

Grade 4: Fueling Your Body



Developed by AHS, Nutrition Services in consultation with the Body Image Research Lab at the University of Calgary's Werklund School of Education – May 2025



Speaker Notes:

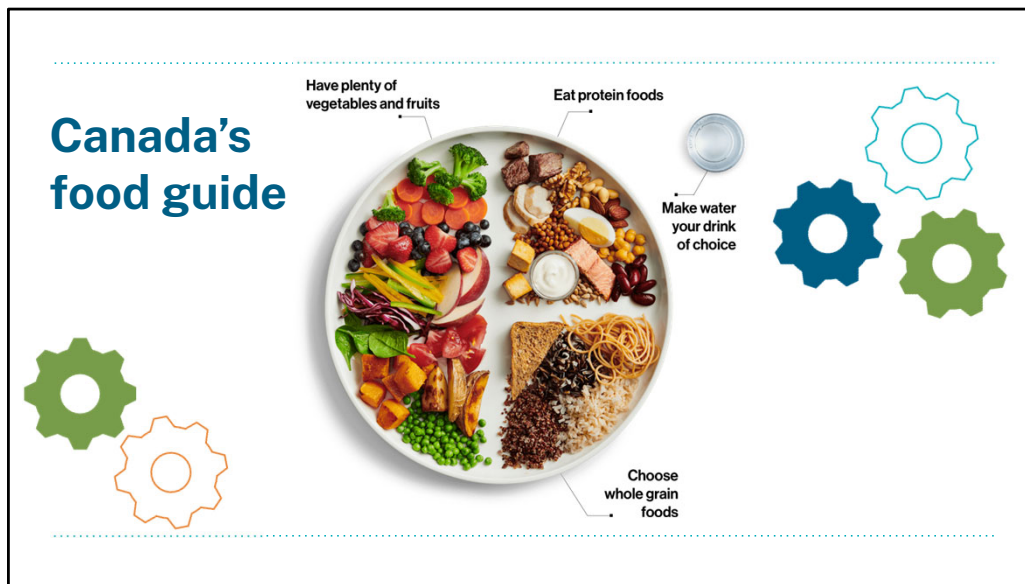
Our bodies are the coolest machines. Just like a machine needs a lot of different parts to run, our body needs nutrients from different types of food to work well.

Teaching Background:

- This lesson plan focuses on the role of nutrients in each group of food. Proportions of foods found on Canada's food guide are not covered in this lesson and will be introduced in grade 5.
- Reminder: consider what foods students have available to them at home when teaching students about vegetables, fruits, protein foods and whole grain foods. This may include different forms of vegetables and fruits (fresh, frozen, canned), different types of protein foods (animal based and plant based) and a variety of different grains (including non-whole grain options).
- Not all foods that we eat are found within the groups of foods in Canada's food guide (CFG). Some of these items, like herbs and spices, add flavour and seasoning to food. During classroom education your students may provide examples of other foods they enjoy, including highly processed foods. You can help refocus the conversation in a neutral way by using some of the example phrasing here <https://food-guide.canada.ca/en/toolkit-educators/supportive-environment/#section-3>
- For a PowerPoint version of this presentation, please contact: publichealth.nutrition@ahs.ca

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Speaker Notes:

- Who has seen this plate before?
- What do you know about this plate already?
- This is Canada's food guide. It was developed by people that looked at many studies about food and how it works in our bodies.
- Canada's food guide tells us that we need different types of food (fuel) for our body to work well and for us to feel our best.
- Canada's food guide is shown as a plate to let us know the types and amounts of food that would provide a balanced meal or snack. Canada's food guide includes: $\frac{1}{2}$ of the plate vegetables and fruits, $\frac{1}{4}$ of the plate protein foods and the other $\frac{1}{4}$ of the plate whole grain foods. The foods in each part of the plate give us different types of nutrients. Nutrients are the components (parts) of food that our body uses to function. We will talk more about this. We want to eat foods from all three parts of the food guide plate every day. Canada's food guide also shows us that we need more vegetables and fruits compared to protein foods and whole grains.

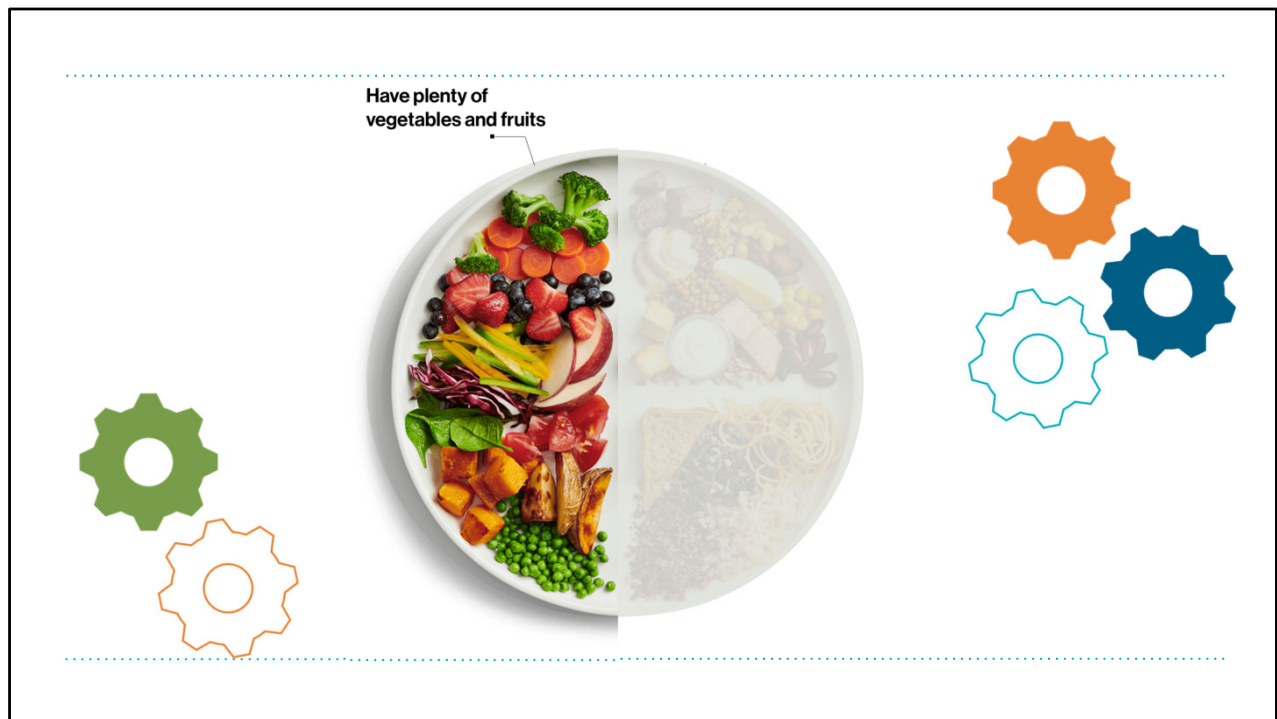
Ask: Do we need to eat every food shown on this plate?

Answer: No, this plate shows us examples of the types of foods in each group; it does not tell us exactly what to eat. Also, this plate cannot fit all possible food examples for each group, so there may be foods you enjoy that are not shown on the plate. For example, instead of bread (seen on the plate), your family may enjoy bagels, naan bread, roti, tortillas (wraps).

- Let's explore each group of food and what nutrients it provides!

Reference:

Health Canada. Canada's food guide: make healthy meals with Canada's food guide plate. 2024 Dec 5. Available from: <https://food-guide.canada.ca/en/tips-for-healthy-eating/make-healthy-meals-with-the-eat-well-plate/>



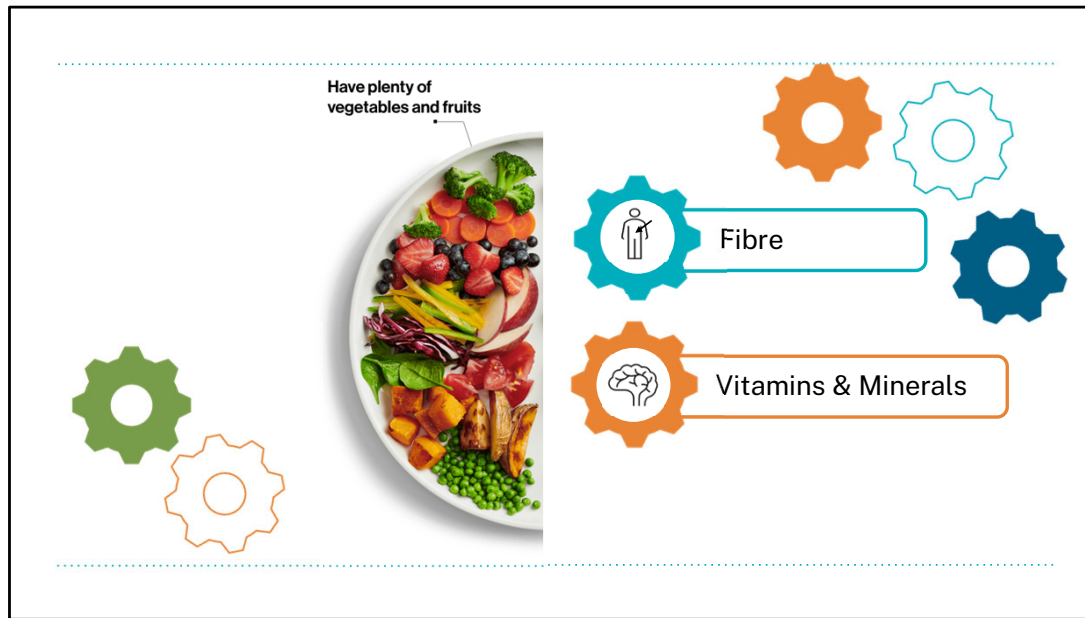
Speaker Notes:

Vegetables and fruits

Ask: What are examples of vegetables and fruits?

