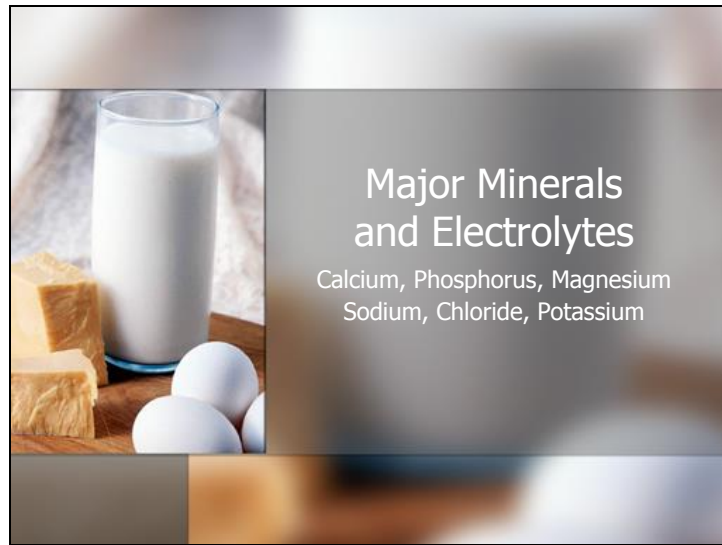


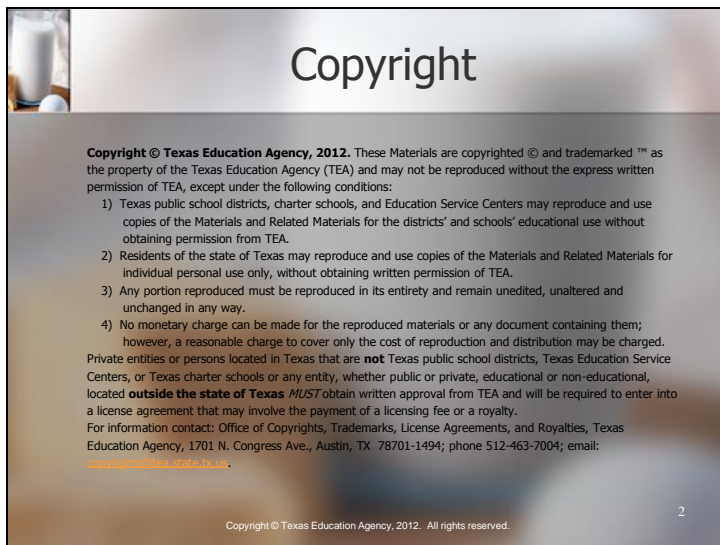
# Presentation Notes – Major Minerals and Electrolytes

Slide 1



# Presentation Notes – Major Minerals and Electrolytes

Slide 2



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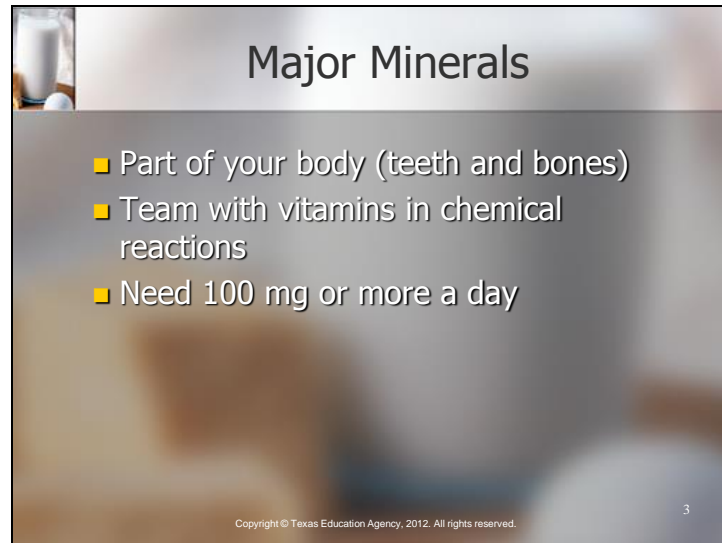
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# Presentation Notes – Major Minerals and Electrolytes

