defined standard for gluten content, the standard being 10 ppm or less of gluten. (Dunckel et al., 2020)

Some other legal definitions used in the nutrition world are low-fat, which is food where 30% or less of the calories come from fat, and 3 grams or less per serving (100 grams). Another important word is high-fiber, which is simply when there are 6 grams of fiber or more per serving- 100 grams (Dunckel et al., 2020).

chapter 6

Diets, Disorders, and Decisions

Making Changes is Normal

At different stages in life, particularly adolescence, it's completely normal to want to change yourself and your lifestyle. You're on the edge of adulthood, and you're able to imagine yourself as older and more independent. You can create a vision for the person you want to be; to this end, you may seek to adjust some things. For example, people may make changes in their clothing style or try to distance themselves from certain friends and become closer to others. They might decide to try to be a "better student" and implement new study routines. People might also start thinking about their body and health; they might join a gym and begin an exercise routine. And for similar reasons, they may think about changing their eating habits. Making changes to ourselves is an integral part of growing as human beings, and when done with intention, in a realistic, balanced, and authentic way, change is usually positive!

Making Changes with Our Eating

When people try to change their eating habits, it is usually based on some idea of what the "right" way of eating is. We absorb these ideas in subtle but pervasive ways – by watching influencers eat, hearing friends talk about food, and learning about different diets such as Keto, Vegan, or Intermittent fasting. Now, you also have the information about nuanced nutrition that is being presented in this curriculum. There are so many sources of influence as you seek to feed yourself! Eating should be so simple and enjoyable, but it can become complicated and stressful.

Making changes with food is usually so well-intentioned! You're just trying to feel better in your body and about your body! But making changes in how you eat can accidentally lead to disordered eating, which is not a fun place to be. In some cases, making changes in how we eat can accidentally lead to an eating disorder.

Disordered Eating and Eating Disorders both describe a range of behaviors and beliefs about food that are inflexible and problematic. When a person adheres to strict rules about eating in which their eating choices are guided entirely by external sources instead of valuing their body's internal signals (e.g., avoiding all "bad/unhealthy food" or following the rules of an eating plan, like "no eating after dinner," while ignoring other important variables like one's own cravings). Although Disordered Eating and Eating Disorders are not the same thing, they are on the same continuum, and both lead to physical, emotional, and social consequences. These consequences include gastrointestinal issues, weight fluctuations, hormonal disruptions, shame, anxiety, guilt, and social isolation, just to name a few.