- Vegetables: carrots, cucumber, tomatoes, broccoli, bok choy, pumpkin, bell peppers
- Fruits: banana, apple, mango, orange, peaches, grapes, strawberries, pineapple

Fresh, frozen and canned are all nutritious options.



Speaker notes:

- Vegetables and fruits give us fibre, vitamins, and minerals.

Fibre

- Fibre slows down our digestion (breaking down of food), which helps us to have more lasting energy.
- Fibre helps us to go to the bathroom to remove the waste from our body (regular bowel movements).
- Fibre can help keep your heart healthy.

Vitamins and minerals

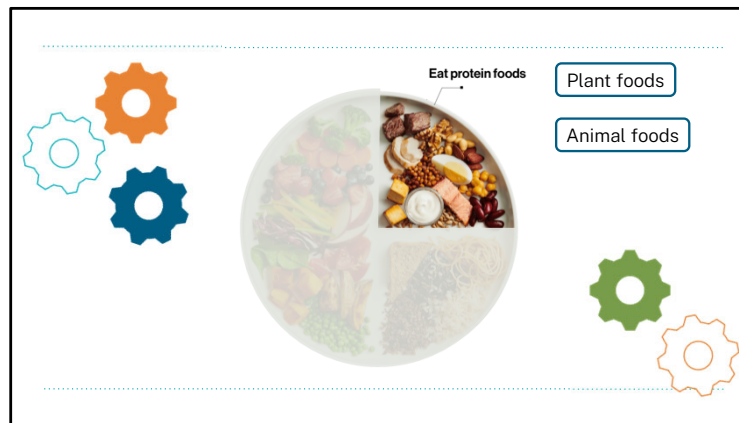
Vegetables and fruits are packed full of vitamins and minerals.

Vitamins and minerals:

- are needed for us to grow and for our brain and body to function (work well) each day
- are needed to keep our immune system strong. Our immune system fights off germs that can make us sick.
- have many other benefits that help keep our body healthy.

References

- [Unlock Foods. Focus on Fibre. \[Internet\] 2018 Oct 31. Available from: https://www.unlockfood.ca/en/Articles/Fibre/Focus-on-Fibre.aspx](https://www.unlockfood.ca/en/Articles/Fibre/Focus-on-Fibre.aspx)
- Alberta Health Services. Nutrition Guidelines for Primary Care: Vitamins and Minerals [Internet] 2013 Jan. Available from: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-ng-vitamins-and-minerals.pdf>



Speaker Notes:

Protein foods

Protein foods come from animals and plants.

What are examples of protein foods from animals?

- Bison, beef, moose, chicken, fish, pork, turkey, eggs, milk, cheese, kefir, yogurt.

What are examples of protein foods from plants?

- Beans (black beans, kidney beans, brown beans, navy beans), lentils, chickpeas, nuts, seeds, soy beans (edamame) and soy products (soy beverage, soy yogurt, tofu, vegetarian “meat”).

Vegetarian and Vegan

Protein foods is the only section of Canada's food guide that includes foods from animals. Some people may choose not to eat foods from animals.

Ask: What does vegetarian mean?

Answer: There may be variations but typically means that you do not eat any meat (beef, bison, pork, chicken, turkey, fish or any other seafood), but will eat eggs and dairy products, like milk, cheese and yogurt.

Ask: What protein foods would a vegetarian eat?

Answer: Answers may vary. Examples: beans, lentils, tofu, milk, plant-based beverage (soy beverage), yogurt, eggs.

Ask: What does vegan mean?

Answer: No food from animals, not even honey.

Ask: What protein foods would a vegan eat?

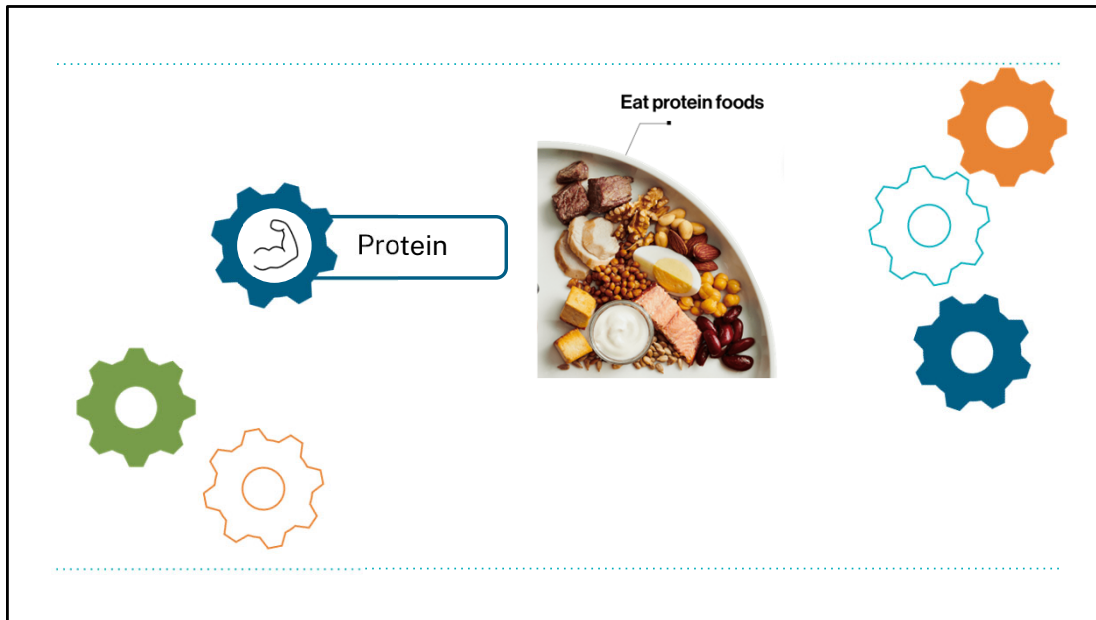
Answer: Answers may vary. Examples: beans, lentils, tofu, soy yogurt, plant-based beverage (soy beverage)

(Optional) Allergy to milk

- **Ask:** What protein foods would someone with a milk allergy eat?
- **Answers:** A person with a milk allergy cannot have milk or dairy products or foods made with dairy products. Instead, they could have plant-based beverages (soy beverage) and soy-based cheese.

Reference:

Academy of Nutrition and Dietetics. Vegetarianism: the basics. 2021 Oct 1. Available at: www.eatright.org/health/wellness/vegetarian-and-plant-based/vegetarianism-the-basic-facts



Speaker Notes

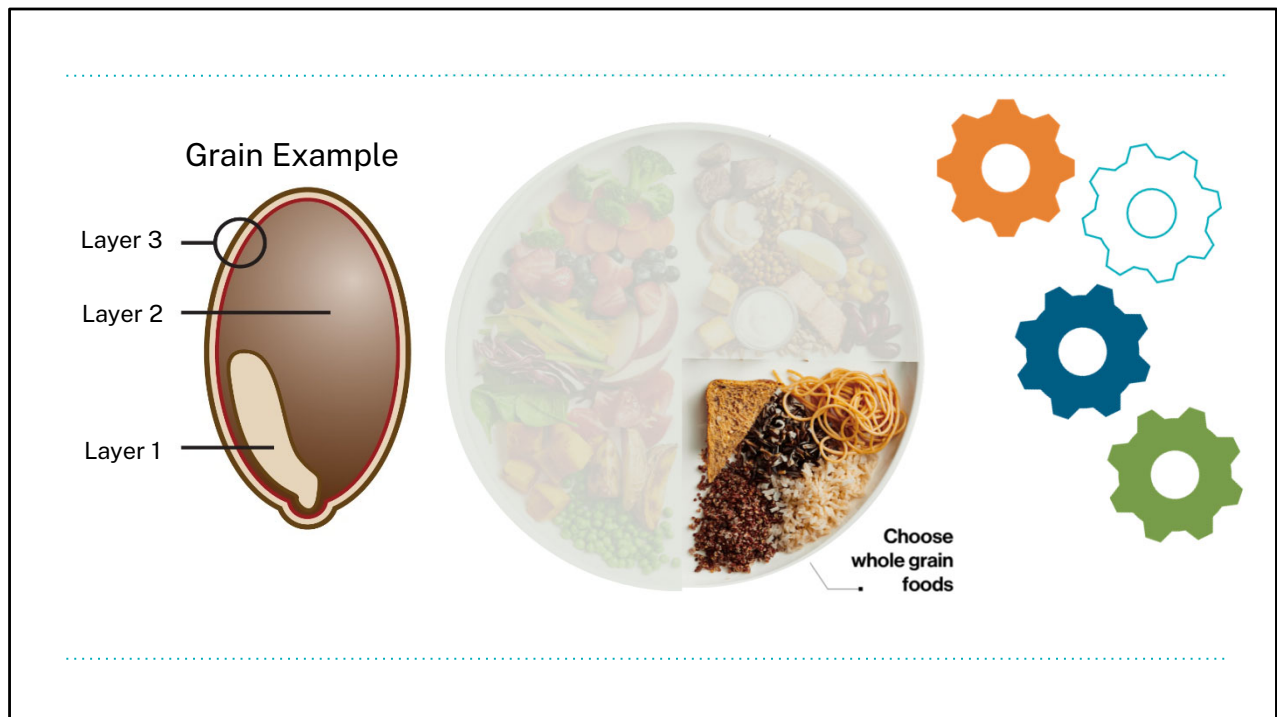
- Foods in this group have many vitamins and minerals, but the main nutrient the foods in this group provides is protein. Both the plant and animal sources have a good amount of protein.

