

Intended audience: Grade 5 students in Alberta

Estimated time: 30-45 minutes

Speaker Notes:

- Hydration is the process of replacing body fluids that have been lost through sweating, breathing, and getting ride of waste.
- Today we are going to play a game to learn more about hydration and our bodies.

Teacher Background:

- For a PowerPoint version of this presentation, please contact: publichealth.nutrition@ahs.ca

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Image source:

Image designed by Freepik: https://www.freepik.com/free-vector/flat-world-water-day-illustration_12690070.html

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Why is water important in your body?

- a) Your blood is mainly water
- b) It helps control your body temperature
- c) It cleans waste out of your body
- d) All of the above



Speaker notes:

- Go over the question.
- Answer is on the next slide.

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Why is water important in your body?

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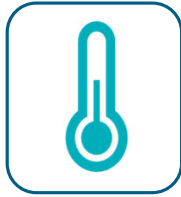


Correct answer: **d) All of the above**

Speaker notes:

- Correct answer is **d) all of the above.**
- Discuss speaking points on the next slide.

Why is water important in your body?



Speaker notes:

- Water makes up about 50 to 70% of your body. Your body depends on water to survive and carry out many functions.
- Every cell, tissue and organ in your body needs water to work properly. For example, water:
 - Gets rid of waste in the body.
 - Keeps your temperature normal - cools your organs and the insides of your body, which helps to keep your overall temperature in check.
 - Helps to pads and cushion the area between your bones. This helps you to bend and rotate as you play without damaging them or having pain.
 - Is a large part of our blood. Blood pumps oxygen all around our body.
 - Blood, in turn, carries vitamins, minerals and other important materials through our body allowing us to feel our best.

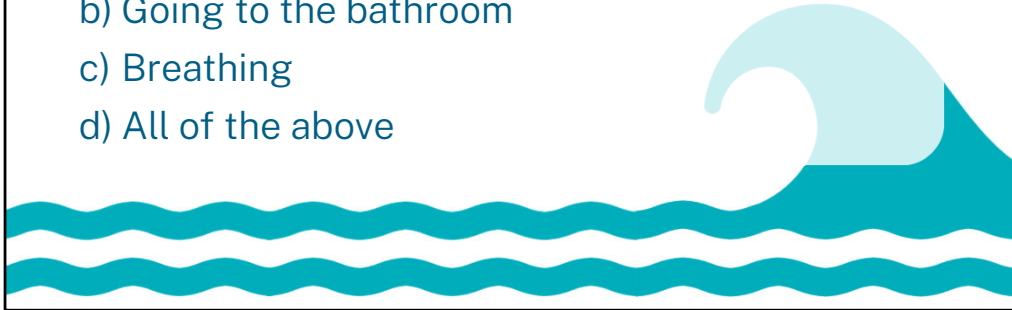
References:

Lewis, JL. About body water. May 2024. Merck Manual. Available from: <https://www.merckmanuals.com/en-ca/home/hormonal-and-metabolic-disorders/water-balance/about-body-water>

Dietitians of Canada. Facts on fluids – how to stay hydrated. October 25, 2021. UnlockFood.ca. Available from: <https://www.unlockfood.ca/en/Articles/Water/Facts-on-Fluids-How-to-Stay-Hydrated.aspx>

How do our bodies lose water?

- a) Sweating
- b) Going to the bathroom
- c) Breathing
- d) All of the above



Speaker notes:

- Go over the question.
- Answer is on the next slide.

How do our bodies lose water?

- a) Sweating
- b) Going to the bathroom
- c) Breathing
- d) All of the above

A decorative graphic of a teal wave with a white crest, positioned on the right side of the slide. Below the wave, there are two horizontal wavy lines in a lighter teal color.

Correct answer: **d) All of the above**

Speaker notes:

- Correct answer is **d) all of the above**
- Discuss speaking points on the next slide.

How do our bodies lose water?

Sweating



Breathing



Urine



Speaker notes:

Ways our body loses water:

- When we sweat from exercise, hot weather, or high body temperature, water is lost as it evaporates from our skin.
- Water is also lost daily from our lungs as we breathe. The water turns into water vapor and goes into the air.
- Producing urine (pee) from the kidneys - The kidneys are two bean shaped organs about the size of your fist. They filter our blood, removing some water in the process. Depending on what our body needs, the kidneys may produce different amounts of urine daily.
- Normally, very little water is lost from our digestive tract. However, when we are sick (e.g. vomiting or diarrhea) it can also lead to large amount of fluid loss from our bodies.