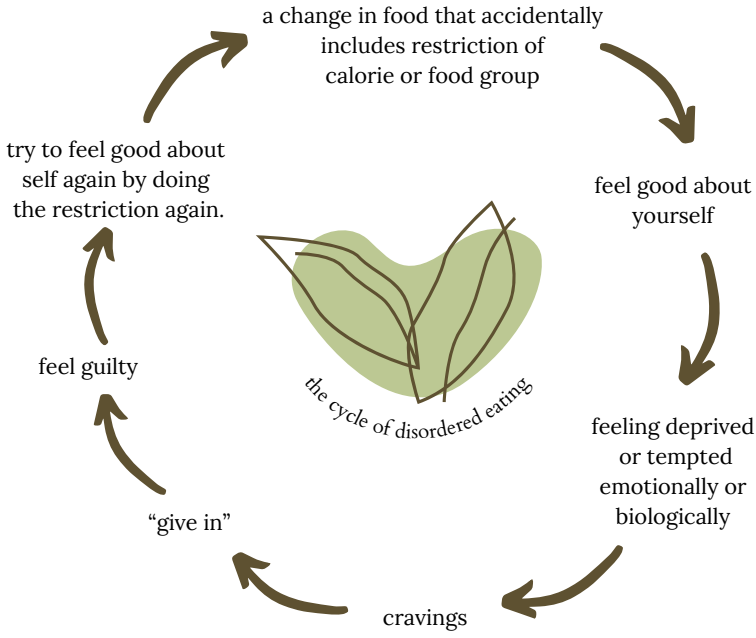

Figure 6.1 The Cycle of Disordered Eating

The slippery slope to disordered eating usually goes like this: you make a change in your food based on what you think you "should" do to be a "better eater." If you've fallen prey to thinking Keto is the way, you may try to reduce carbs. You might have seen an influencer eat a lettuce wrap instead of a sandwich with bread, so you do the same. One day, you pack yourself a lettuce wrap for lunch and feel pretty good about yourself for doing so. Throughout the afternoon, you feel more confident as you walk the halls of your school. However, the body doesn't do well with restricting a food group, and when you get home from school, the cravings are intense. Your body is just trying to help you out by sending you cravings to eat some carbs. It's trying to get you to feed it as it is meant to be fed in a balanced way. Yet, your mind is still thinking you "shouldn't ruin the day" by "giving in." But the craving is strong, and soon after arriving home from school, you "indulge" frantically on crackers, handfuls of cereal, tortilla chips, etc. Afterward, your mind berates you for "messing up." And that self-confidence you had in the afternoon is replaced with guilt and self-disgust.

The slippery slope to disordered eating can happen in more subtle, sneaky ways, too. Maybe you feel like you're too woke to go on a diet. You are strong and self-affirming, and you don't need to change your body. Your body is worthy as it is! Yet, on some level, you think it's reasonable to mature your eating a little bit. Maybe you've made plain butter pasta your staple meal and avoided spices and veggies, and you'd like to expand your horizons. It is reasonable to want to make some harmless changes with your eating so you feel more grown up and healthy. So, you pack your lunch for school, and this time, instead of Goldfish, you include an apple and peanut butter with cinnamon sprinkled on it, knowing you're combining two food groups and balancing your snack. You feel pretty great about that, and your self-confidence meter rises a bit. However, seeing other friends eat Goldfish does make you want a handful yourself! Later, after school, a friend offers to share her Takis with you, but you have already packed carrots, hummus, and crackers. Although you do want some Takis (let's be real: carrots and hummus are not the same), you feel good that you "resisted" and ate your "healthy snack." Your self-confidence rises even more. You just feel so "healthy" and good about yourself! And you're not restricting calories or food groups. However, you can't deny that you do love the crunch and flavor of Takis and Goldfish. The craving for those snacks never quite dissipated. Since you never let yourself honor that craving, you later eat so many snacks at home, trying to satisfy the desire for crunch and intense flavor. You end up feeling overly full and disappointed in yourself.

A Guide to Making Changes with Our Eating

It is possible to make eating choices that improve our health and mature our eating in ways that do not trigger disordered eating or eating disorders. The key is to be honest with yourself about your cravings, follow them, and then not moralize yourself as "good" or "bad" based on the choice you made. With practice and reflection on how your choices felt for you, you can refine your ability to make the eating choice that is right for you.

Listening to cravings is key to making eating choices, even if you are trying to make changes in your eating. Cravings can be specific (e.g., wanting a peanut butter cup. In this case, an apple with peanut butter will not work). Cravings also can be more general and vague (e.g., wanting something hearty or thick to chew. In this case, have the sandwich, not the salad). Listening to cravings sometimes means choosing the option that offers less nutrition. In other words, it is critical to understand that the "right" choice is not always the "healthy" choice.