Protein

- Is needed to build muscles and keep us strong
- Needed for growth
- Helps to keep our skin, nails and hair healthy
- Helps to carry vitamins and minerals and other nutrients all around the body to where they need to go.

References

Academy of Nutrition and Dietetics. Protein: How much protein should I eat? [Internet] 2024 Oct 14. Available from: <https://www.eatright.org/health/essential-nutrients/protein/how-much-protein-should-i-eat>



Speaker notes:

Whole grains

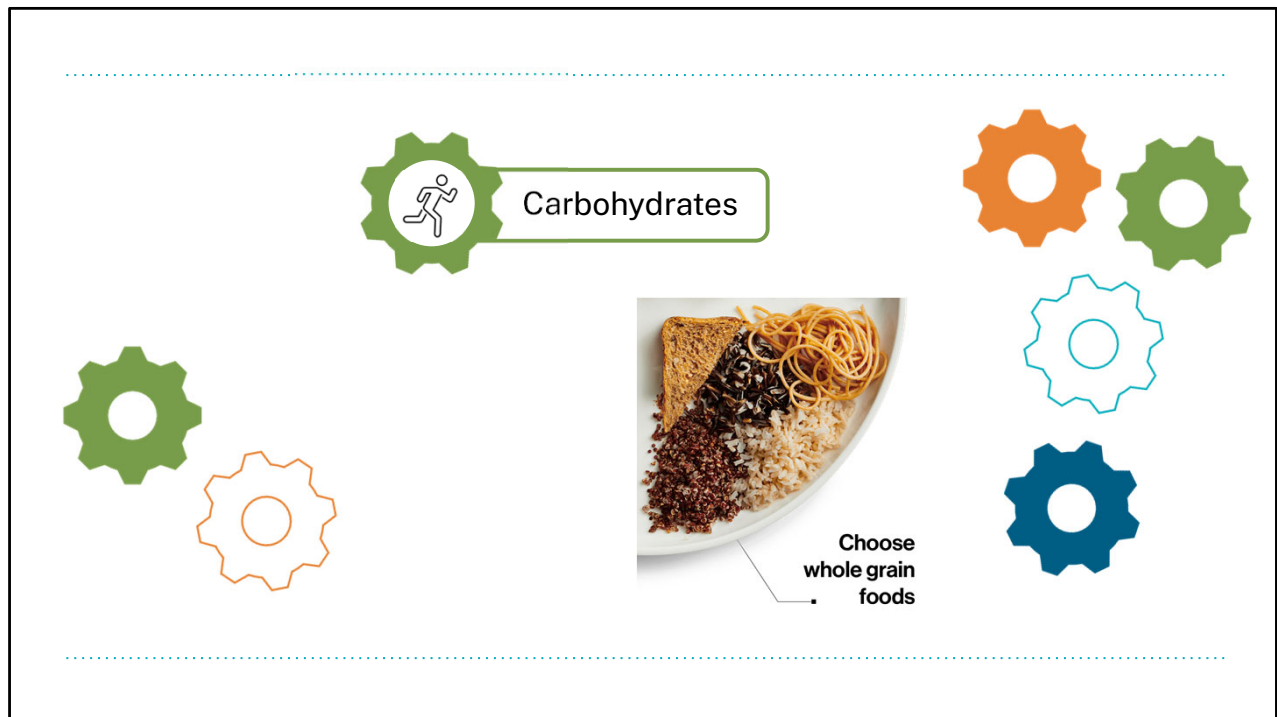
What are examples of grain foods we eat?

- Some examples include: rice, pasta, oats, bread, pita, tortilla (wraps), roti, naan, chapati, bannock, quinoa, barley.
- Grains are made of 3 layers. Whole grains have all 3 layers when we eat it.
 - Some foods are naturally whole grain, such as oats, wild rice or brown rice, barley, bulgur.
 - Some foods are made from whole grains, such as whole wheat breads, pastas, etc. Whole grain foods are often brown in colour.
- Some grain foods only have 1 of the 3 layers (only layer 2). These foods are often white in colour such as white rice, pasta, breads, etc.

References:

Government of Canada. Whole Grains – Get the Facts [Internet] 2019 Sept 5.

Available from: <https://www.canada.ca/en/health-canada/services/canada-food-guide/resources/healthy-eating-recommendations/eat-a-variety/whole-grain/get-facts.html>

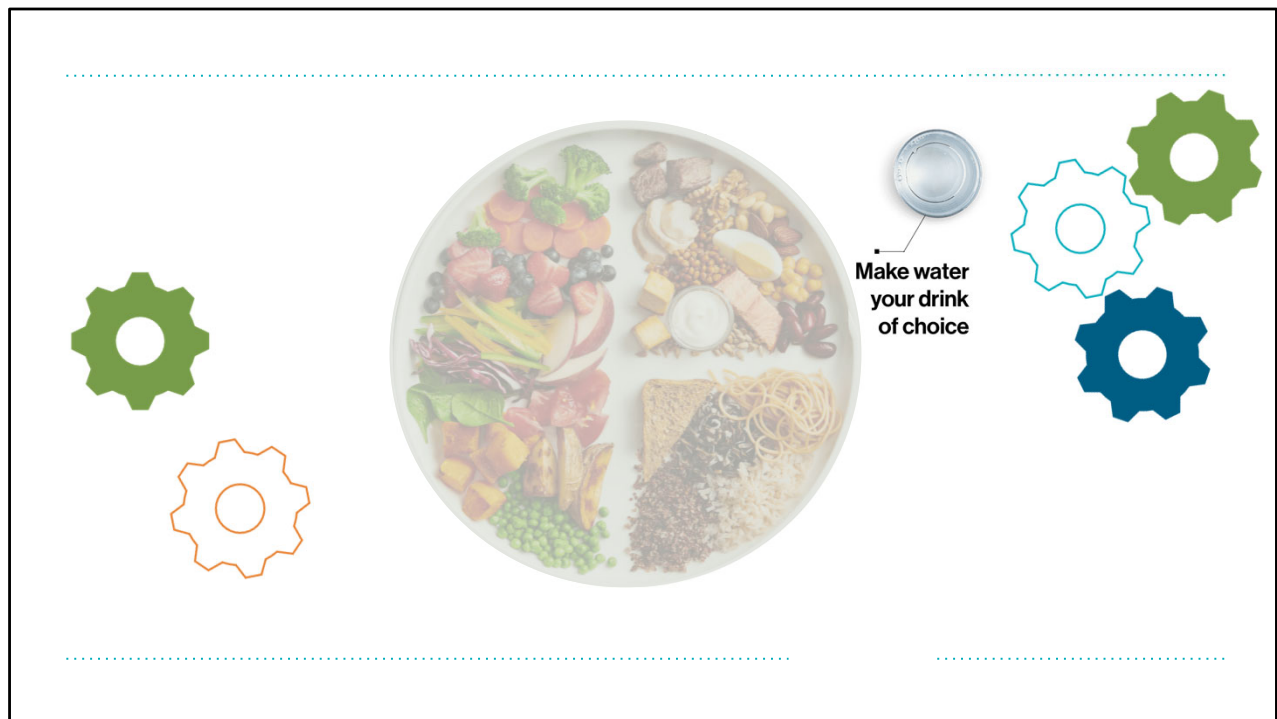


Speaker notes

- All grain foods have a nutrient called carbohydrate. Carbohydrates are the body's favourite source of energy or fuel, especially the brain.
- Carbohydrates gives us energy to think, learn, run, dance, swim, skate, and all the other activities we like to do.
- Whole grains (that include all 3 layers) also have fibre, vitamins and minerals. When the 2 parts of the grain are removed to make white grains, like white bread, most of the fibre and many vitamins and minerals are also removed. Canada's food guide tells us to have whole grains as much as possible to get the extra fibre, vitamins and minerals.
- Overall, all grain foods are going to give us carbohydrates for energy.

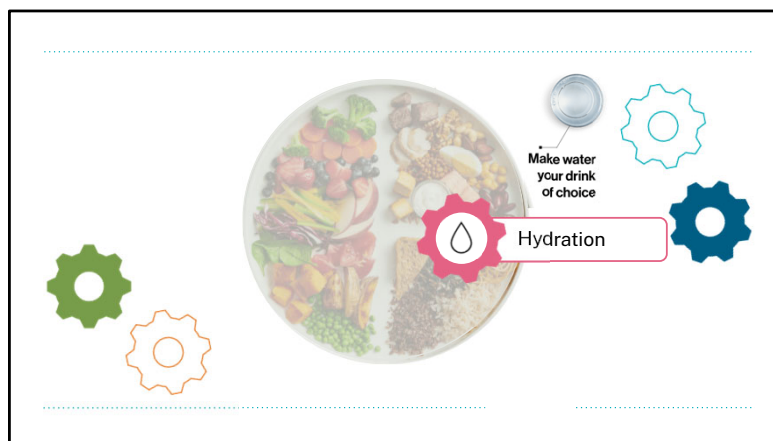
References:

- Academy of Nutrition and Dietetics: Eating right.org. Carbohydrates. Children need Carbohydrates [Internet] 22 Jun 25. Available from: www.eatright.org/health/essential-nutrients/carbohydrates/children-need-carbohydrates
- Government of Canada. Whole Grains – Get the Facts [Internet] 2019 Sept 5. Available from: www.canada.ca/en/health-canada/services/canada-food-guide/resources/healthy-eating-recommendations/eat-a-variety/whole-grain/get-facts.html



Speaker notes

- Choose water most often to drink.