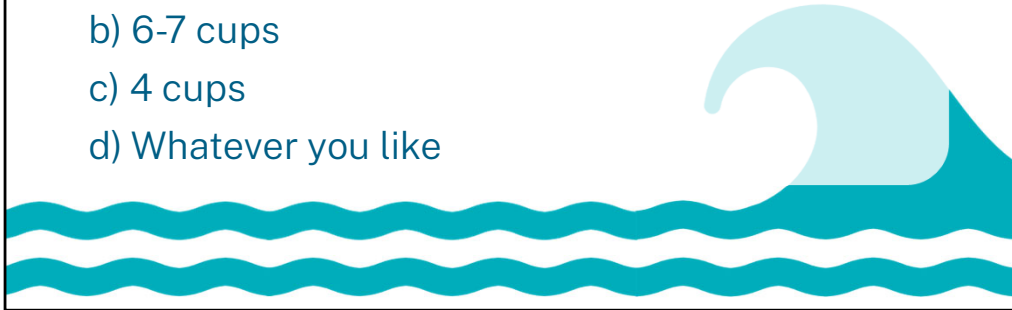
References:

Lewis, JL. About body water. May 2024. Merck Manual. Available from: <https://www.merckmanuals.com/en-ca/home/hormonal-and-metabolic-disorders/water-balance/about-body-water>

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How much fluid do you need to drink in a day?

- a) 12 cups
- b) 6-7 cups
- c) 4 cups
- d) Whatever you like



Speaker notes:

- Go over the question
- Answer is on the next slide.

How much fluid do you need to drink in a day?

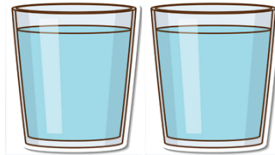
- a) 12 cups
- b) 6-7 cups
- c) 4 cups
- d) Whatever you like

Correct answer: **b) 6-7 cups**

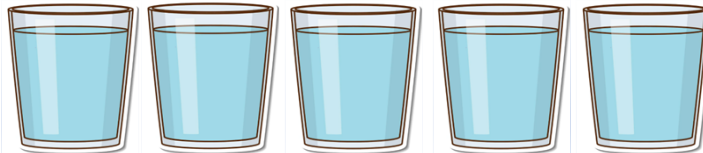
Speaker notes:

- Correct answer is **b) 6-7 cups**
- Discuss speaking points on the next slide.

How much fluid do you need to drink in a day?



6-7 cups



Designed by Freepik

Speaker notes:

- The amount of fluid we need to drink each day depends on our age and a few other factors, but most people your age (9-13 years) need about 6-7 cups of fluid per day.
- One cup is 8 oz or 250 mL. As a reference, a standard size for bottled water is 2 cups or 500 mL.

Optional activity: Guess how many cups?

- Prepare a few water bottles of different sizes.
- Ask students to guess how many cups of water can fit in each of the bottles.
- Get students to divide the total volume of the water in mL by 250 mL to calculate how many cups of water can fit in each bottle.
- **Or** fill each water bottle with water and use measuring cups to measure out how many cups of water are in each bottle.

Background information

- Fluid recommendations are based on age and sex.
- For children, the recommended amount of fluid daily is from liquids alone and foods with high water content are not considered as part of this amount.

Reference:

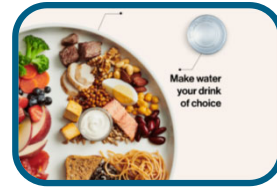
Dietitians of Canada. Facts on fluids – how to stay hydrated. October 25, 2021. UnlockFood.ca. Available from: <https://www.unlockfood.ca/en/Articles/Water/Facts-on-Fluids-How-to-Stay-Hydrated.aspx>

Image source:

https://www.freepik.com/free-vector/sticker-glass-water-white-background_20721614.htm

Make water your drink of choice

- ✓ With meals
- ✓ In between meals
- ✓ Sip through the day
- ✓ Before, during, and after activity
- ✓ If thirsty



Speaker notes:

