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ABSTRACT This learning activity package on nutrition is one of a series of 1/2 titles developed for use in health occupations education programs. Materials in the package include objectives, a list of materials needed, a list of definitions, information sheets, reviews (self evaluations) of portions of the content, and answers to reviews. These topics are covered: metabolism, nutrients, basic four food groups, special diets, malnutrition, and religious restrictions. (YLB)
NUTRITION
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## CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>1</td>
</tr>
<tr>
<td>Definition</td>
<td>2</td>
</tr>
<tr>
<td>Metabolism</td>
<td>5</td>
</tr>
<tr>
<td>Nutrients</td>
<td>9</td>
</tr>
<tr>
<td>Basic Four Food Groups</td>
<td>17</td>
</tr>
<tr>
<td>Special Diets</td>
<td>22</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>25</td>
</tr>
<tr>
<td>Eating Habits</td>
<td>29</td>
</tr>
</tbody>
</table>
OBJECTIVES

At the conclusion of this LAP, you will be able to:

1. Define nutrition.

2. List eight (8) signs of good nutrition.

3. Define metabolism.

4. List the six (6) basic nutrients and explain their functions.

5. Name the Basic Four food groups and state the recommended daily serving for each group.

6. Match a given list of foods with the correct Basic Four food group.

7. Plan a balanced diet for 1 day, including breakfast, lunch, and dinner.

8. Explain what is meant by therapeutic diet and list at least 5 of these diets.

9. List six (6) factors causing malnutrition.

10. Explain the influence of cultural and religious customs pertaining to good nutrition.

MATERIALS NEEDED

PENCIL
WORK SHEET
PAPER

*Pick up work sheet before beginning this LAP.
DEFINITION

Nutrition is the study of the food necessary for the growth, repair, energy, and proper functioning of the body. Most foods supply both fuel and nutrients; however, not one food supplies all the nutrients for proper metabolism. Consequently, a mixture of different foods is necessary. With a little planning, a well-balanced diet, one that supplies all the elements which the body needs, may be obtained.

The right foods are necessary to achieve and maintain good health.

Good health is a state of emotional and physical well-being.

We are what we eat!!

Signs of good nutrition are:

- Shiny hair
- Clear skin
- Clear eyes
- Well-developed body
- Alert expression
- Pleasant disposition
- Restful sleep
- Good appetite
DEFINITION

REVIEW I.

DO YOU REMEMBER?

1. ___________ IS THE STUDY OF THE FOOD NECESSARY FOR BODY FUNCTIONING.

2. FOOD SUPPLIES THE BODY WITH ALL THE NUTRIENTS NEEDED.

3. WE ARE WHAT WE

4. LIST 8 SIGNS OF GOOD NUTRITION.
   A.
   B.
   C.
   D.
   E.
   F.
   G.
   H.

ALL CORRECT?  GO ON!

ONE OR MORE INCORRECT, PLEASE REVIEW....
REVIEW 1.  ANSWER KEY

1. NUTRITION

2. NO

3. EAT

4. A. SHINY HAIR
   B. CLEAR SKIN
   C. WELL-DEVELOPED BODY
   D. ALERT EXPRESSION
   E. RESTFUL SLEEP
   F. PLEASANT DISPOSITION
   G. GOOD APPETITE
   H. CLEAR EYES
Energy is necessary for work to be performed by the body. Body energy is provided by oxidation of food (metabolism).

Body Energy

Involuntary vs Voluntary

When the body is at rest

Involuntary Work

Voluntary Work

Factors affecting metabolism are:

1. Surface area of body
2. Sex
3. Age
4. Stimulants, drugs
5. Temperature of the environment
6. Pregnancy
A calorie is a unit of heat produced by the body from food and converted to energy.

**OVERWEIGHT**

INCREASE IN BODY WEIGHT DUE TO GREATER INTAKE OF CALORIES THAN THE BODY NEEDS

**UNDERWEIGHT**

INSUFFICIENT INTAKE OF CALORIES TO MEET BODY NEEDS
METABOLISM

REVIEW II.

Do you remember?

1. Body energy is provided principally from __________ of food.

2. __________ is the unit of measurement for heat energy produced by foods.