Let's take the example mentioned above of the apple vs. the peanut butter cup. An apple indeed offers more vitamins, fiber, and hydration than a peanut butter cup. If you get home from school and are feeling snacky or a little hungry and are making a choice between your previous go-to, peanut butter cups, or an attempt at changing your snack to an apple and peanut butter, here is how to think about it: pause to imagine having both options. Let's say you imagine eating a peanut butter cup and know that you'd like the taste, but you don't feel a strong pull toward it. Then you imagine eating an apple with peanut butter and also do not feel a strong pull toward it. In that case, you would not be denying a craving with either choice. Therefore, it is safe to go ahead and make a choice driven gently by choosing the choice with more micro-nutrition, hydration, and fiber: the apple and peanut butter. This may also feel like you made the "healthy" and "good choice." After making that choice, if you notice your self-confidence rising for making the "better" choice, take a second to tell yourself that it was the choice that felt right at this moment, but that's all. Another day, the peanut butter cup will be the choice that feels right. You can notice how you feel throughout the day. If you're not preoccupied with thoughts about food and your body feels at ease, you made the right choice for you at that time.

Now, let's redo that example with one tweak. Let's say you get home from school, and you feel that pull from within for the peanut butter cup. Yet you hesitate because maybe you "should" eat the apple and peanut butter. Your mind makes the case for the apple and peanut butter, but from within your body, you just feel the non-verbal pull toward the peanut butter cup. In this case, the "right" choice is to eat the peanut butter cup. After you eat the peanut butter cup, if you have any guilt creeping in, stop that thought and remind yourself that you made the right choice at that moment. And again, you can notice how you feel throughout the day. If you're not preoccupied with thoughts about food, and your body feels at ease, you made the right choice for you at that time.

Let's walk through one more example: you're at a restaurant that serves salad and sandwiches. Your mind tells you that you "should" choose the salad- the salad isn't about calories or weight loss. The salad is also balanced: it has quinoa in it (carb), chicken (protein), avocado (fat), and micronutrients in the added veggies. It's not like you're convincing yourself to eat just a bowl of lettuce! You're not restricting food groups or calories. However, if you're honest with yourself, there's a drive within you for the sandwich. You can't quite explain why, but the urge is there. Maybe you just want to chew something denser. In this case, the right answer for that moment is the sandwich. Your cravings, this inner drive, whether it be for something specific (peanut butter cup) or vague (chewing something dense), should always get priority in making your food choices. When making food choices that way and remembering to not moralize yourself afterward, your choice will be part of an authentic, sustainable, and nutritious eating plan. And you will be safeguarded from sliding into disordered eating or an eating disorder.

We are often sold the idea that there is a universal right or wrong choice with food. That is false. There is no absolute right or wrong. There is only “right” or “wrong” for you in a given moment, and this choice will shift moment by moment, day by day. Still, we don’t always make the most authentic choice for ourselves, even if we try to. It’s very important that, when we realize after the fact that we didn’t make the “right” food choice in the given moment, we shrug it off and move on. Luckily, we eat throughout the day, every day, and we will have another opportunity soon to practice making the most important choice of the day.

chapter 7

Misinformation and Morality

Misinformation is a Moral Issue

When learning about nutrition in college, I was quickly made aware of Quackwatch, a website started in the 1990s by a doctor who gathered misinformation as it was discovered and organized it for netizens to peruse. The nutrition professor who introduced the website wanted to make sure we knew that misinformation was not only out there but readily available to the public. At the time (mid-2000s), the internet was not the main place people went to get their information. These days, misinformation is not only rampantly available online, but we are also now seeing the damage that years of misinformation have done to the general public. As a dietitian, I am routinely busting nutrition myths that have caused tremendous stress for my clients. I see the emotional turmoil it takes on people who are doing their best to eat the way they think they should but are so scared of making the "wrong" choice. We know we've made a wrong turn somewhere when the idea of eating "incorrectly" can bring up feelings of extreme fear and guilt. When giving my clients permission to eat foods they think are "bad," I can see the fear in their eyes. Many of them ask me, "Is it OK to eat that?" as if one food can make or break your entire life. But that's precisely what diet culture wants you to believe.

Now, let's explore the idea of morality. Challenging currently held food beliefs almost always involves a discussion of morality. Morality is the oxygen that keeps the flame of diet culture burning brightly. By categorizing foods, and by extension people, as good or bad, diet culture preys upon people's fears of disease or illness and, in turn, propels people to make expensive, inauthentic, and unsustainable decisions about food and their health.