Speaker notes

What does water do in our body?

Water has many jobs in our body.

- Our blood is mostly made of water, and it is important for carrying nutrients throughout your body.
- Water keeps our body cool and helps prevent it from over heating.
- Our lungs need water to work.
- Approximately 60% of our body is water and we cannot survive without it.

Water loss:

- We lose water every day through our urine (pee), sweat and breathing. We need to drink water to replace the water that leaves our body.

Hydration

- Hydration means adding water back into our body, so that it can work properly. We want to keep our body hydrated.

How can you tell if you are drinking enough water (your body is hydrated)?

Check your thirst

- If you are thirsty and your mouth is dry, you probably are not drinking enough water. Remember, by the time you are thirsty, your body is already low on water. So, don't wait until you are thirsty to drink.

Check your urine

- If your urine is dark yellow and smells strong, your body needs more water. You know your body has enough water if your urine is a pale yellow or clear.

Check your mood

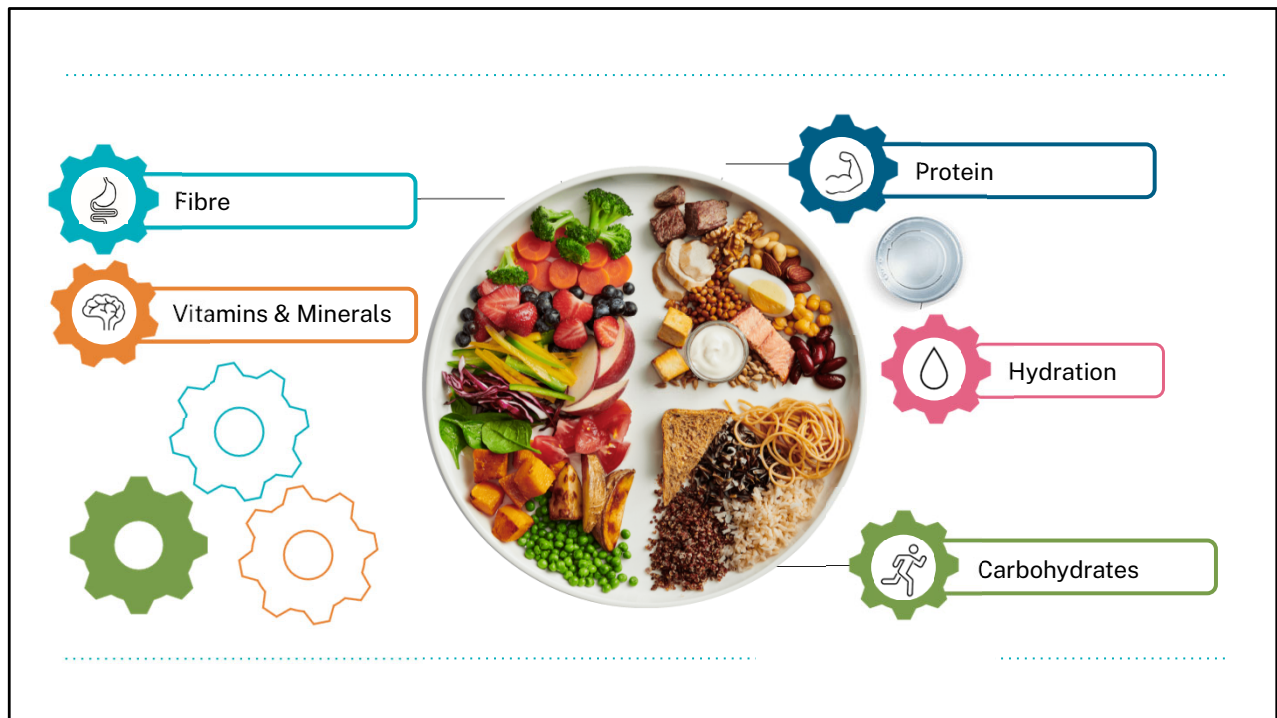
- If you feel tired, have a headache, feel light-headed or find it hard to concentrate, these may be signs that you need to drink water.

Background for Teachers

- Children ages 9-13 years, need 6-7 cups (1600-1800 mL) of fluids per day.

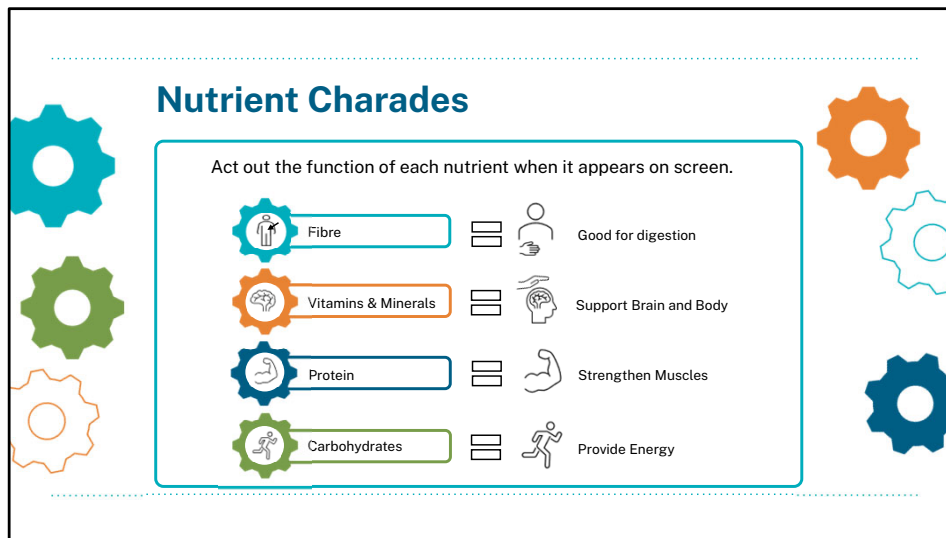
References

Unlock Food. Facts on Fluids – How to Stay Hydrated [Internet] 2021 Oct 25. Available from: www.unlockfood.ca/en/Articles/Water/Facts-on-Fluids-How-to-Stay-Hydrated.aspx



Speaker Notes

- As you can see, the different groups of food give us different nutrients our body needs.
- That is why we need to eat a variety of foods each day.