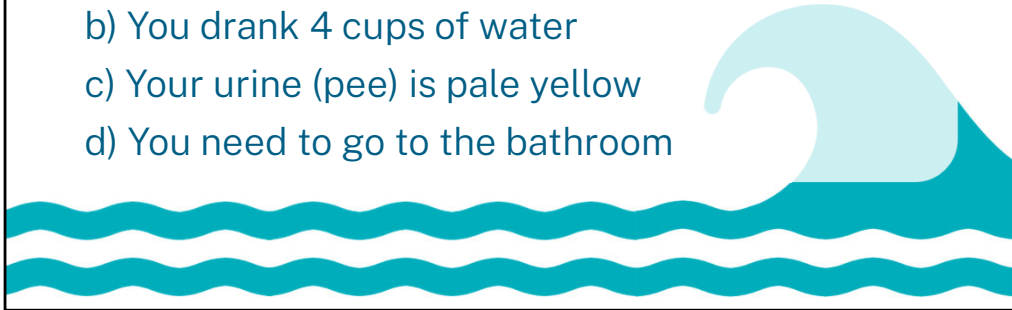
- Making water your drink of choice helps you make sure you have enough water to keep your body running well and at its best.
- It's a good idea to drink water:
 - With each meal, between meals, and sip on water throughout the day
 - Before, during and after exercise
 - If you feel thirsty

Reference:

Government of Canada. Make water your drink of choice. Canada's food guide. 2021 Jan 26. Available from: <https://food-guide.canada.ca/en/healthy-eating-recommendations/make-water-your-drink-of-choice/>

How do you know if you are drinking enough fluids?

- a) Your heart beats faster
- b) You drank 4 cups of water
- c) Your urine (pee) is pale yellow
- d) You need to go to the bathroom



Speaker notes:

- Go over the question.
- Answer is on the next slide.

How do you know if you are drinking enough fluids?

- a) Your heart beats faster
- b) You drank 4 cups of water
- c) Your urine (pee) is pale yellow
- d) You need to go to the bathroom

Correct answer: **c) Your urine (pee) is pale yellow**

Speaker notes:

- Correct answer is **c) your urine (pee) is pale yellow.**
- Discuss speaking points on the next slide.

How do you know if you are drinking enough fluids?



Speaker notes:

How do you know if you are drinking enough fluids?

You are likely drinking enough if:

- You drink water regularly throughout the day
- You don't feel thirsty very often
- You urinate (pee) every few hours during the day
- Your urine (pee) is light yellow (Did you know? If your urine is clear, you might be drinking more water than your body needs!)
- You generally feel energized and well

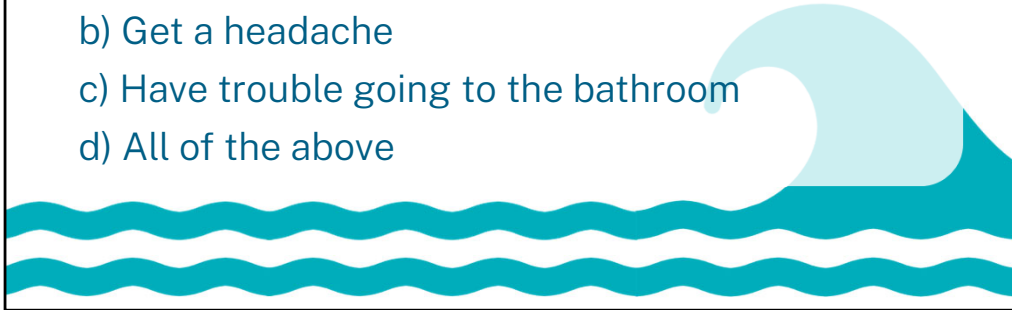
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How might your body respond if you do not drink enough fluids?

- a) Feel tired
- b) Get a headache
- c) Have trouble going to the bathroom
- d) All of the above



Speaker notes:

- Go over the question.
- Answer is on the next slide.

How might your body respond if you do not drink enough fluids?





- a) Feel tired
- b) Get a headache
- c) Have trouble going to the bathroom
- d) All of the above

Correct answer: **d) All of the above**

Speaker notes:

- Correct answer is **d) all of the above**
- Discuss speaking points on the next slide.

How might your body respond if you do not drink enough fluids?