3. The 2 types of work performed by the body are (A) __________ and (B) __________.

4. Three factors affecting metabolism are: __________, __________, and __________.

5. Which requires more calories: writing or running?

6. If a person takes a great deal of food that is high in calories, and has little physical activity, he or she would probably be __________

All correct? Go on!

Missed one or more?

Go back and review!
REVIEW II. ANSWER KEY

1. OXIDATION

2. CALORIE

3. A. VOLUNTARY
   B. INVOLUNTARY

4. A. SURFACE AREA OR PREGNANCY
   B. SEX OR STIMULANTS, DRUGS
   C. AGE OR TEMPERATURE OF ENVIRONMENT

5. RUNNING

6. OVERWEIGHT
WHAT IS A GOOD DIET?

A good diet consists of the 6 basic nutrients.

- Proteins
- Carbohydrates
- Fats
- Minerals
- Vitamins
- Water
PROTEIN............. Builds and repairs body tissues

Found in meat, cheese, eggs, fish, and poultry

Role... makes up 15% of the American diet in calories.

Most expensive nutrients

CARBOHYDRATES........ Supply work and heat energy for the body

Found in sugars and starches.

Role... make up 50% of the American diet in calories. Least expensive form of energy.
NUTRIENTS

FATS........PROVIDES ENERGY AND INSULATION FOR TEMPERATURE CONTROL

Found in butter, pork, oils

Role.....makes up 35-40% of the American diet in calories'
Greatest contributor to heart attacks!!!!!

MINERALS.....necessary for proper body functioning

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Source</th>
<th>Good For</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>Milk, cheese</td>
<td>Bones and teeth</td>
</tr>
<tr>
<td>Iron</td>
<td>Red meats</td>
<td>Red blood cells</td>
</tr>
<tr>
<td>Iodine</td>
<td>Sea foods</td>
<td>Thyroid gland functioning</td>
</tr>
<tr>
<td>Salt</td>
<td>Table salt</td>
<td>Acid-base functioning and fluid balance</td>
</tr>
</tbody>
</table>
NUTRIENTS

VITAMINS. REGULATES BODY PROCESSES

CONTROL PANEL

VITAMIN | SOURCE | GOOD FOR
-------|--------|----------
Vitamin A | YELLOW VEGETABLES | SKIN AND EYES
Vitamin B | MEATS, WHOLE GRAINS | NERVES AND BLOOD
Vitamin C | CITRUS FRUITS | HELPING TO PREVENT Colds AND INFECTIONS
Vitamin D | SUN, FORTIFIED FOODS | STRONG BONES AND TEETH
Vitamin K | GREEN LEAFY VEGETABLES | BLOOD CLOTTING

WATER. ESSENTIAL TO LIFE
60% OF THE BODY IS COMPOSED OF WATER.
NEEDS TO BE IN BALANCE

CAUSE FOR WATER IMBALANCE:
VOMITING
PROFUSE SWEATING
DISEASES
DIARRHEA
ELEVATED BODY TEMPERATURE
NUTRIENTS

- Carbohydrates: Supply energy
- Proteins: Build and repair body tissue
- Fats: Provide energy and insulation for temperature control
- Minerals: Proper body functioning
- Vitamins: Regulates body processes
- Water: Essential to life

FUNCTION

SUGARS AND STARCHES
- BUTTER, OIL, PORK
- MEAT, CHEESE, EGGS, POULTRY
REVIEW III.

Do you remember?

1. Foods are sources of nutrients in the body. There are 6 types of nutrients. They are:
   A. 
   B. 
   C. 
   D. 
   E. 
   F. 

2. A major function of carbohydrates is to furnish and energy for the body.

3. What nutrient provides the least expensive source of energy?
   A. 
   This nutrient gives the American (B) % of the calories in his or her diet.