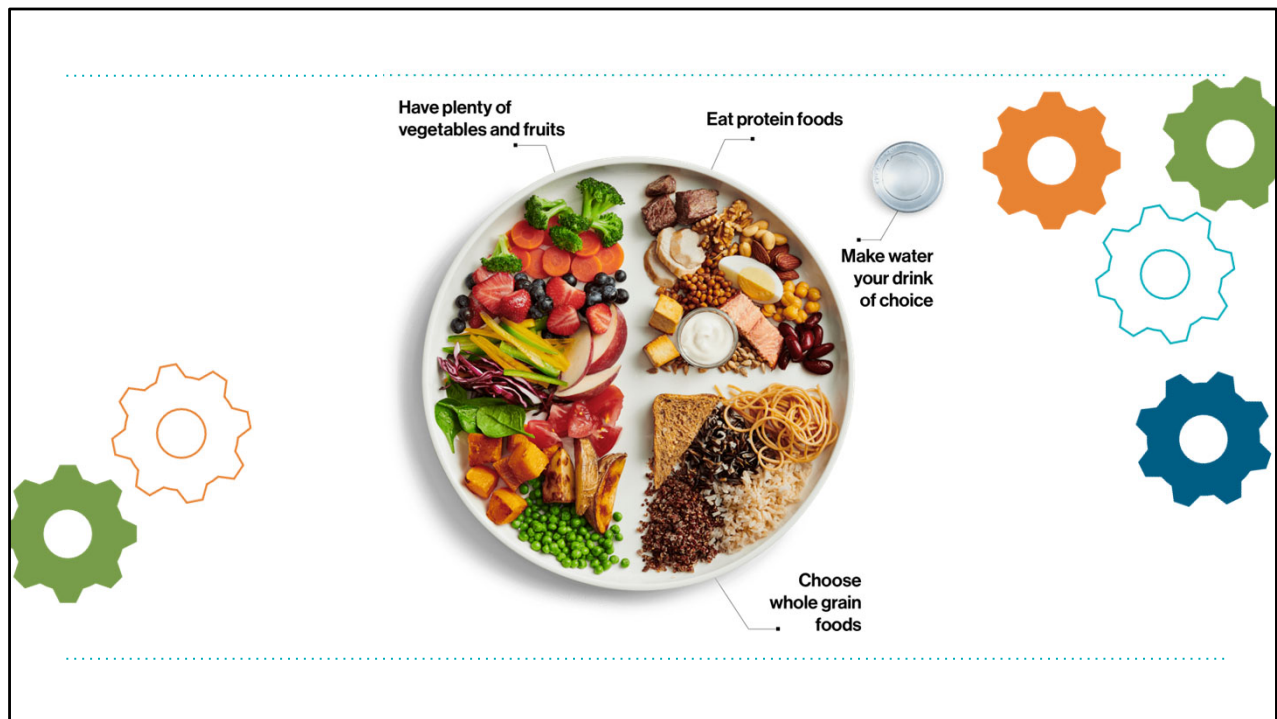


Speaker Notes

Nutrient Charades

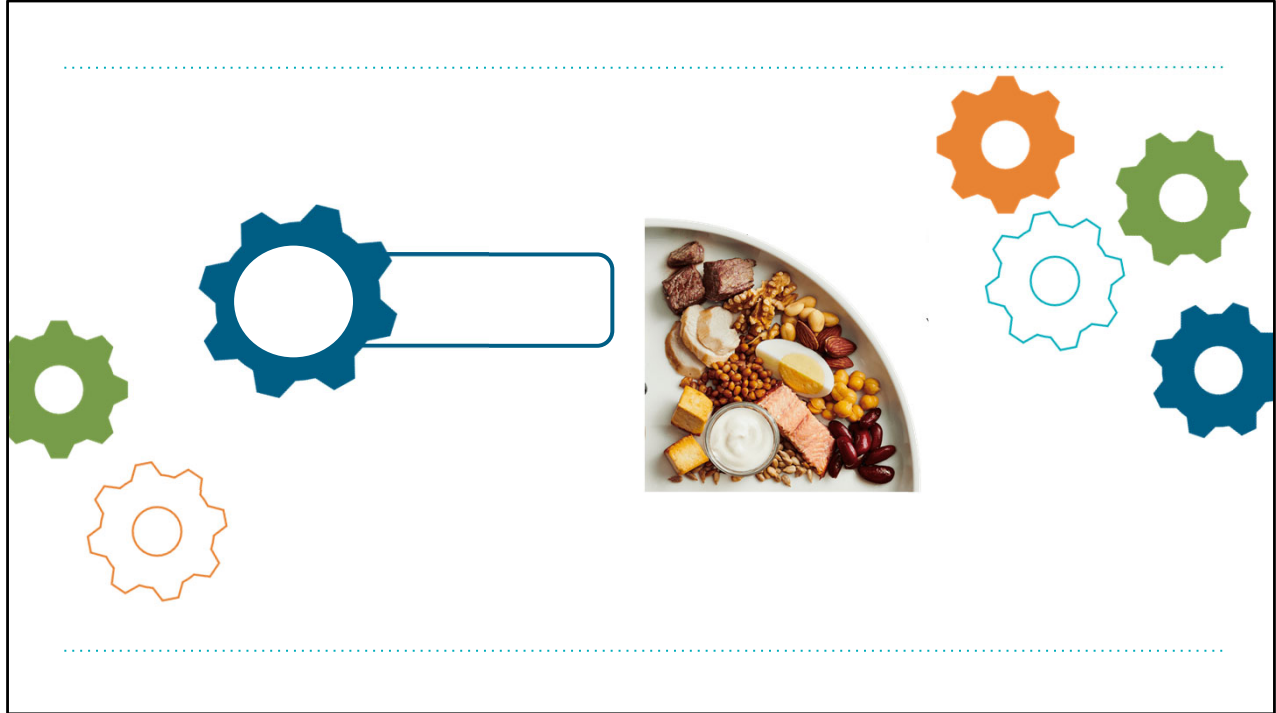
Before we start the game, let's review what each nutrient does to keep our body healthy. In the game, you will need to match the correct action to the nutrient.

- **Fibre:** helps remove waste from our body, helps give us lasting energy and is good for our heart = rub stomach
- **Vitamins and minerals:** help to support our brain and body and keep our immune system strong to fight off sickness = pat head
- **Protein:** is what makes our muscles strong, important for growth and helps carry vitamins and minerals and other nutrients throughout our body = flex muscles
- **Carbohydrates:** give us energy. They are fuel for our body and brain – like gas in a car = run on the spot



Speaker Notes

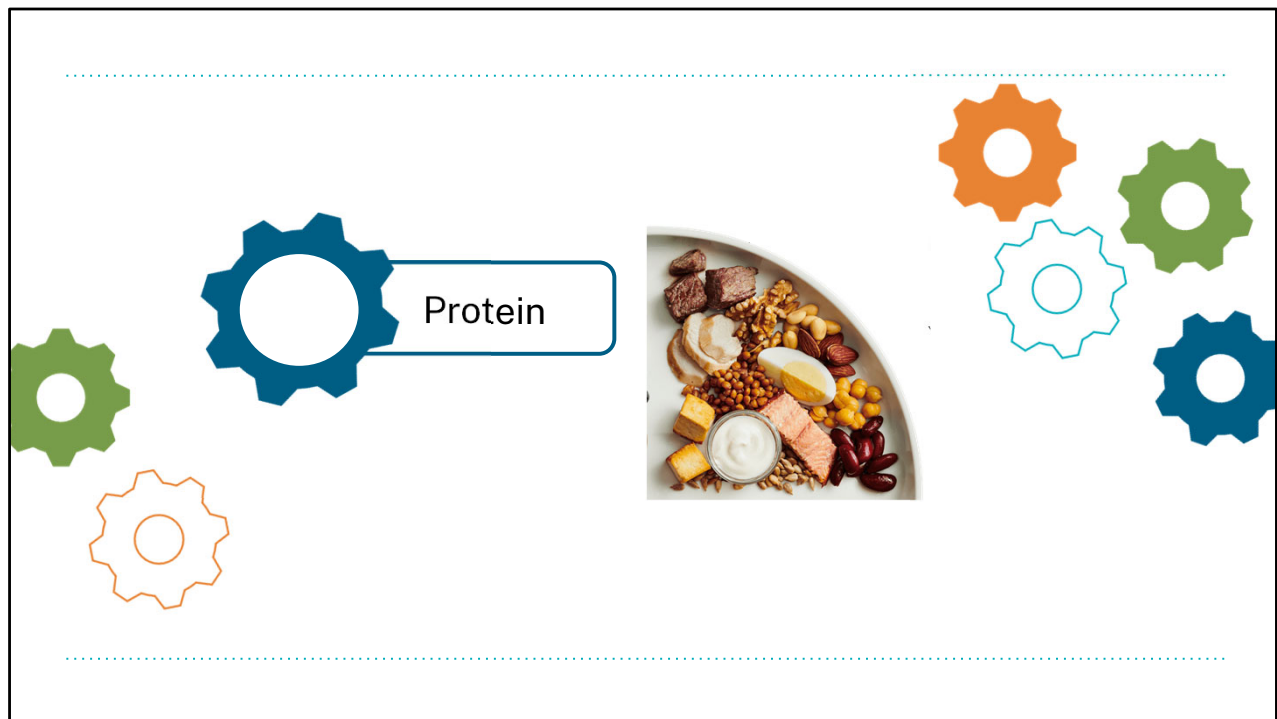
Ready? Let's begin!



Speaker Notes:

Ask: What is the name of the nutrient in these foods?

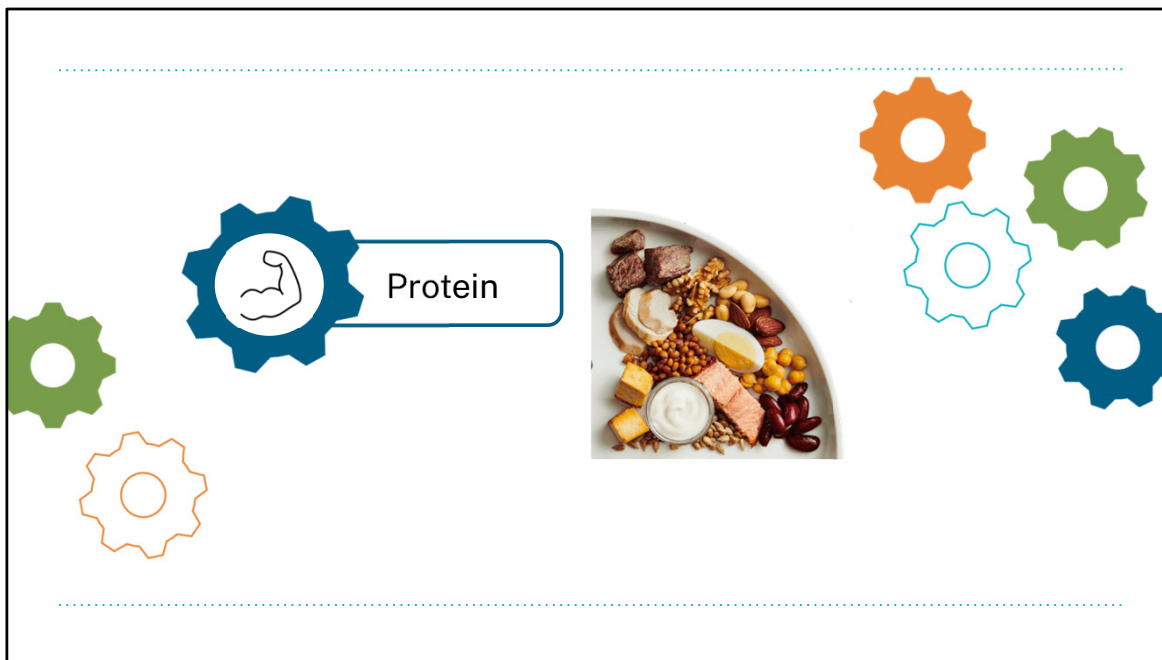
- Click to next slide to reveal “Protein”



Speaker Notes:

Ask: What does protein do for our bodies? Show me the action!

