



Student Activities

Upper Primary Years 5 & 6

Week 14

Title: Fuelling the Tank!

Theme: Hydration

Introduction

The human body contains an abundance of water. It is present in every cell in the body including skin, muscles, the brain and other organs. Water is a vital component of the cellular processes that occur to ensure the body functions at its best.

Every day, we lose water from our body when we breathe, go to the toilet, and sweat. Bleeding and vomiting can also cause fluid loss, but are much less common.

We need to replace our fluid losses with fluid intake. It is important to drink enough fluid each day to maintain the body's hydration level. If we don't drink enough, the body can become dehydrated. Dehydration can lead to headaches, dizziness, illness and poor concentration.

Athletes and people who are very active need lots more fluids because they sweat a lot. On average an adult athlete will need to drink at least 500ml of fluid every hour when they are exercising to maintain their hydration. However, if they are training or competing in hot weather, they will need to drink more than this. We all need to drink more fluid when it's hot, compared to cooler weather, as we sweat more in the heat.

The following table shows the recommended amount of fluid that children and adults should consume each day

The Nutrient Reference Values for Australia and New Zealand (2005) recommends:

Children aged 4-8 years require 1.6L water/day of which **1.2L should come directly from drinking fluids**

Boys aged 9-13 years require 2.2L water/day of which **1.6L should come directly from drinking fluids**

Girls aged 9-13 years require 1.9L water/day of which **1.4L should come directly from drinking fluids**

Adult males aged 19-30 years require 3.4L water/day of which **2.6L should come directly from drinking fluids**

Adult females aged 19-30 years require 2.8L water/day of which **2.1L should come directly from drinking fluids**

(NHMRC, 2005)





Learning Activity 1 – How Much is Enough?

Using the NHMRC guidelines above, work out the fluid intake requirements of your favourite athlete. Write this in the table below. Now, get thinking and design a training program for your athlete. Focus on how long the session will go for. How much extra fluid does your athlete need to drink during their training session? Write this in the table below. Can you calculate the entire fluid intake that your athlete needs for the day (daily fluid intake + training fluid intake)? Fill out the table below. How does this compare to how much you should drink each day?

Amount your athlete should drink each day	How much extra they should drink for training/competition	How much they should drink in TOTAL for the day

Learning Activity 2 – Have a Plan

Discuss the results of Learning Activity 1 as a group. Can you talk about an appropriate hydration plan for your athletes to be able to drink all that fluid each day? It's not ideal for an athlete to consume large quantities of fluid all at once as it can interfere with their performance. They must avoid gastrointestinal upset, bloating, and frequent toilet stops, which can happen if they drink too much too quickly.

For example, if your athlete needs to drink 4.5L (or 4500ml) every day including their training fluids, how would you suggest they do it? How much would they drink each hour? What sized bottle would they use?

Learning Activity 3 – Best Fluids to Drink

Name and list as many different types of fluid you can think of. As a group, talk about the Pros and Cons of the fluids for your favourite athletes. Remember that athletes have very high energy and carbohydrate needs and compared, so they should include some high energy drinks in their diet to meet their energy needs:

- **Water** is very hydrating and is the body's preferred fluid type;
- **Milk** is also hydrating and contains calcium to help strong bones and might be a good fluid to include at breakfast or in a milkshake as a snack;
- **Juice** is good but only a small glass occasionally, and 100% juice and with no added sugar (juice might be a good alternative to plain water, and a great fluid to have a small glass of at breakfast time);
- **Cordial and soft drinks** contain too much sugar and no beneficial nutrients. They are not appropriate fluids for good hydration or good health;
- **Sports Drinks** are appropriate to assist with hydration in elite athletes or those who participate in high intensity, long duration activity.
- **Energy Drinks** also contain too much sugar, additives, and caffeine, and can be very unhealthy and potentially dangerous for both children and adults. Energy drinks can cause nervous system complications and anxiety, increased heart rate, increased blood pressure, poor concentration, and the potential long term complications associated with consuming high sugar drinks, like obesity and diabetes. Athletes





should not consume energy drinks as they do not contain the right types of nutrients to be beneficial for optimal performance or good health.

Learning Activity 4 – Shake It Up!

Based on what you learnt about the types of fluids athletes should drink, and how much fluid they need each day, create a super smoothie or shake recipe for your athlete. List all the ingredients, and the method on how to mix it together. How much fluid does this provide to your athlete? What other healthy ingredients have you chosen to include?

Write a recipe describing how to make your shake. Include the ingredients, volumes and method. Explain why you have chosen each ingredient.

Support materials and references

For Kids

1Seven article: [Top up your tanks](#)

1Seven article: [Soft drinks and Sugar](#)

1Seven article: [Healthy Snacks](#)