A question I like to share with my clients when challenging misinformation is, "Who stands to make money from me believing this about food or myself?" I find this question is a good jumping-off point to not accepting things at face value and learning to be a critical consumer of nutrition information or advice. In the next chapter, we will explore some journal prompts to help cultivate a culture of conscious, compassionate, and curious eating. These prompts will help you to become a discerning individual as you will undoubtedly be confronted with ever-evolving fad diets, diet trends, and other iterations of diet culture.

Defining Diet Culture

Krishna: If you asked me what my biggest fear was, I'd probably say spiders or snakes or swimming in the deep end where there's nothing under my feet. I'd tell you about a fear that's translucent in my life, one that's present in my mind but never fully shatters my will. The truth is, our greatest fears tend to sprout in the aftermath of various traumas in our lives and yet talking about them is incredibly difficult and somewhat isolating. That's why when someone asks us how we are, we still reply with the pithy, monosyllabic, "I'm fine."

To this day, I still don't know how to define my relationship with food or my body, let alone diet culture, because so much of its complex nature is derived from its connection to other emotional traumas. It took great introspection and years to put those feelings into words, and yet my situation was never really dire. I fall under the umbrella of people who practiced disordered eating without having an eating disorder. I realized that never truly understood how *I felt* about diet culture until I wrote a poem about it a few months ago for a contest. We had planned to fundraise with the prize money for our partnership with an eating disorder recovery center. We didn't win, but the experience was oddly therapeutic. It was like being thirteen again, in the heart of the pandemic, when exercise, body image, weight, and nutrition had found an impermeable presence in my life. It's my version of a definition, and I'd like to share it with you.

numbers are all i see

you sit at the edge of your seat-

your toes dip into the water, afraid of what you'll meet

this is fear

a crippling sensation

far beyond the depths of what you can

reach

the pixels that scatter to form numbers

are silent

but silence isn't always

peace

sometimes i wish i could be

free,

free of judgment

you see,

i'd be lying if i said

that i wasn't afraid of

the belly of the beast

because then i'd have to accept

all of me

i can't love flesh and bones

when numbers are all i see.

i crave to be wanted

i crave to be known

okay, the doctor will see you now

the world didn't end but

my childhood did when

i tried my best

but i couldn't fit into a dress

just step onto that scale for me

i'm an emotional eater

i eat when i'm

sad

happy

scared

confused

lost

tired

stressed

but i can't say that out loud

or people might get upset

and the unlikes,

the rejection,

it would devastate me

it's true, numbers are all i see.

so maybe it was just inflammation

or i was bloated, i guess,

you guys, see, that's why i didn't fit into

that dress

alright, describe your diet to me

mommy, you look so pretty

aw, thank you sweetie,

you're pretty too

really, how?

my mother used to say

that i'm pear-shaped,

like her,

thin arms and

thicker legs

an hourglass figure

it's too bad that we were only "pretty" for a month

you see,

pretty isn't pretty good

when you aren't the hallmark of beauty

standards

what was your earliest memory with food?

i promised myself that i

wouldn't go back

to those habits, they're bad

but i did, it's a fact

you see,

admitting our flaws

is the only way to really face them

and when i'm head first in a toilet

i'm paralyzed by my regression

and my finger that rests

unscathed on my tongue

accomplishes an impossible feat

it goes

far beyond the depths of what you can

reach

your word is logorrhea

definition please

verbal diarrhea

so like vomiting

no, not exactly

okay, um logorrhea

l-o-g-o-r-r-h-e-a

logorrhea

that is correct!-

verbal diarrhea is the only way to drown the noise

that pollutes my mind with its repetition

its a voice

that represents a crippling sensation

louder than i can bear

let's not forget, i'm shaped like a pear!