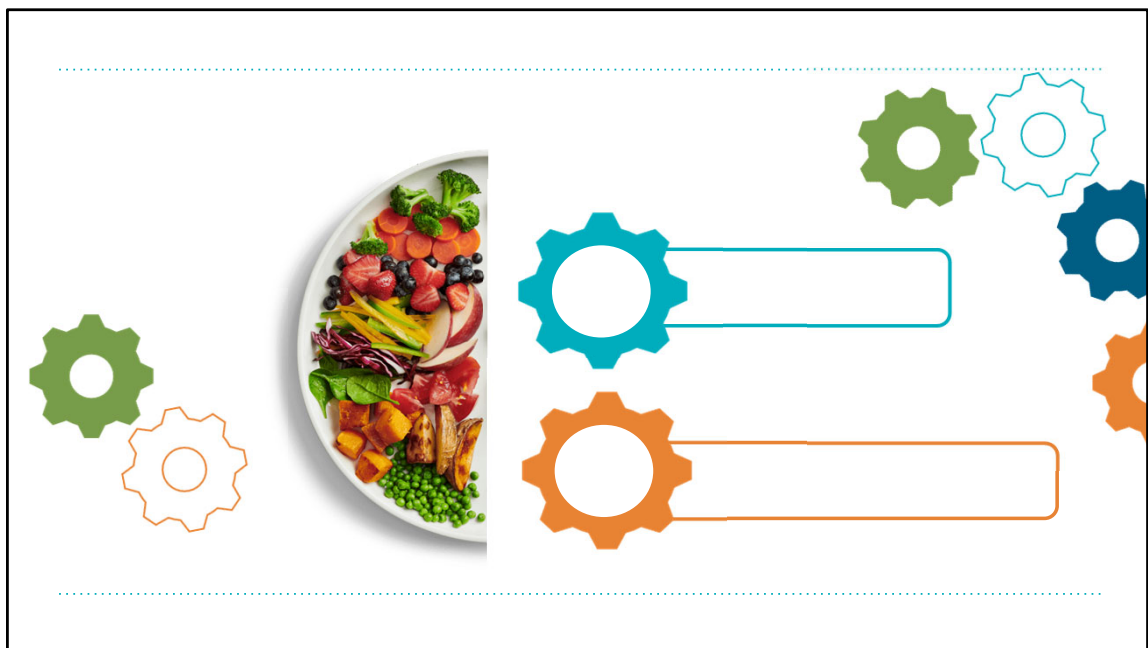
- Supports muscles – flex muscles.
- Click to next slide to reveal the icon



Speaker Notes:

Ask: What does protein do for our bodies? Show me the action!

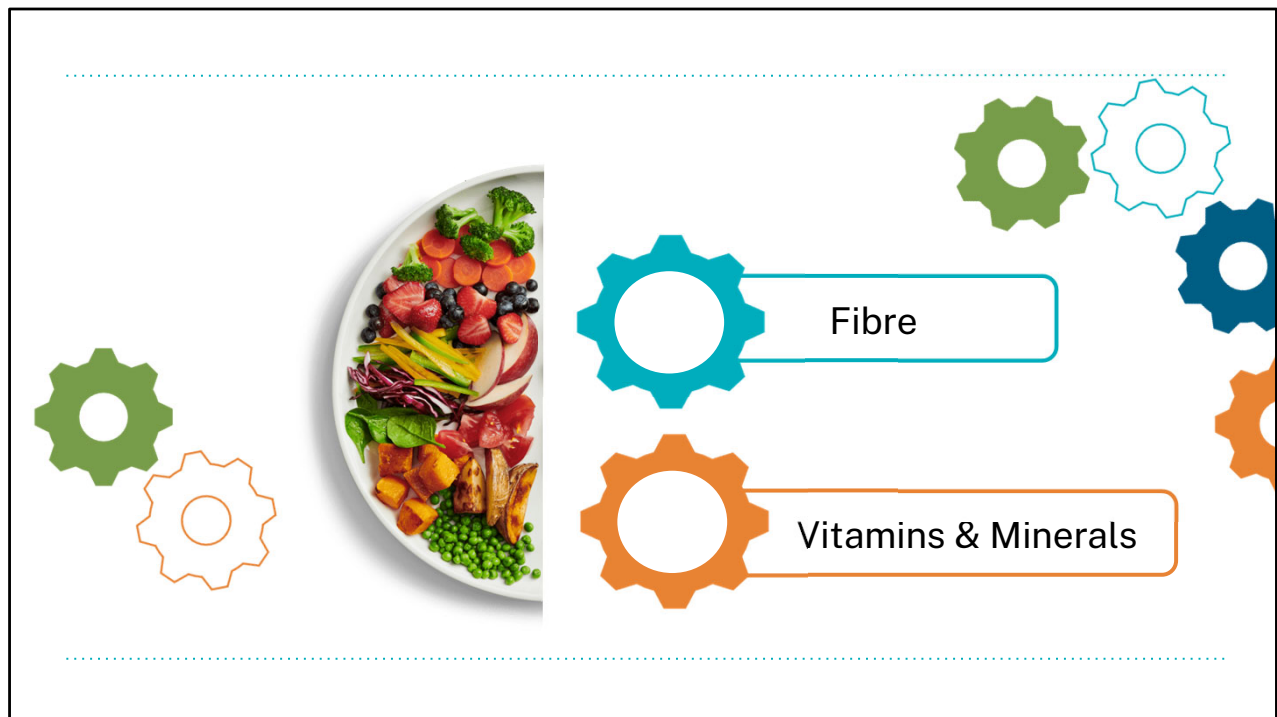
- Supports muscles – flex muscles.



Speaker Notes

Ask: Name the nutrients found in vegetables and fruits?

- Click to next slide to reveal “Fibre” and “vitamins and minerals”



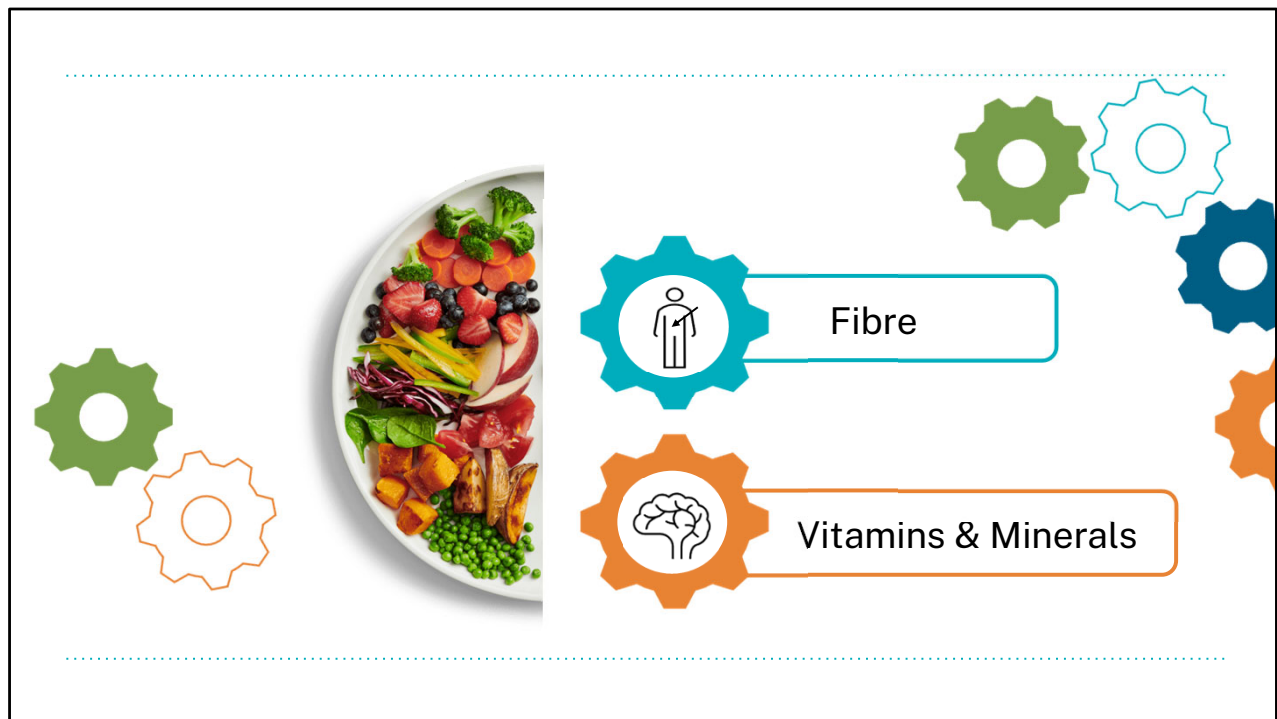
Speaker Notes

Ask: What does fibre do for our bodies? Show me the action!

- Helps remove waste from our body, helps give us lasting energy and is good for our heart – rub stomach
- Click to next slide to reveal the icon

Ask: What do vitamins and minerals do in our bodies? Show me the action!

- Support brain and body to work well – pat head –
- Click to next slide to reveal the icon



Speaker Notes

Ask: What does fibre do for our bodies? Show me the action!

- Helps remove waste from our body, helps give us lasting energy and is good for our heart – rub stomach

Ask: What do vitamins and minerals do in our bodies? Show me the action!