Slide 3



**Major Minerals**

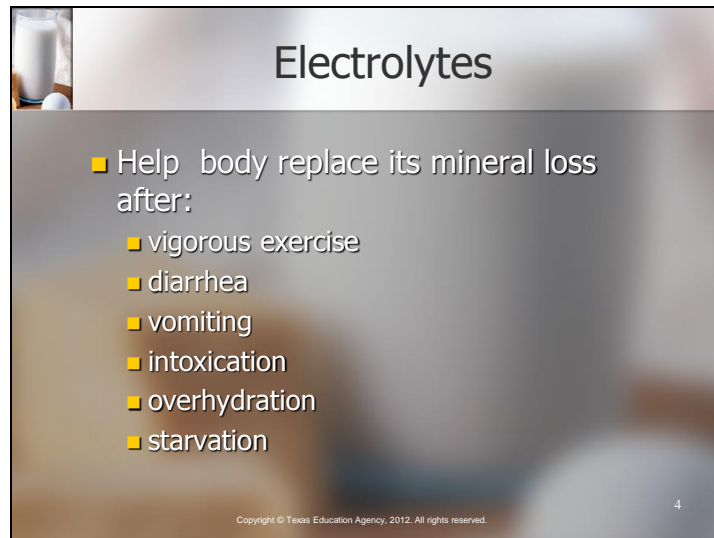
- Part of your body (teeth and bones)
- Team with vitamins in chemical reactions
- Need 100 mg or more a day

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Major minerals include calcium, phosphorus, and magnesium.  
Electrolytes include sodium, chloride, and potassium.

# Presentation Notes – Major Minerals and Electrolytes

Slide 4



The slide features a title 'Electrolytes' in a large, bold font. To the left of the title is a small image of a glass of milk. Below the title is a bulleted list of conditions. At the bottom of the slide, there is a small number '4' and a copyright notice.

## Electrolytes

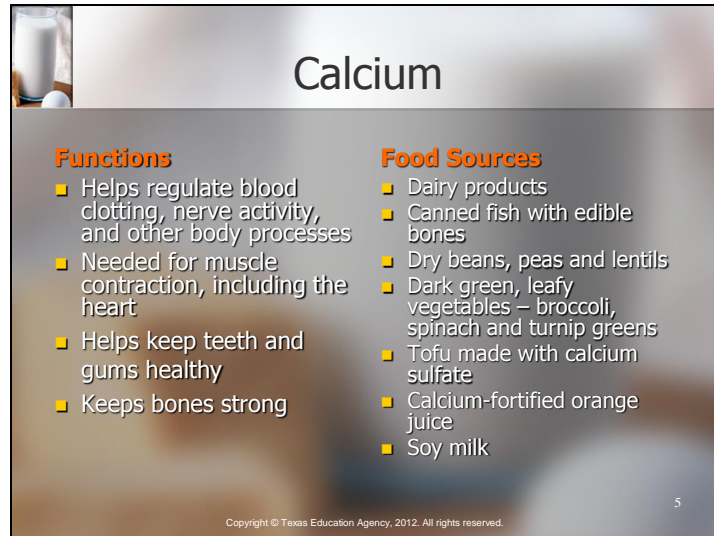
- Help body replace its mineral loss after:
  - vigorous exercise
  - diarrhea
  - vomiting
  - intoxication
  - overhydration
  - starvation

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Electrolyte minerals help form particles that help cells function.

# Presentation Notes – Major Minerals and Electrolytes

Slide 5



## Calcium

<b>Functions</b>	<b>Food Sources</b>
<ul style="list-style-type: none"><li>■ Helps regulate blood clotting, nerve activity, and other body processes</li><li>■ Needed for muscle contraction, including the heart</li><li>■ Helps keep teeth and gums healthy</li><li>■ Keeps bones strong</li></ul>	<ul style="list-style-type: none"><li>■ Dairy products</li><li>■ Canned fish with edible bones</li><li>■ Dry beans, peas and lentils</li><li>■ Dark green, leafy vegetables – broccoli, spinach and turnip greens</li><li>■ Tofu made with calcium sulfate</li><li>■ Calcium-fortified orange juice</li><li>■ Soy milk</li></ul>

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## Deficiencies and Excesses

### Effects of getting too little

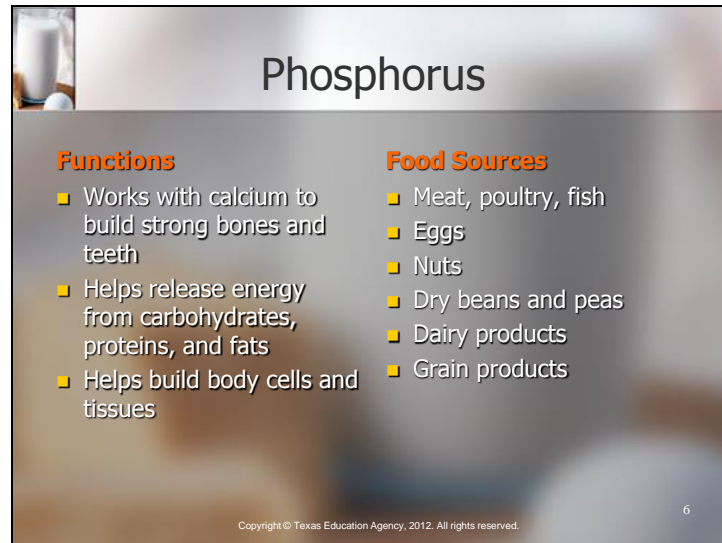
- Osteoporosis – a condition in which bones become porous, and therefore weak and fragile
  - May develop stooped posture and suffer bone breaks