nevermind a corporate glass ceiling,

the ground is where i've been feeling

the most

insignificant

unworthy

disgusting

ugly

untouchable

unlovable

downright despicable

i'm fearful

no,

terrified

that the glass might shatter

under my feet

because the weight of my worth

rests on pixels that meet

this is why numbers are all i see.

sugar's the problem

this is why our kids are fat

food companies are making highly addictive products

and parents don't realize they're bad

there are recommended serving sizes on nutrition labels

for a reason folks

and we have to help the American public understand that

dear diet industry,

let me remind you that my generation

is not so easily bought

by reduced-fat and reduced-cost

we don't need

fast,

famines,

or factory farming

was that enough food for thought?

let me be clear

we aren't just going to change this world

we're going to save this world

from everything you put us through

we believe in more than just calling children

overweight or obese

we're embracing health at every size

and reclaiming the word "fat"

despite how well you've conditioned us to believe

that your trends and fads

are the rules of the game

and choosing to live our lives to the fullest

means we're not the same

as everyone else.

i believe

that despite what society "dictates"

there are people like me

with the yearning to taste

what life can be

when numbers are not the only thing we see

when the choice to eat

to nourish,

to empower,

to sustain ourselves

is a sign that we're free

to be the fullest dimensions of our humanity.

Sahiya: Diet culture. Two words with a meaning so vague but so specific at the same time. A pandemic that has overtaken our world at large, plaguing each person who hears of it with feelings of fear, misinformation, guilt, and more. And yet, it seems as though it was a necessary part of the world of nutrition- because of its toxicity- to help people evolve towards a path of conscious and curious eating.

Defining diet culture. The bubble of myths and strong opinions guides our world away from the true science behind eating and instead towards judgemental and restricted consumption. In my experience, the past decade has seen an increasing shift towards following the "trends" of food. Detoxes and two-hour gym sessions have been cultivated by influencers trying to create idealistic lifestyles, and now are steeped so far into diet culture that they've become diet culture. What used to be for enjoyment now has become something to be insecure of. What is needed for survival now has become something people limit to achieve a "better body" and higher social status. Diet culture has ruined many relationships people have with food and their self-images, but it is finally time to step away from such trends: to choose yourself and mental peace over being yet another follower of the toxicity we call "healthy." To forge a better path for ourselves.

Shivani: In my view, diet culture represents the societal system that establishes stereotypes and perceptions regarding food, eating habits, and body image. It categorizes foods as “good” or “bad” without taking into account personal needs or cultural backgrounds and imposes unexpressed standards regarding what, how much, and where one can eat, frequently resulting in judgment based on food choices. Diet culture promotes restrictive habits, such as calorie counting or adhering to “trendy” diets without health motivations, fostering pressure to engage in practices that could be detrimental or inappropriate. It also maintains myths and misconceptions regarding nutrition, encouraging feelings of shame, guilt, or fear associated with food. In the end, diet culture emphasizes looks over well-being, transforming food into a cause of anxiety instead of sustenance and pleasure.

Diya: Diet Culture refers to a philosophy of principles and behaviors that place values on the body's size, weight, and shape as signs of self-worth. A societal mindset that places significant importance on achieving a certain sign through restrictive eating. Promoting that losing weight is desirable and being thin is "healthy" even though that isn't accurate. I believe that it's split up into three different variables: perfectionism, restriction, and body shaming. Perfectionism is the term that maintaining a "perfect" body through dieting is a goal, no matter the cost. Restriction is the encouragement of restricting certain foods based on the carb value and counting your calories. Body shaming is what stigmatizes flaws and harmful ideas about body image. These three variables can lead to disordered eating and an unhealthy obsession with food and exercise. Ultimately, diet culture reinforces that thinner bodies are more valuable, impacting a person's mental and emotional well-being.

