

## TOPIC: NUTRIENTS

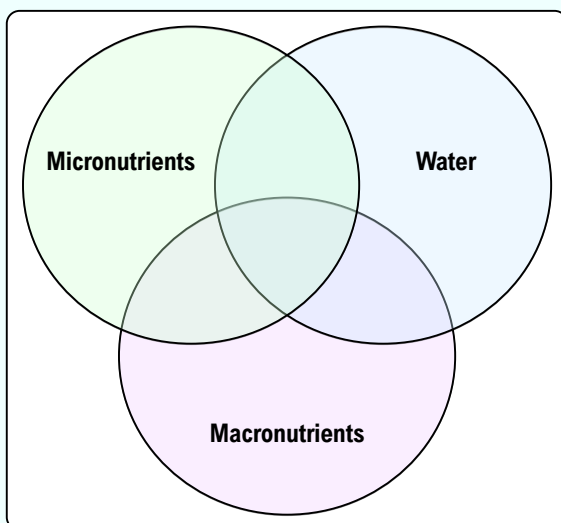
### Defining Nutrients

- ◆ Nutrient: \_\_\_\_\_ found in food; required for growth and maintenance of \_\_\_\_\_.
- ◆ There are \_\_\_\_ classes of essential nutrients.
  - *Essential* nutrients: must be obtained from \_\_\_\_\_.

<b>_____ nutrients:</b> <ul style="list-style-type: none"><li>◆ Required in _____ amounts.</li><li>◆ Provide _____ through cellular _____.</li></ul>	<ul style="list-style-type: none"><li>▸ Carbohydrates</li><li>▸ Lipids (_____)</li><li>▸ Protein</li></ul>	<b>_____ molecules:</b> Comprised of _____ (____) and hydrogen (H) atoms.
<b>_____ nutrients:</b> <ul style="list-style-type: none"><li>◆ Required in _____ amounts.</li><li>◆ Aid in cellular/physiological functions.</li></ul>	<ul style="list-style-type: none"><li>▸ Vitamins</li><li>▸ Minerals</li></ul>	<b>_____ organic molecules:</b> Do not contain _____.
<b>_____:</b> <ul style="list-style-type: none"><li>◆ Required for virtually ____ physiological functions.</li></ul>	<ul style="list-style-type: none"><li>▸ H<sub>2</sub>O</li></ul>	

### EXAMPLE

Use the statements in the box to fill in the Venn diagram below about micronutrients, macronutrients, and water.



- A. Needed in large amounts
- B. Needed in small amounts
- C. Considered an essential nutrient
- D. Provide(s) energy through metabolism
- E. Carbohydrates
- F. Vitamins
- G. Minerals
- H. Fats
- I. Protein
- J. Does NOT directly contribute to energy
- K. May be organic
- L. May be inorganic

## **TOPIC:NUTRIENTS**

### **PRACTICE**

What is one difference between a macronutrient and a micronutrient?

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- a) Macronutrients provide the body with energy, while micronutrients do not.
- b) Macronutrients are required by the body in small amounts, while micronutrients are required in large amounts.
- c) Macronutrient molecules are, as a rule, larger than micronutrient molecules.
- d) Micronutrients are inorganic molecules, while macronutrients are organic molecules.

### **PRACTICE**

Alcohol provides the body with energy (about 7 calories per gram). Which statement below best describes why alcohol is not considered an essential nutrient?

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- a) Alcohol cannot be digested by the body to be used as energy.
- b) Alcohol is not necessary for general health and well-being.
- c) Alcohol can be toxic to body systems, while essential nutrients cannot.
- d) Essential nutrients are contained in food, but alcohol is a liquid.

### **PRACTICE**

Which nutrients are comprised of organic molecules?

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- a) Only macronutrients.
- b) Only micronutrients and water.
- c) Only vitamins and minerals.
- d) Only macronutrients and vitamins.

## TOPIC: NUTRIENTS

### Nutrients and Disease

◆ \_\_\_\_\_ diet meets the requirements of all 6 nutrient categories w/o \_\_\_\_\_.

- No \_\_\_\_\_ nutritious foods; \_\_\_\_\_ diet best meets nutritional needs.

\_\_\_\_\_ deficiency may cause disease:

- Scurvy → vitamin \_\_\_\_\_.



- Pellagra → vitamin \_\_\_\_\_.



- Rickets → vitamin \_\_\_\_\_.



\_\_\_\_\_ disease may be caused by imbalances:

- Obesity → \_\_\_\_\_ excess.
- Diabetes → \_\_\_\_\_ dysregulation.
- Cardiovascular disease → \_\_\_\_\_ saturated fats;  
\_\_\_\_\_ whole grains & fiber.

◆ Consensus: Americans take in \_\_\_\_\_ calories and \_\_\_\_\_ specific nutrients.

- **High:** Overall calories, \_\_\_\_\_, sodium (salt), saturated \_\_\_\_\_.
- **Low:** \_\_\_\_\_, vitamin D, calcium, vitamin E, potassium.

◆ General recommendation: \_\_\_\_\_ intake of fruits, vegetables, and whole grains. \_\_\_\_\_ calorie intake.

### EXAMPLE

Diseases can be caused by imbalances in the diet. For the imbalances listed below, write which condition could result.

Sugar dysregulation: \_\_\_\_\_ Lack of vitamin C: \_\_\_\_\_

Lack of vitamin D: \_\_\_\_\_ Caloric excess: \_\_\_\_\_

Excess saturated fats w/ too little fiber: \_\_\_\_\_

## **TOPIC:NUTRIENTS**

### **PRACTICE**

Which of the following is generally consumed in too small a quantity in the American diet?

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- |           |           |            |                   |
|-----------|-----------|------------|-------------------|
| a) Fiber. | b) Sugar. | c) Sodium. | d) Saturated fat. |
|-----------|-----------|------------|-------------------|

### **PRACTICE**

Which of the following is a general recommendation for fixing the imbalances in the average American diet?

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- a) Become a vegetarian.
- b) Eat more fruits and vegetables.
- c) Eat more red meat.
- d) Avoid all processed foods.