### Effects of getting too much

- Over 2,500 mg/day may cause kidney stones or calcium deposits in soft tissue

# Presentation Notes – Major Minerals and Electrolytes

Slide 6



## Phosphorus

<b>Functions</b>	<b>Food Sources</b>
<ul style="list-style-type: none"><li>■ Works with calcium to build strong bones and teeth</li><li>■ Helps release energy from carbohydrates, proteins, and fats</li><li>■ Helps build body cells and tissues</li></ul>	<ul style="list-style-type: none"><li>■ Meat, poultry, fish</li><li>■ Eggs</li><li>■ Nuts</li><li>■ Dry beans and peas</li><li>■ Dairy products</li><li>■ Grain products</li></ul>

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## Deficiencies and Excesses

### Effects of getting too little

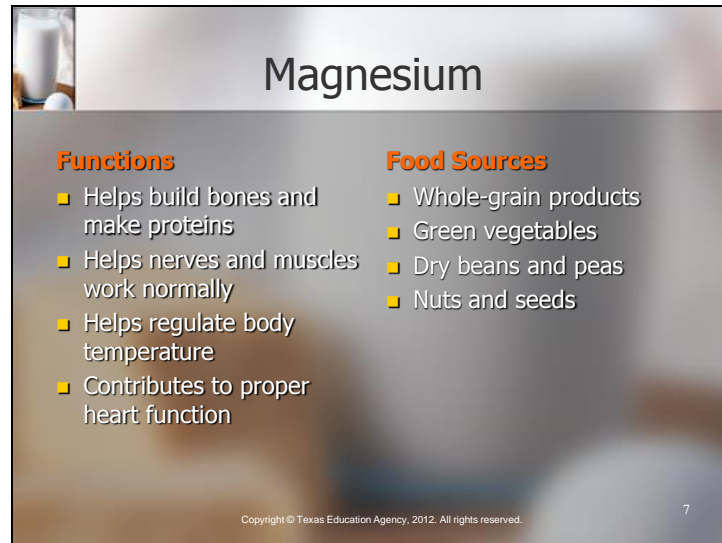
- Decreased bone health

### Effects of getting too much

- Poor bone health

# Presentation Notes – Major Minerals and Electrolytes

Slide 7

A presentation slide titled "Magnesium" with a small image of a glass of milk in the top left corner. The slide is divided into two columns: "Functions" and "Food Sources".

**Magnesium**

**Functions**

- Helps build bones and make proteins
- Helps nerves and muscles work normally
- Helps regulate body temperature
- Contributes to proper heart function

**Food Sources**

- Whole-grain products
- Green vegetables
- Dry beans and peas
- Nuts and seeds

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## Deficiencies and Excesses

### Effects of getting too little

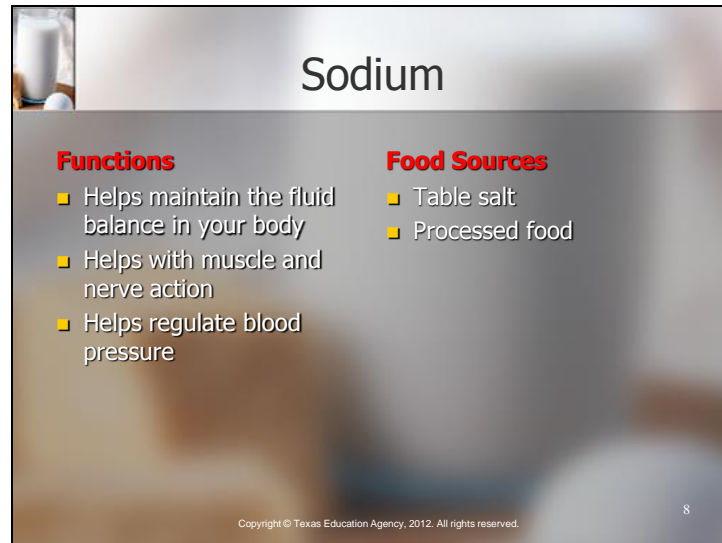
- Muscle pain and weakness
- Decreased heart function

### Effects of getting too much

- No known effects

# Presentation Notes – Major Minerals and Electrolytes

Slide 8



## Sodium

<b>Functions</b>	<b>Food Sources</b>
<ul style="list-style-type: none"><li>■ Helps maintain the fluid balance in your body</li><li>■ Helps with muscle and nerve action</li><li>■ Helps regulate blood pressure</li></ul>	<ul style="list-style-type: none"><li>■ Table salt</li><li>■ Processed food</li></ul>