Sara: Diet culture is many things, but at the root of it, I believe diet culture is meant to create and encourage distrust and disconnection from our bodies. As you have read throughout this curriculum, it is one thing to share unbiased information about nutrition and quite another to spin these facts into a game of morality. When we say "diet culture," we are simultaneously talking about the diet and weight loss industry. The question to be asking yourself in all of this is… who stands to gain the most money? In 2023, the diet and weight loss industry raked in a historic 90 billion dollars. The aim of a culture and industry that is rooted in distrust and disconnection is one that can only survive by convincing people to do something out of fear. At best, this fear can strip people of their ability to be intuitive and curious with their food choices. At worst, it can lead to severe eating disorders with the potential for lifelong medical complications and even death. The diet industry has a vested interest in creating more and more fear and distrust of ourselves so that we go out and buy the newest weight loss drug, start the newest fad diet, or invest in the latest workout equipment.

Laura: "Diet Culture" is the group of insidious beliefs about food and our bodies that teach us that we "should" be different than we currently are in order to have greater belonging and social safety in this world. Diet Culture is the silent "*and then you're more worthy*" at the end. It's not: "Salad has more micronutrients than pizza." It's: "*if you pick salad, you can feel better about yourself because you're more worthy.*" But it is never spelled out that explicitly! It's subtle; yet everyone hears the hidden message. To this end, Diet Culture subtly tells us that eating choices guided by external diets and dogmas are safer than and superior to any eating choice that comes from reasonable, nuanced nutrition information and our own innate embodied wisdom. When we are guided by Diet Culture, we atrophy our ability to connect to our inner guidance and our core Self. Lastly, I'd be remiss not to note that Diet Culture can disguise itself as other terms, most often Health Culture or Wellness Culture. Take care when taking in content from those worlds. Stay connected to your inner Self and to a sense of reasonableness, and remove a sense of worthiness or superiority from the equation.

So How Do You Define Diet Culture?

Acknowledgements

The Zen Palate was born on January 14th, 2022 which was coincidentally the day I became vegan. I had watched the 2010 Katie Couric documentary *Fed Up* with my classmates in our required semester of Health class in eighth grade, and I felt such an intrinsic pull towards this study of nutrition. I had always been connected with food somehow. Growing up in the heart of the kitchen, I understood the soul of my mother. And yet I was learning that food was a science, a school of thought, an actual career or purpose. It was the first time I had experienced love at first sight. But the true love only kicked in two years later, after I'd graduated from IIN with my degree, met Shivani through a mutual friend, asked Sahiya if she was interested, and introduced myself to Diya. And if serendipity had not shown me the invisible strings in my life all along, I would never have had the pleasure of meeting Sara and Laura- the two people I want to be when I grow up (yes, Ms. Janelle, I finally have an answer). This project truly is a labor of love, and it's my wildest dreams come true. In the days when I felt like I was shrouded in the dark, this project and its people, showed me the light. I hope you enjoy the curriculum- the literal embodiment of little me's hopes and vision- and experience the passion and joy that went into making it. I'm incredibly grateful to you, dear reader.

Thank you to my fellow writers: Sahiya, Shivani, Diya, Sara, and Laura. You all inspire me to dream with ambition and live with such unreasonable passion for the things I love.

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Thank you to the families of our writers for adjusting to early morning meetings and holiday work weeks. We are so excited to share our curriculum with you- to have you hold it in your hands and nestle it between your other cherished books on the shelves. You are the reason we aspire to create more light in this world. We love you!

Dear Reader, thank you for taking a chance on us.
We hope that together, we can change the world through a culture of conscious, compassionate, and curious eating.