 Dry mouth Dry eyes Can't sweat	 Headache Dizziness Fainting
 Muscle cramp Constipation Racing heart	 Tiredness Weakness Irritation

Speaker notes:

When you don't drink enough water (or other fluids), your body has a hard time running well. This is known as dehydration.

When we don't get enough to drink, we might notice:

- Dry mouth, tongue, and lips
- Dry eyes and skin
- We may even stop sweating. As we learned, sweating is a way that our body cools us down, so when we stop sweating our bodies get hotter and hotter, instead of cooling down.
- We may get headaches, feel dizzy or confused, or even faint (pass out).
- Our muscles may feel tired and cramp (like in our legs), while other muscles like the heart may race or beat really fast to try and deliver enough blood around the body (remember, water is a big part of blood and if we are dehydrated, the amount of blood in our body decreases).
- We may stop going to the bathroom.
- Our mood and general function might be affected, leading to tiredness, feelings of weakness, and being irritable.

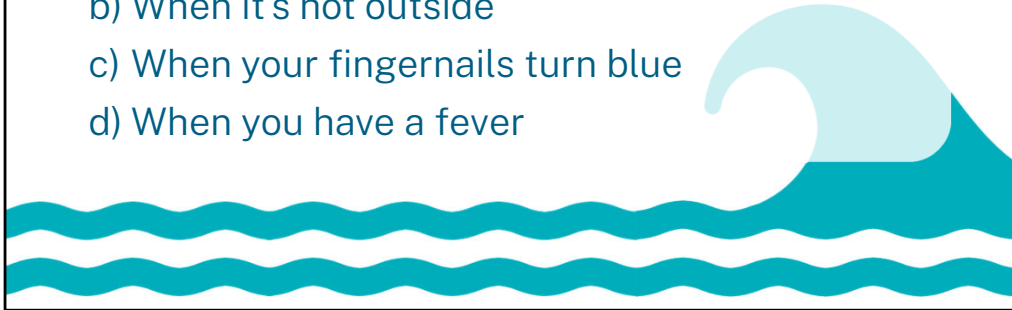
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When might you need more fluids?

Choose the answer that is not correct.

- a) When active or playing sports
- b) When it's hot outside
- c) When your fingernails turn blue
- d) When you have a fever



Speaker notes:

- Go over the question.
- Answer is on the next slide.

When might you need more fluids?

Choose the answer that is not correct.

- a) When active or playing sports
- b) When it's hot outside
- c) When your fingernails turn blue
- d) When you have a fever



Correct answer: **c) When your fingernails turn blue**

Speaker notes:

- Correct answer is c) **when your fingernails turn blue**
- Discuss speaking points on the next slide.

When might you need more fluids?



Speaker notes:

There are times when our body needs more fluids (drinks), especially water. Some examples include:

1. When you are sick or have a fever: Our body uses more water to fight off sickness and when we have a fever, we sweat to cool our bodies. This means our body loses more water than when we are not sick.
2. When being active or playing sports: As we move our bodies through play, activity, and sports, we heat up and we sweat. We know that sweat is important to cool our bodies, but it does mean that we lose more water. Also, drinking water cools our body and helps us to continue to be able to do an activity.
3. When the weather or temperature is hot: Our body will use more water to keep it cool on hot days. It is important to drink extra water, even if you are not being more active than normal.

References:

Popkis, BM, D'Anci, KE, Rosenberg, IH. Water, hydration and health. Nutrition Reviews. 2010 Aug; 68(8): 439-458. Available from: www.academic.oup.com/nutritionreviews/article/68/8/439/1841926

Dietitians of Canada. Facts on fluids – how to stay hydrated. October 25, 2021. UnlockFood.ca. Available from: <https://www.unlockfood.ca/en/Articles/Water/Facts-on-Fluids-How-to-Stay-Hydrated.aspx>



What tips would you give a friend to make sure they are drinking enough fluids?



Speaker notes:

Discuss: “What tips would you give a friend to help to ensure they are drinking enough?”
Some ideas:

- Don't wait until you are thirsty to drink. Sip water steadily throughout the day.
- Drink a glass of water with each meal and between meals.
- Drink water before, during, and after exercise.
- Bring a reuseable water bottle to use at school, in the car, activities, and sports. Check your bag before you leave the house and make it a habit.
- Drink more fluids than usual when the weather is hot, especially if you're active.