4. Fat provides about (A) % of calories for Americans. Does this present a health problem? (B) Yes or No

5. Name 2 sources of protein.
   A. 
   B. 

6. Vitamins are _______ of body processes.

All correct? Go on

Missed one or more..... 20

Go back and review!
7. Match the following:

A. Vitamin A
B. Vitamin B
C. Vitamin C
D. Vitamin D
E. Vitamin K

1. Strong bones/teeth
2. Prevents colds/infections
3. Skin and eyes
4. Nerves and blood
5. Blood clotting

8. Water is (A) ______ to life, and the body is composed of (B) ______ % water.

A perfect score? Go on to bigger and better!!! ☺️

One or more wrong...

Means review is necessary.
REVIEW III. ANSWER KEY

1. A. PROTEIN
   B. CARBOHYDRATES
   C. FATS
   D. VITAMINS
   E. MINERALS
   F. WATER

2. HEAT

3. A. CARBOHYDRATES
   B. 50%

4. A. 35-40%
   B. YES

5. A. EGGS OR CHEESE OR FISH
   B. MEAT OR POULTRY

6. REGULATORS

7. A. 3
   B. 4
   C. 2
   D. 1
   E. 5

8. A. ESSENTIAL
   B. 60%
ANNOUNCING

The 6 basic nutrients are obtained by eating foods from the basic four food groups every day.

Milk and dairy products

Meat, fish, eggs, poultry

Fruits and vegetables

Breads and cereals
GROUP 1. MILK AND DAIRY PRODUCTS

EXAMPLES:

MILK
YOGURT
ICE CREAM
BUTTERMILK
SKIM MILK
CHEESE
COTTAGE CHEESE
WHIPPED CREAM
CREAM
SOUR CREAM
CREAMEDED CHEESE
BUTTER
MARGARINE
EGGNOG
MILKSHAKES
CUSTARD

GROUP 2. MEAT, FISH, POULTRY

EXAMPLES:

STEAK
HAMBURGER
PORK CHOPS
FISH
CHICKEN
TURKEY
EGGS
RIBS
LIVER
HAM
SWEETBREADS
POT ROAST
LOBSTER
SHRIMP
LAMB CHOPS
MEATLOAF

RECOMMENDED DAILY SERVING

ADULTS....4 SERVINGS

2 OR MORE SERVINGS
GROUP 3. FRUITS AND VEGETABLES

EXAMPLES:

APPLES
PEACHES
LETTUCE
CUCUMBERS
PEARS
PLUMS
BROCCOLI
CORN
CARROTS
SPINACH
BANANA
GREEN BEANS
SQUASH
POTATOES
PINEAPPLE
PEAS
ONIONS

RECOMMENDED DAILY SERVINGS
4 OR MORE SERVINGS

GROUP 4. BREADS AND CEREALS

EXAMPLES:

OATMEAL
CORN BREAD
WHITE BREAD
TORTILLAS
MUFFINS
BISCUITS
CREAM OF WHEAT
CORNFLAKES
WHEAT BREAD
GRITS
RICE CEREAL
BRAN CEREAL
RYE BREAD
ROLLS
RICE
MACARONI
NOODLES

RECOMMENDED DAILY SERVINGS
4 OR MORE SERVINGS
REVIEW IV.

Do you remember?

1. List the Basic Four Food Groups.
   A. 
   B. 
   C. 
   D. 

2. Adults should have servings of milk or other dairy product a day.

3. Name 3 citrus fruits.
   A. 
   B. 
   C. 

4. Place the following foods in the correct Basic Four Food Group:
   Group 1  2  3  4
   Flour, Beef, Chicken, Pears, Rice, Cereal, Cheese, Cottage Cheese,
   Apples, Potatoes, Spinach, Liver, Milk, Ice Cream, Fish, Macaroni.

5. Prepare a balanced diet for 1 day, including breakfast, lunch, and dinner.

   Breakfast    Lunch    Dinner

   All correct

   Missed one or two questions...
REVIEW IV.  \hspace{1cm} ANSWER KEY

1.  A. BREAD AND CEREALS  
    B. MILK AND DAIRY PRODUCTS  
    C. MEATS AND FISH  
    D. FRUITS AND VEGETABLES  

2.  2  

3.  A. ORANGES OR LEMONS  
    B. LIMES OR STRAWBERRIES  
    C. GRAPEFRUIT OR TOMATOES  

4.  Group 1  
    1. CHEESE  
    2. COTTAGE CHEESE  
    3. MILK  
    4. ICE CREAM  
    2. BEEF  
    3. CHICKEN  
    4. LIVER  
    5. FISH  
    6. PEARS  
    7. APPLES  
    8. POTATOES  
    9. SPINACH  
    10. FLOUR  
    11. RICE  
    12. CEREAL  
    13. MACARONI  