Glossary

term	definition	page
antibiotic-free	animals were raised without the use of antibiotics	65
anus	consists of pelvic floor muscles and two anal sphincters; excretes waste from body	14
bomb calorimeter	machine used to measure the heat energy produced by burning a food, which are calories	17
cage-free	eggs are from hens not confined to cages, allowing them to engage in natural behaviors with fewer health issues	64
carbohydrates	molecules composed of carbon, hydrogen, and oxygen and found in grains, dairy, fruits, and vegetables; split into simple and complex carbs	26
dairy	found in products such as milk, yogurt, and cheese, is an excellent source of calcium and vitamin D	45
electrolytes	minerals in your blood and other body fluids that affect many bodily functions	33
esophagus	muscular tube that connects the pharynx (throat) to the stomach	8
ethyl alcohol	alcohol found in alcoholic beverages	50
fats	macromolecules that make up a food group; split into saturated and unsaturated fats	47
food groups	consists of grains, vegetables, fruits, dairy, proteins, and fats to make up the food we eat	41
food labels	required by the Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) to provide information to help consumers make informed choices about their food	61

free-range	meat or poultry from animals given outdoor access for at least 51% of their lives	64
fruits	offer a wide array of vitamins, minerals, and fiber	44
gastric glands	produce digestive substances and mucus secreted by the stomach to aid in digestion	10
gluten-free	product contains less than 20 parts per million of gluten	62
GMO-free	product contains no genetically modified organisms (GMOs), which are plants or animals with DNA altered through genetic engineering	64
grains	such as wheat, rice, oats, barley, and corn, are a vital component of a balanced diet; split into whole grains and refined grains	42
grass-fed	animals, usually cattle, were primarily fed grass and not grain or grain byproducts, with access to pasture during the growing season	65
high fiber	product contains at least 3 grams of fiber per serving	62
hormone-free	cattle were not given added growth hormones to stimulate growth or milk production	65
humanly-raised/humane	animals were raised in a manner that prioritizes their welfare	66
kidney	remove wastes and extra fluid from your body	11
large intestine	is a 5 to 7-foot-long muscular tube that connects the small intestine to the rectum and is responsible for processing waste	14
light or lite	product contains one-third fewer calories or half the fat of a regular version of the product	62

lipids	family of molecules composed of carbon, hydrogen, and oxygen; split into saturated and unsaturated fats	28
liver	two main responsibilities in the process of digestion are to make and secrete bile and to process and purify the blood	9
local	no federally defined or regulated meaning, with definitions varying by retailers and farmers' markets; suggests proximity	66
low fat	product contains 3 grams of fat or less per serving	62
low-sodium	product contains 140 milligrams of sodium or less per serving	62
micronutrients	vitamins and minerals; do not provide the body with usable energy, they perform vital functions in the body	30
minerals	solid inorganic substances that form crystals and are classified depending on how much of them we need	31
mouth	an oval-shaped cavity inside the skull that breaks down food through chewing	7
natural	This term is not defined or regulated by the FDA or USDA; can sometimes mean that the product does not contain artificial flavors, colors, or preservatives	63
nutrients	substances required by the body to perform basic functions; obtained from the foods we eat	24
organic	product has been produced without the use of synthetic pesticides, fertilizers, or genetically modified organisms (GMOs).	62
pancreas	is located behind your stomach and is attached to both your gallbladder and your small intestines; produces digestive enzymes	12

pasture-raised	animals had continuous, free access to the outdoors for a significant portion of their lives	66
pharynx	a muscular funnel that helps breathing and directs food and liquid through the digestive system	7
proteins	molecules composed of amino acids; plays a crucial role in building and repairing tissues, producing enzymes and hormones, and supporting immune function	27, 46
rectum	connects the colon to the anus and receives stool from the colon	14
reduced fat	contains at least 25% less fat than a regular version of the product	62
reduced sodium	product contains at least 25% less sodium than a regular version of the product	62
small intestine	the workhorse of the digestive system; will continue to break down food with enzymes released by the pancreas and bile released from the liver	13
stomach	An organ with strong muscular walls that holds the food and mixes it with acid and enzymes to help digestion	10
sugar	carbohydrate that is "fast energy"	49
sugar alcohols	polyols; type of carbohydrate that is often used as a sugar substitute to provide energy	50
teeth	break down food for swallowing and further digestion	7
tongue	moves food around the mouth to help the process of chewing and swallowing	7