Optional video: <https://www.youtube.com/watch?v=9beQQkRhqkM> (Benefits of Water, Healthy Canadians)

Reference:

Government of Canada. Make water your drink of choice. Canada's food guide. 2021 Jan 26. Available from: <https://food-guide.canada.ca/en/healthy-eating-recommendations/make-water-your-drink-of-choice/>

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What are some nutritious drink options other than water?

- a) Cow's milk
- b) Soy milk
- c) Almond milk
- d) All of the above



Speaker notes:

- Go over the question.
- Answer is on the next slide.

.....
What are some nutritious drink options other than water?

- a) Cow's milk
- b) Soy milk
- c) Almond milk
- d) All of the above

A decorative graphic at the bottom of the slide featuring a stylized wave in shades of teal and light blue. A white rectangular box is overlaid on the wave, containing the text 'Correct answer: d) All of the above'.

Correct answer: **d) All of the above**

Speaker notes:

- Correct answer is **d) all of the above**
- Discuss speaking points on the next slide.

What are some nutritious drink options other than water?



Speaker notes:

- Unsweetened milk and plant-based beverages with added calcium and vitamin D like soy milk, almond milk, oat milk, etc, are all nutritious drinks that help keep our bones strong and healthy.

Background information:

For healthy drink options other than water, Canada's food guide recommends:

- White milk (unsweetened lower fat milk)
- Unsweetened fortified plant-based beverage (e.g. soy beverage, almond beverage, etc.)

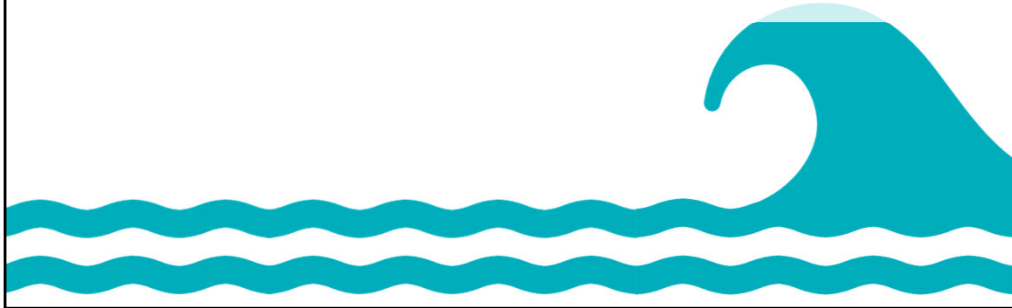
References:

Alberta Health Services. Nutrition Guideline: Health Infants and Young Children – Plant-based Beverages. May 2023. Available from: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-ng-healthy-infants-other-milks-fluid-plant-based-beverages.pdf>

Government of Canada. Make water your drink of choice. Canada's food guide. 2021 Jan 26. Available from: <https://food-guide.canada.ca/en/healthy-eating-recommendations/make-water-your-drink-of-choice/>

True or False:

Sports drinks are the best option for physical activity that lasts **less than 1 hour**.



Speaker notes:

- Go over the question.
- Answer is on the next slide.

True or False:

Sports drinks are the best option for physical activity that lasts **less than 1 hour**.

A decorative graphic of teal waves at the bottom of the slide. A white rectangular box is overlaid on the waves, containing the text 'Correct answer: False'.

Correct answer: **False**

Speaker notes:

- Correct answer is **False**.
- Discuss speaking points on the next slide.



Speaker notes:

- For physical activities lasting less than one hour, water is best choice to maintain hydration. During short physical activity sessions, the energy and fluids stored in our body provides enough fuel for us to do the activity. Remember to drink water and other fluids through the day before your activity, have sips of water during your activity or sport, and then drink water after to refill your body with the fluids you lost.
- Sports drinks, also called hydration drinks, provide fluid, along with other ingredients like sugar and salt (sodium) to replace the energy being used by your body and salt being lost through sweat. Even though sports drinks are often advertised as something you “need” to drink, having water and a snack like an orange or banana will help you feel and play your best in most cases.

Background Information:

Sports drinks help to replace sugar in the blood used up by the muscles and brain, as well as electrolytes like sodium and potassium that are lost through sweat during intense, nonstop activity lasting more than 1 hour.