5. Balanced menu for 1 day must include the following:  
   4 servings of fruits and vegetables  
   4 servings of breads and cereals  
   2 or more servings of meats and fish  
   4 servings of milk and dairy products
There are many times when a person must be placed on a special or therapeutic diet. This may adjust the amount of food the person may be able to have, or the types of foods to which he or she may be limited.

Clear Liquid---------------------Tea, broth, jello

Full Liquid---------------------All liquids

Diabetic------------------------Prescribed amounts of protein, fats, and carbohydrates

Reducing------------------------Limited calories

Low Salt------------------------No salt added to cooking

Fat Free------------------------Low fat foods; no butter, oil

Ulc er--------------------------Easy to digest; increased amounts of milk and cream

High Protein--------------------More than average amount of protein

Low Cholesterol----------------Low in animal fat

Bl and--------------------------Easy to digest; low in seasonings

Light---------------------------Small quantity, easy to digest
REVIEW V.

DO YOU REMEMBER?

1. **Match the following:**
   - ___ A. CLEAR LIQUIDS
   - ___ B. REDUCING
   - ___ C. LOW SALT
   - ___ D. BLAND
   - ___ E. DIABETIC
   - 1. LIMITED CALORIES
   - 2. NO SALT ADDED TO COOKING
   - 3. PRESCRIBED AMOUNT OF PROTEIN, FATS, AND CARBOHYDRATES
   - 4. TEA, BROTH, JELLO
   - 5. EASY TO DIGEST

2. A DIET THAT IS LOW IN ANIMAL FAT IS CALLED ________________

3. A FAT PERSON SHOULD BE ON A ________________ DIET.

4. A DIET THAT IS ALL LIQUID IS CALLED A ________________ DIET.

5. A FAT-FREE DIET WOULD CONTAIN ________________

   ALL CORRECT? 😊

   GOT ONE OR MORE WRONG?

   😟

   GO BACK!!!!
REVIEW V. ANSWER KEY

1. A. 4
   B. 1
   C. 2
   D. 5
   E. 3

2. LOW CHOLESTEROL

3. REDUCING

4. FULL LIQUID

5. LITTLE OR NO FAT
MALNUTRITION

Many people do not get the correct diet or foods and suffer from malnutrition. They may, in fact, eat enough food, but not the right foods!!!!!!

Some of the reasons for malnutrition are:

- Lack of the correct dietary information
- Low income
- Disease
- Lack of teeth and/or chewing problems
- Environment (surroundings)
- Religious customs

Can you think of more?

When a person does not have the right amount of good food, he or she sometimes suffers from:

- Fatigue (tired)
- Lack of energy
- Nervousness
- Mental depression
IF A PERSON GOES A LONG PERIOD OF TIME WITHOUT CERTAIN NUTRIENTS IN HIS OR HER DIET, SEVERE DEFICIENCIES CAN RESULT.

SOME OF THESE ARE SHOWN BELOW.

CONDITIONS RESULTING FROM DEFICIENCIES

- HEART FAILURE
  - POTASSIUM

- IRON DEFICIENCY
  - ANEMIA
  - IRON

- SIMPLE GOITER
  - IODINE

- RICKETS
  - VITAMIN D

- POOR BONES
  - CALCIUM

- CRAMPS
  - SALT
REVIEW VI.

DO YOU REMEMBER?

1. LIST 6 REASONS FOR MALNUTRITION.
   A. ________________________
   B. ________________________
   C. ________________________
   D. ________________________
   E. ________________________
   F. ________________________

2. A GOITER IS CAUSED BY A DEFICIENCY OF ________________________

3. IRON IS NECESSARY FOR ________________________

4. CHOOSE 2 ITEMS THAT NUTRITIONAL DEFICIENCIES CAN CAUSE:
   A. MENTAL DEPRESSION
   B. VARIETY IN COLOR
   C. SALIVA AND MECHANICAL ACTION
   D. FATIGUE

IF YOU GOT ALL CORRECT, GO ON......