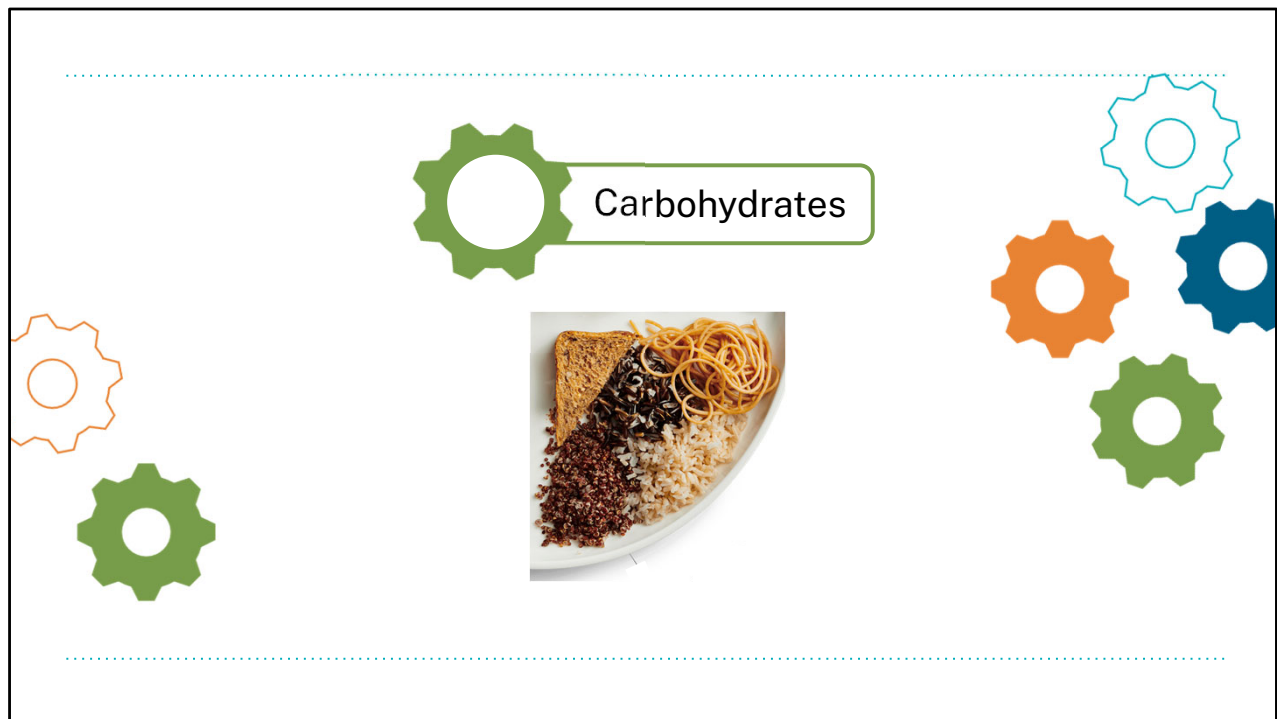
- Support brain and body to work well– pat head–



Speaker Notes:

Ask: What is the name of the nutrient in whole grains?

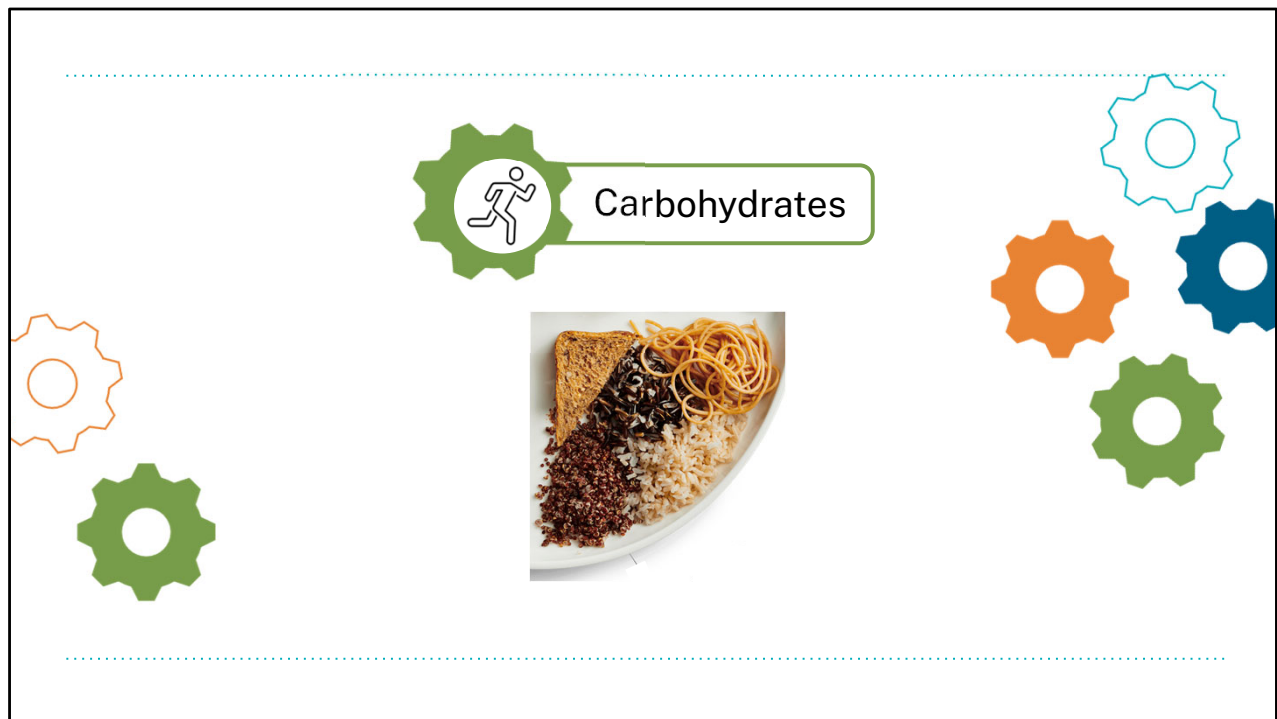
- Click to next slide to reveal “Carbohydrate”



Speaker Notes:

Ask: What do carbohydrates do for our bodies? Show me the action!

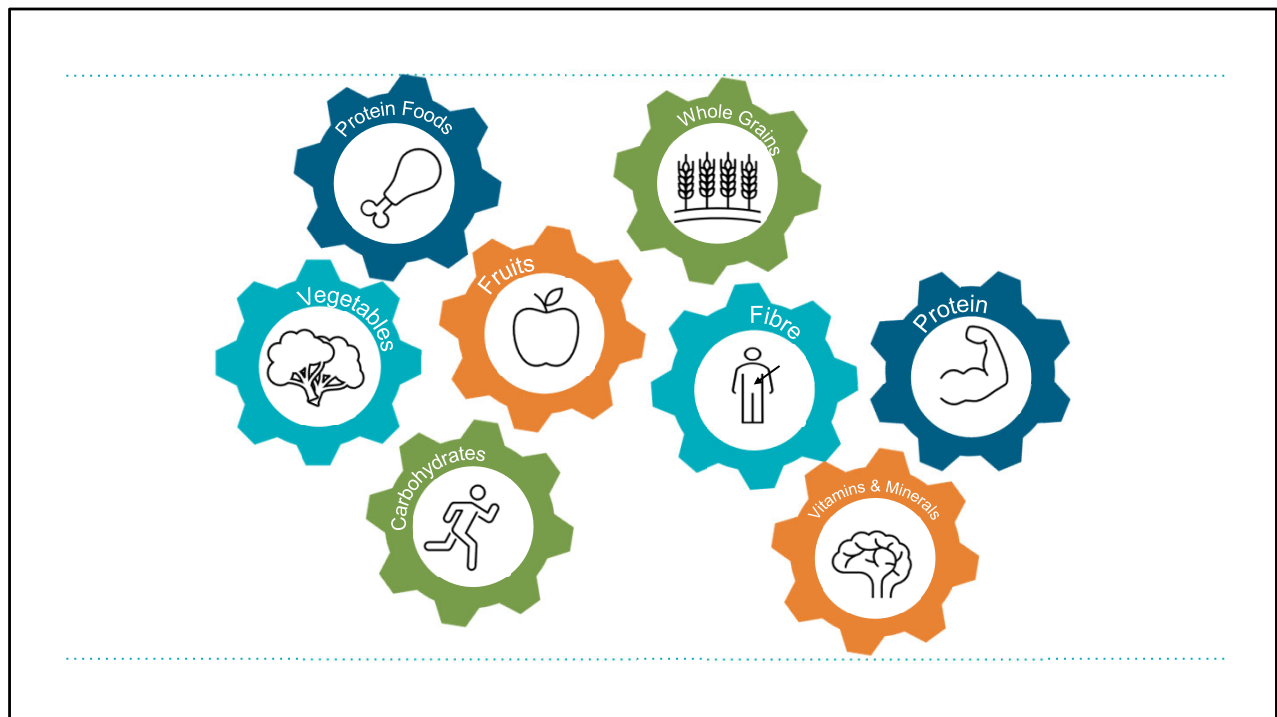
- Give us energy – run on the spot
- Click to next slide to reveal the icon



Speaker Notes:

Ask: What do carbohydrates do for our bodies? Show me the action!

