

FOOD NUTRITION AND HEALTH

ANSWER KEY - MINERALS (part 1)

1. Complete the table below by placing the minerals in the correct column.

PHOSPHOROUS, IODINE, CALCIUM, FLUORIDE, IRON, SODIUM

MINERALS THAT ARE NEEDED IN MACRO (LARGE) AMOUNTS	MINERALS NEEDED IN MICRO (SMALL) AMOUNTS
<ul style="list-style-type: none">• Calcium• Phosphorous• Sodium	<ul style="list-style-type: none">• Iodine• Iron• Fluorine

(1 mark for each correct response)

(6 marks)

2. Your mom purchased the food items in the images below. Identify the minerals present in each food item.



Sodium



Iodine



Iron



Calcium



Fluoride



Phosphorous

(1 mark for each correct response)

(6 marks)

3. What is the difference between Heme Iron and Non-Heme Iron?

Heme Iron is found in animal flesh and is readily absorbed in our bodies while Non-Heme Iron is found in plant-based food and animal products. It is usually less readily absorbed than heme iron.

(1 mark for each point)

(2 marks)

4. State one function for each mineral listed below.

Calcium

- Calcium along with phosphorous and Vitamin D, forms calcium phosphate, which hardens bones and teeth.
- Needed to clot blood after an injury.
- Required for the proper functioning of muscles and nerves.
- Needed for the secretion of hormones and to activate some enzymes.
- Helps maintain normal blood pressure.

Phosphorous

- Works with calcium, therefore has similar functions.
- Needed for the production of energy in the body.
- It maintains the correct acid-base balance of body fluids.
- Lipids (fats) that have phosphorous as part of their structure, helps transports other lipids in the blood.

Sodium

- Maintains the right acid-base balance in body fluids.
- Maintains water balance in the body.
- Helps in nerve impulse transmission.
- Needed to produce hydrochloric acid in the gastric juice of the stomach.

Iron

- Forms part of haemoglobin which is found in red blood cells. Haemoglobin is needed to transport oxygen around the body to every cell
- It forms part of myoglobin (a muscle protein).
- Needed for reactions that make energy

Fluoride

- Strengthening teeth to prevent decay. It combines with the enamel layer of the teeth to resist the effects of acid, produced by bacteria.

Iodine

- Needed to make the hormone thyroxine
- Thyroxine along with other hormones helps control metabolism in the body.

(1 mark for each for any function)

(6 marks)

TOTAL 20 mark