USDA certified organic	Regulated by the USDA, this label ensures food is produced without synthetic pesticides, fertilizers, or GMOs	63
vegetables	provide a wide range of vitamins, minerals, and fiber	43
vitamins	group of organic compunds essential for normal growth and nutrition	31
water	H2O; plays many vital roles in our body, such as regulating body temperature, moistening tissues, protecting body organs, and more	32

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About the Authors

Krishna Ganesan is a social impact leader with a passion for youth-led activism, holistic healthcare, and nutrition literacy. As a professionally trained Bharatanatyam dancer, documentary filmmaker, and self-published author of a female-empowerment anthology and plant-based seasonal cookbook, Krishna bends her creative self-expression towards her love for writing, food, and nuanced nutrition education; her experience as the youngest health coach from The Institute of Integrative Nutrition; and her work as a volunteer at autism centers, local soup kitchens, and senior homes. In this chapter of her life, Krishna hopes to bridge the gap between people and the planet by inspiring young leaders and changemakers alike to create sustainable solutions for the world through literature.

A year long member of The Zen Palate, Sahiya Sridar has co-written *The Nuanced Nutrition Curriculum* alongside the other members of the project. Living in the Bay Area, she enjoys reading Sarah J. Maas novels, dancing with her team, and going cafe-hopping downtown. Mediterranean cuisine has been her all-time favorite, although she is always down for some acai bowls on a warm, sunny day. As a student at Prospect High, she aspires to give back to her community and has joined this project in an effort to cultivate and nurture a path towards empowered and authentic eating.

Shivani Satheeshkumar is a junior at Pinnacle High School in Phoenix, Arizona. Over the past year, she has been a dedicated member of The Zen Palate, contributing to *The Nuanced Nutrition Curriculum* as a co-author and leading the project's marketing efforts. Shivani enjoys listening to music, watching movies, and practicing karate. In the future, she aims to support her community further by becoming a doctor. She is passionate about health literacy and hopes to raise more awareness about health disparities in fields of science like nutrition and encourage enjoyable, nuanced eating for all.

Diya Patel joined The Zen Palate as a co-author of *The Nuanced Nutrition Curriculum.* Diya is a junior in high school living in Arizona. She enjoys ice skating, dancing, painting, and spending time with her friends. Going forward, Diya aspires to become a doctor to make a positive impact on many lives. As of now, Diya shadows many healthcare professionals, and from her experience seeing many patients that refuse to eat certain foods, Diya developed a passion for promoting healthy eating.

Sara Leung, RD is a Registered Dietitian and Nutrition Therapist who specializes in helping those who want a non-diet approach to improving their health and relationship with food. With over 15 years of experience, she has worked with people of all ages to reclaim their lives by simplifying nutrition and helping people develop strategies for sustained change. Since joining The Zen Palate in early 2024, Sara has worked with the team to develop the kind of nutrition curriculum she would have wanted in her adolescent years. Based in San Jose, Sara maintains a private practice helping counsel people on a variety of nutrition issues. She hopes to one day see a world that rejects diet culture in favor of authentic eating.

Laura Machado, PsyD, is a licensed clinical psychologist who has spent most of her career supporting those with eating disorders in developing an easygoing relationship with food. She is also a person with lived experience moving from a place of disordered eating to a space of mental freedom and intuitive eating while maintaining a value on physical health. She describes her approach to helping people as integrating “science and soul,” and she believes this curriculum does just that. Laura has seen the problematic way nutrition is often taught to young people and the unintentional harm it can cause. She was moved to join The Zen Plate because she believes this curriculum is an essential resource that’s not out there already. She hopes all people who are interested in learning about nutrition and considering making changes in their eating get access to this curriculum.