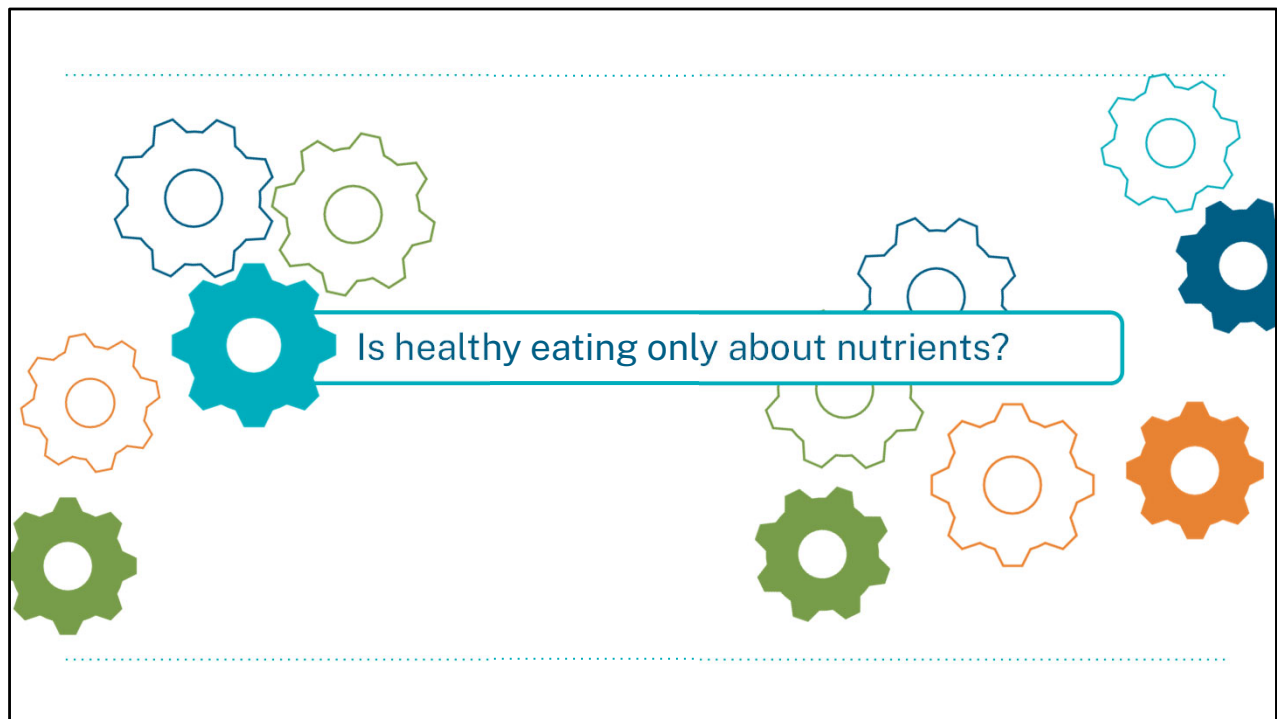
- Give us energy – run on the spot



Speaker Notes

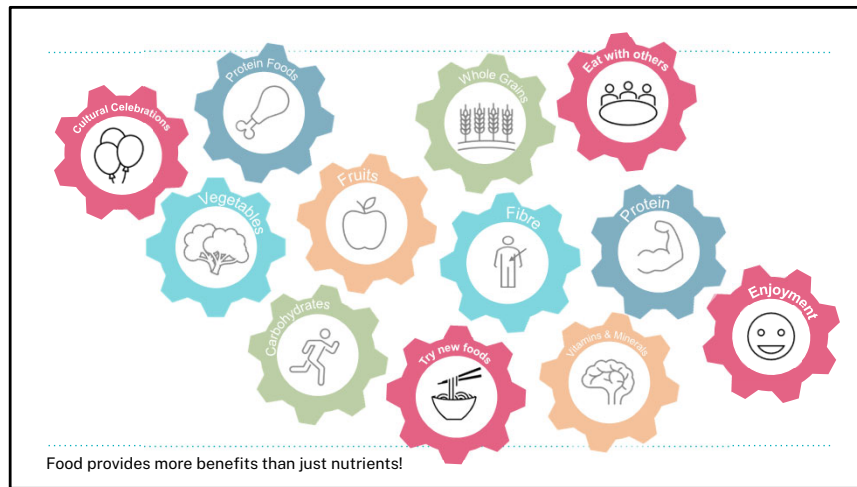
Great job everyone!

- Just like a machine needs a lot of different parts to make it run, our body needs nutrients from different types of food to work well.
- Each group of food plays a part in keeping our body healthy, so it is important to eat a variety of foods.

**Speaker Notes**

Is healthy eating only about the nutrients we eat?

- No, healthy eating is not just about the nutrients we get from food. There are many reasons we eat the foods we do.



Speaker Notes

Food provides more benefits than just nutrients.

Enjoyment

Enjoying our food is an important part of healthy eating.

Ask: Who would like to share what their favourite food is?

- Answers will vary
- The foods we enjoy can be different based on our personal preferences, our family culture or religion, allergies and what is available in the area we live.

Exploring new foods

- Eating is a chance to be adventurous and explore new foods with your senses.
- Think about your favourite food: what colour is it? What does it smell like? What does it taste like? What is the texture (e.g. smooth or crunchy or a mix of textures)?
- Trying new foods can be a way to broaden the types of foods you like:
 - Keep in mind as you get older, your taste buds can change too. A food you didn't like last year, you might like now.
 - By trying new foods, you may discover new favourite foods that you didn't know about before.

Eating with others

- Eating often brings people together and can be an important time to socialize connect with family and friends.

Cultural Celebrations

Food is often a central part of cultural celebrations and traditions.

Ask: Is there a specific type of food that you typically have on your birthday?

- Answers may vary – birthday cake may be common or other types of foods.
- Food is a great way to learn about new cultures and food practices from around the world.

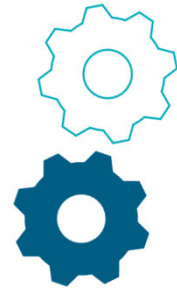
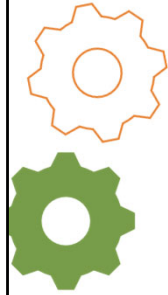
Beyond the Nutrients

1. Divide into groups of 3 or 4 students.
2. Find your conversation card station.
3. Discuss your answers to the questions on the card.
4. When time is up, rotate to the next card station.

What flavours do you like to eat?

Who do you eat your meals with?

What is a food that you love the smell of?



Speaker Notes

Instructions

Preparation and set-up:

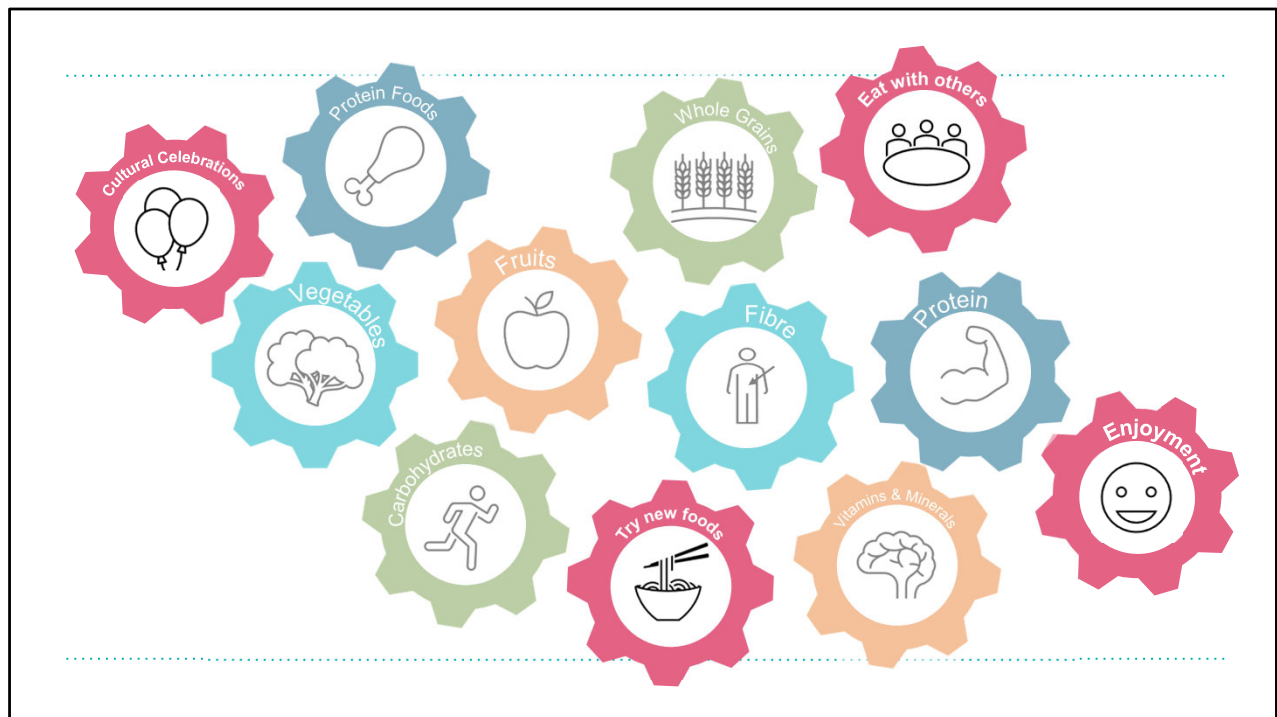
- Print and cut out Beyond the Nutrients Conversation Cards.
- Set up stations around the room with a couple question cards at each station (the number of stations will vary depending on class size).

Activity:

- Divide students into groups of 3-4 and assign each group a station to start.
- Allow ~3 minutes at each station for each student to have time to share their answers to the questions.
- Rotate students through all the stations.

Debrief and discuss reflections as a class

- Did you notice that you had different answers than others in your group?
- Pick a couple question cards and ask if students want to share their answers. For example:
 - What is a food you eat to celebrate a specific holiday?
 - What is the most unusual food you have ever had?
 - What is a food you can prepare by yourself?
- What we eat, how we prepare foods and family traditions can be very different. How we eat is personal.



Speaker Notes

Summary of what we learned

- Canada's food guide plate shows three groups of food: Vegetables and Fruits, Protein Foods and Whole Grains. Each group of food provides different nutrients for our body. The main thing to remember is that we need to eat a variety of foods to grow, have energy and feel good.
- Canada's food guide also tells us it is important to drink water each day to replace the water our body loses. We may need to drink more water on hot days or when we are active. One of the best ways to know we are drinking enough water is to check the colour of our urine to see if it is a pale yellow or clear.
- Healthy eating practices can look very different for each of us. What we eat, how we prepare foods, where we eat at home can be different for so many reasons.
- Healthy eating is not just about getting nutrients from food. It is about enjoying our food, exploring new foods and cultures and a chance to connect with other people.