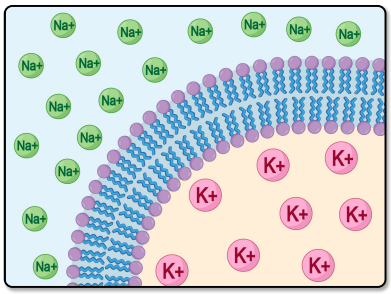
TOPIC: MAJOR MINERALS: SODIUM AND POTASSIUM

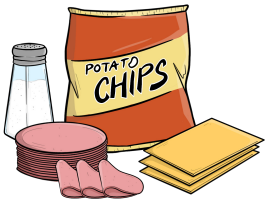
Sodium (Na)

- **Main bodily functions:**
  - Major _____cellular electrolyte.
  - Regulates fluid balance through _____.
  - With _____, essential electrolyte for nerve impulses and muscle contractions.



CDRR: _____ mg

Cells are swimming in a salty sodium sea.

Food Sources	Deficiency (_____)	Excess/Toxicity
Table _____, _____ foods, processed meats, cheese. 	Hyponatremia: Usually caused by _____hydration.	_____natremia • Hypertension (high _____ pressure) • Can lead to _____ disease, stroke, & kidney problems. • Edema (_____ swelling).

Main dietary concern: excess sodium is _____ and can lead to _____.

EXAMPLE

Answer the following questions about sodium consumption:

a. What is one of the long term consequences of excess sodium consumption?

_____

b. Where is most sodium found in the body?

_____

c. When would someone be at risk for hyponatremia?

_____

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PRACTICE

Sodium is most directly related to the correct function of which of the following tissue types?

a) Nervous tissue: the movement of sodium ions allows the sending of signals using electrical charge.

b) Fat/adipose tissue: sodium is a key electrolyte involved in storing extra Calories in the body.

c) Liver: the storage of many vitamins and minerals in the liver is partly regulated by sodium concentration.

d) Bone: sodium, along with phosphate, is a key structural component of bone.

PRACTICE

What is the CDRR for sodium?

a) 3600 mg b) 1800 mg c) 100 mg d) 2300 mg

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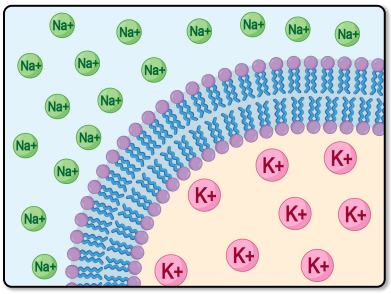
Potassium (K)



Al (M 19+):	3,400 mg
Al (F 19+):	2,600 mg

◆ **Main bodily functions:**

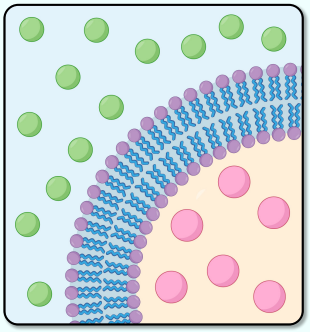
- Major _____cellular electrolyte.
- With _____, essential electrolyte for nerve impulses and muscle contractions.
- Especially important for _____ rhythm.

Food Sources	Deficiency (Rare)	Excess/Toxicity
Fruits and vegetables: (bananas, spinach, cantaloupe, citrus, almonds, legumes). 	Hypo_____: can be due to vomiting, diarrhea or eating disorders. • Muscle weakness & fatigue.	_____kalemia: risk from _____ or salt substitutes. • Irregular heartbeat.

Main dietary concern: potassium helps _____ negative effects of sodium (hypertension).

EXAMPLE

The diagram below shows a cell membrane. Label the main electrolytes you would expect to find on the inside and outside of the cell, then answer the questions below.



a. List a good food source for the major intracellular electrolyte.

_____

b. What is one of the long-term consequences of consuming excess of the major extracellular electrolyte?

_____

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PRACTICE

Which of the following foods would be a good source of potassium?

a) Cantaloupe.
b) Apples.
c) Rice.
d) Green beans.

PRACTICE

True or False: if false, choose the answer that best corrects the statement.

Hyperkalemia can occasionally occur from eating excessive amounts of food that are high in potassium.

a) True.
b) False, hyperkalemia is rare, but can occur from an excess of salt in the diet.
c) False, hyperkalemia is rare, but can occur if taking too many supplements.
d) False, hypokalemia can occasionally occur from eating excessive amounts of food that are high in potassium.