Most drinks with added vitamins, minerals, and herbs are not intended for children and youth.

Reference:

Alberta Health Services. Sports nutrition for youth: a handbook for coaches. March 2023. Available from: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf>

What types of drinks may have warning labels that say they are not for kids?

Choose two choices.

- a) Energy drinks
- b) Drinks with added vitamins and minerals
- c) Pop
- d) Juice

Speaker notes:

- Go over the question.
- Answer is on the next slide.

What types of drinks may have warning labels that say they are not for kids?

Choose two choices

- a) Energy drinks
- b) Drinks with added vitamins and minerals
- c) Pop
- d) Juice

Correct answers: **a) and b)**

Speaker notes:

- Correct answers are **a) energy drinks and b) drinks with added vitamins and minerals**
- Discuss speaking points on the next slide.

What types of drinks may have warning labels that say they are not for kids?



“Caution: This product is only intended for healthy adults, 18 years of age or older”

“Drink responsibly. Not recommended for children under 18 years of age”

“Caution: Not recommended for those under 14 years old. Do not drink more than 1 can per day. Do not drink on the same day as other supplements.”

Speaker notes:

- Some drinks are not safe for kids to drink.
- It is important to look at the label and to talk to a parent or caregiver to help you determine if a drink is safe.
- Energy drinks, pre-workout powders, and some flavoured drinks with added vitamins, minerals or amino acids (the building blocks of protein) may come with warning statements such as, “Not recommended for those under 18 years old” or “Only intended for healthy adults.”
- Energy drinks are not recommended for children because they have high levels of caffeine, sugar, and other ingredients, such as vitamins and herbs. Taking too many vitamins and minerals isn’t safe.
- Some drinks may have high amounts of caffeine, but no label warning that it’s not for kids (e.g. some coffee drinks). New drinks are always coming onto the marketplace and being marketed in new ways, so talk to your parent or caregiver to determine if a drink is safe.

Background information:

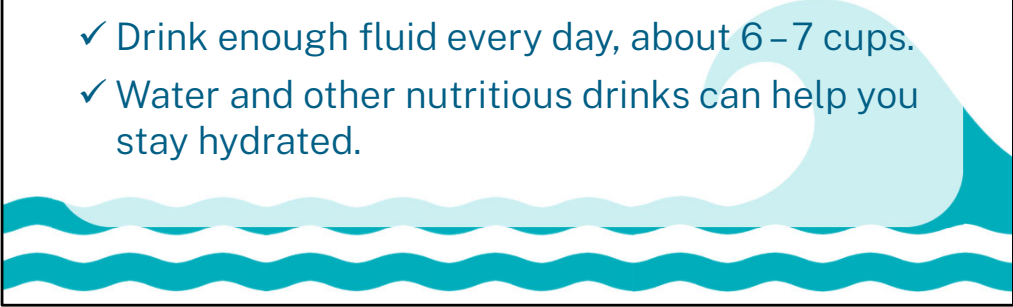
- Health Canada has launched new labelling elements for supplemented foods to help consumers make informed food choices. This includes drinks with added vitamins and minerals, added caffeine, or amino acids.
- Supplemented foods will have a standardized Supplemented Food Facts table and some supplemented foods will also carry a caution identifier when it contains supplemental ingredients that can pose a risk to your health if you eat or drink too much of them or are pregnant, a child, or a member of another vulnerable group. Example of a caution identifier - “Not recommended for those under 14 years old, pregnant or breastfeeding women or individuals sensitive to caffeine”.

References:

Alberta Health Services. Sports nutrition for youth: a handbook for coaches. March 2023. Available from: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf>

Health Canada. Supplemented foods: overview. May 2, 2024. Available from: <https://www.canada.ca/en/health-canada/services/food-nutrition/supplemented-foods.html>

Remember... Hydration is Important!

- ✓ Your body needs fluid to work well.
 - ✓ Water is the best way to keep hydrated.
 - ✓ Drink enough fluid every day, about 6–7 cups.
 - ✓ Water and other nutritious drinks can help you stay hydrated.
- 
- A decorative graphic at the bottom of the slide features a light blue sun partially obscured by a dark blue wave on the right side. Below the sun and wave are several horizontal wavy lines in shades of light blue and teal, representing water.

Speaker notes:

- Review summary points on the slide.