**Water**

* Essential nutrient that must be replaced everyday
* You can only survive a few days without water, whereas a deficiency of the other nutrients may take weeks, months, or years to develop
* Body weight is ­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_water
  + (exact percentage depends on individual’s body amount of bone, muscle, and fat)
* Body obtains water from two sources:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* To make sure we get enough water, the body stimulates feelings of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– alerts you that your personal water supply is running low.

**How much to drink?**

* Drinking \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glasses of water everyday avoids triggering the ‘warning signal’.
* To be more accurate for your body:
  + Multiply your body weight x0.55 and divide by 8 to get the number of 8 oz. glasses of water to drink a day.
  + Example: Someone who is 150 pounds
    - 150 x 0.55 = 82.5
    - 82.5/8 = 10 glasses (8 oz.) of water per day!
* How many glasses do you need? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dehydration**

* Dehydration means your body does not have as much \_\_\_\_\_\_\_\_\_\_\_\_\_\_and fluids as it should.
* Dehydration can be mild, moderate, or severe based on how much of the body's fluid is lost or not replenished.
  + When it is severe, dehydration is a life-threatening emergency
  + Dehydration can be caused by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or both.
* Your body may lose too much fluids from:

**Where does the Water go?**

Water leaves the body through

* Urine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in colour = drinking enough H2O = wastes are being flushed out = good!
* When you sweat, it reduces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ generated by muscles to cool you down.

**Functions of Water**

**Ingoing and Outgoing of Water**

* Balance between water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (average 2. 6 liters each day)

**Ingoing**

* Food-water intake = average 700-1000 mL daily
* Liquid-water intake = average 1200-1500 mL daily
* Chemical reactions in body = average 200-300 mL daily

**Outgoing**

* Solid waste = 150-200 mL
* Urine = 1000-2000 mL
* Sweat = 350 mL
* Exhale as water vapour = 350 mL

**Vitamins and Minerals**

Called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Vitamin Basics**

* Complex organic substances that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Often act as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Two categories: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soluble and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soluble
* Water-soluble vitamins: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Fat soluble vitamins: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Antioxidant Vitamins**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Water Soluble Vitamins**

* Dissolve in water – found in the watery components of food
* Once absorbed, go directly into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– cannot be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for later use
* Excess amounts are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the urine
* These vitamins are best consumed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by eating a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of foods that supply them
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can cause harm – ie. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_must work too hard to remove excess
* Vitamin C
* The B-Vitamins (8 of them)
  + Vitamin B1 (thiamine)
  + Vitamin B2 (riboflavin)
  + Vitamin B3 (niacin)
  + Vitamin B5 (pantothenic acid)
  + Vitamin B6 (pyridoxine)
  + Vitamin B7 (biotin)
  + Vitamin B9 (folic acid)
  + Vitamin B12 (various cobalamins

**Fat Soluble Vitamins**

* Dissolve in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – both in foods and the body
* Like fat, they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in the body until needed
* Usually carried in the blood in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Excess amounts can build up and cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to the body
* Vitamin A
* Vitamin D
* Vitamin E
* Vitamin K

**Minerals**

* Help \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ complete chemical reactions in the body
* Often work as a team with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (i.e., vitamin C boosts iron absorption)

**Major Minerals**

* Needed and found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amounts in the body:
* More than 250 milligrams recommended daily
  + Calcium
  + Phosphorus
  + Potassium
  + Sulfur
  + Sodium
  + Chlorine
  + Magnesium

**Trace Minerals**

* Body needs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amounts – less than 20 milligrams daily.
* Others are identified, but less is known about their role in health.
* All are absorbed in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and transported and stored in parts of the body.
  + Iron
  + Copper
  + Zinc
  + Manganese
  + Iodine
  + Selenium

**Major and Trace Minerals**

* Both equally as important
* Aid normal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ functioning and muscle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Maintains body fluid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (electrolytes)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are especially important in teen years
* Sources: fresh, whole food - veggies, whole grains, meat, poultry, dairy

**Calcium**

* Builds bones in length and strength
* Slows the rate of bone loss
* Reduces risk of osteoporosis
* Helps muscles contract and heart beat
* Plays a role in nerve function
* Helps the blood clot

**Sources?**

**Sodium**

Electrolyte:

* Helps regulate movement of body fluids
* Helps muscles relax (including your heart)
* Helps transmit nerve impulses
* Helps regulate blood pressure

**Sources?**

**Iron**

* Serves as essential part of hemoglobin and other enzymes
* Helps in brain development
* Supports a healthy immune system

**Sources?**

**Phytonutrients**

* Also called Phytochemicals – means plant chemicals
* Compounds in plant-based foods
* Appear to promote health
* Serve as antioxidants
* Enhance immunity
* Enhance communication among body cells
* Cause cancer cells to die
* Detoxify carcinogens
* Repair damage to DNA

**Supplements? Take away information**