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### Deficiencies and Excesses

#### Effects of getting too little

- Muscle cramps

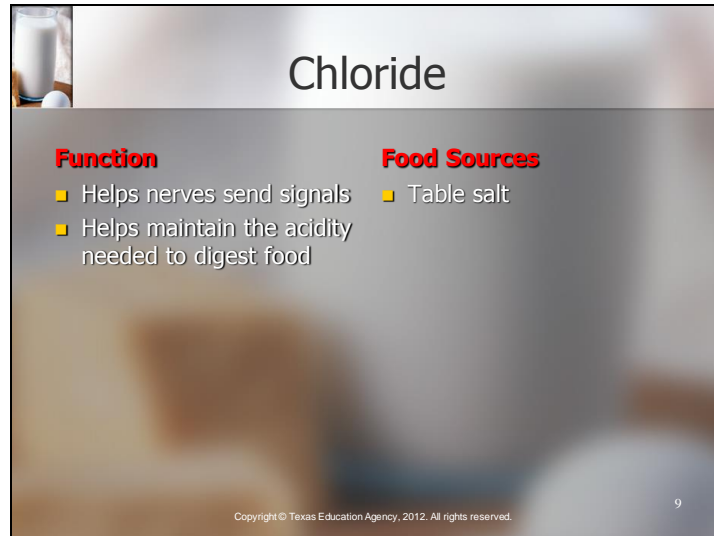
#### Effects of getting too much

- Hypertension or high blood pressure – linked to high salt intake
- Bones can lose calcium
- Increase the risk of kidney stones



# Presentation Notes – Major Minerals and Electrolytes

Slide 9



**Chloride**

<b>Function</b>	<b>Food Sources</b>
<ul style="list-style-type: none"><li>■ Helps nerves send signals</li><li>■ Helps maintain the acidity needed to digest food</li></ul>	<ul style="list-style-type: none"><li>■ Table salt</li></ul>

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## **Deficiencies and Excesses**

### Effects of getting too little

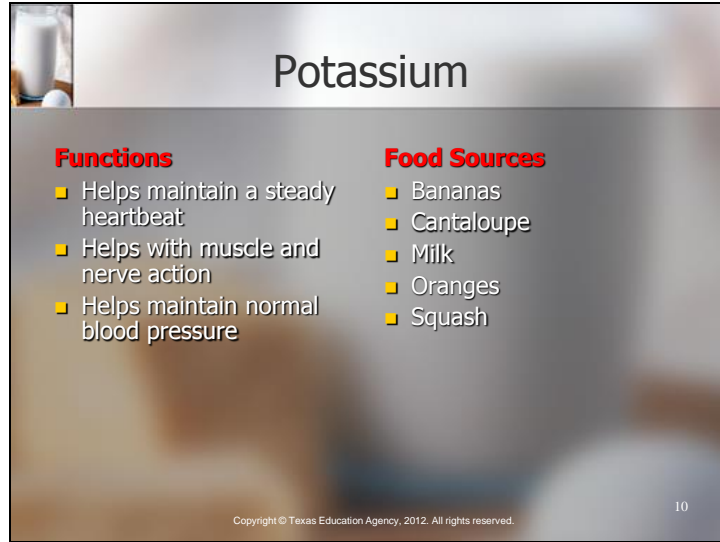
- Infant convulsions (deficiencies are rare)

### Effects of getting too much

- Hypertension or high blood pressure

# Presentation Notes – Major Minerals and Electrolytes

Slide 10



**Potassium**

**Functions**

- Helps maintain a steady heartbeat
- Helps with muscle and nerve action
- Helps maintain normal blood pressure

**Food Sources**

- Bananas
- Cantaloupe
- Milk
- Oranges
- Squash

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## Deficiencies and Excesses

### Effects of getting too little


- Muscle cramps
- Irregular heart beat
- Poor appetite

### Effects of getting too much

- Decreased heart rate

# Presentation Notes – Major Minerals and Electrolytes

Slide 11



## References and Resources

Textbooks:

- Duyff, R. L. (2010). *Food, nutrition & wellness*. Columbus, OH: Glencoe/McGraw-Hill.
- Kowtaluk, H. (2010). *Food for today*. Columbus, OH: Glencoe/McGraw-Hill.
- Weixel, S., & Wempen, F. (2010). *Food & nutrition and you*. Upper Saddle River, NJ: Pearson/Prentice Hall.

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- U.S. Department of Agriculture. ChooseMyPlate.gov Website. Washington, DC. Dairy. <http://www.choosemyplate.gov/food-groups/dairy.html> Accessed December, 2012.

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