ONE OR MORE WRONG, REVIEW.
REVIEW VI.  ANSWER KEY

1. A. LACK OF CORRECT INFORMATION
   B. LOW INCOME
   C. LACK OF TEETH AND/OR CHEWING PROBLEMS
   D. DISEASE
   E. ENVIRONMENT
   F. RELIGIOUS CUSTOMS

2. IODINE

3. RED BLOOD CELLS

4. A. MENTAL DEPRESSION
   D. FATIGUE
EATING HABITS ARE A SOCIAL ACTIVITY AND ARE ESTABLISHED EARLY IN LIFE. FOOD IS GENERALLY CHOSEN TO SATISFY APPETITE RATHER THAN FOR NOURISHMENT.

Over the years, food preferences have been influenced by cultural patterns, as well as economic status.

Regional eating patterns are established because of available food and culture of people in the area.

There are many materials eaten throughout the world which we in the United States do not consider acceptable food (grasshoppers, sheep's eyes, etc.).
EATING HABITS
REGIONAL EATING PATTERNS

CHEESE
MILK
STRUDEL
QUICHE
BEEF
YEAST BREADS

TURNIP
FISH
CHOWDERS
PIZZA
SQUASH
BAKED BEANS

CITRUS FRUITS
DATES
TACOS
TORTILLA
TOSTADOS
AVOCADOS
MELON

BEANS
CHILI
BARBEQUE BEEF
OKRA
BLACK-EYED PEAS
CORN BREAD

GREENS
PORK
GRITS
CHICKEN
PECAN PIE
FRITTERS
HUSH-PUPPIES
RELIGIOUS RESTRICTION

Many religious beliefs alter one's eating pattern also. These beliefs sometimes create an imbalance of "good nutrition," and alternative foods must be substituted. The following list gives you examples of foods allowed or restricted.

STOP

JEWISH

PORK
SHELLFISH
REGULARLY PREPARED MEATS
COOKING ON THE SABBATH

SEVENTH-DAY ADVENTIST

NO CHICKEN OR PORK
NO SHELLFISH

HINDU

THE COW IS SACRED.

GO

KOSHER-PREPARED FOOD
FISH WITH SCALES AND FINS

ALL VEGETABLES (VEGETARIAN)
MANY EGGS, CHEESE, NUTS
EATING HABITS

REVIEW VII.

DO YOU REMEMBER?

1. What animal in India is sacred?

2. Seventh-Day Adventists are mostly

3. Eating habits are an __________ activity.

4. List 2 rules of the Jewish religion that are related to food.
   a. ______________
   b. ______________

5. Give one example of a "regional" food for the following:
   a. South-West ______________
   b. South-Midwest ______________
   c. South-East ______________
   d. North-East ______________
   e. North-Midwest ______________

ALL RIGHT?

MISSED SOME!
REVIEW VII.

1. COW

2. VEGETARIAN

3. SOCIAL

4. A. NO PORK, NO SHELLFISH, NO COOKING ON SABBATH, AND NO REGULARLY PREPARED MEATS
   B. FISH WITH FINS AND SCALES OR KOSHER-PREPARED FOODS

5. A. CITRUS FRUITS, DATES, TACOS, TORTILLA, TOSTADOS, AVOCADO, MELON
   B. BEANS, CHILI, BARBECUE BEEF, OKRA, BLACK-EYED PEAS, CORN BREAD
   C. 'GREENS', PORK, GRITS, CHICKEN, PECAN PIE, FRITTERS, HUSH PUPPIES
   D. TURNIP, FISH, CHOWDERS, PIZZA, SQUASH, BAKED BEANS
   E. CHEESE, MILK, STRUDEL, QUICHE, BEEF, YEAST BREADS
TURN IN THIS BOOKLET TO YOUR TEACHER WITH YOUR COMPLETED WORK SHEETS, AND PICK UP THE FINAL REVIEW FOR THE NUTRITION LAP.

Have a ☺ Happy Day ☺
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