Missouri Health

Grade 4

Adopted 2007

Functions and Interrelationships of Systems

1. **Structure and Functions of the Body**

   B. Muscular System

      a. Describe how muscles affect overall health (e.g., burning calories, good posture, healthy heart).

   C. Skeletal System

      a. Identify the different types of bones (i.e., long, flat, wide, short, and curved) and their functions (mineral storage, calcium, red blood cells, growth plates).

   D. Integumentary System (skin)

      a. Determine the cause/effect of healthy lifestyle choices as they relate to the three layers of skin (nutrition, hydration, exercise.

   E. Cardio-respiratory/Circulatory System

      a. Show the effects of lifestyle choices (e.g., high fat diet, physical activity) on the cardio-respiratory system and relate how the cardio-respiratory system affects quality of life.

   F. Respiratory System

      a. Describe the function of the respiratory system (e.g., exchange of carbon dioxide and oxygen) between air sacs and capillaries.

   G. Nervous System

      a. Define and distinguish between short-term and long-term memory.

   H. Digestive System

      a. Describe the processes of the digestive system (e.g., how the teeth, tongue, and saliva begin the digestive process) and how they are affected by lifestyle choices (e.g., diet, activity level, dental care).

   I. Urinary/Excretory System

      a. Label the major components (i.e., kidneys, ureters, bladder, urethra) and functions of the urinary/excretory system (e.g., removes liquid waste from the body).

   J. Endocrine System

      a. Identify and describe the basic structure and functions of the endocrine system including growth (pituitary), reproduction (ovaries, testes), fight or flight responses (adrenal), energy, metabolism (thyroid).

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K. Reproductive System

a. Identify and describe the basic structure and function of the male and female reproductive system (e.g., menstrual cycle, nocturnal emissions).

L. Lymphatic-Immune System

a. Describe how to keep the immune system healthy and explain the principles of vaccination and immunization.

2. Social, Emotional and Mental Health

B. Responsibilities in Society

a. Relate the effects of human actions towards people with diverse backgrounds and demonstrate ways to effectively communicate with them.

Health Maintenance and Enhancement

1. Personal and Family Health

A. Personal Health

a. Classify activities as they relate to the health related fitness components and identify behaviors, that if performed regularly, can contribute to a healthy lifestyle (eating breakfast daily, not smoking, adequate sleep, maintain normal weight, regular physical activity, avoiding alcohol, healthy snacking).

2. Nutrition

A. Essential Nutrients and Food Groupings

a. Identify the sources and basic functions of the six essential nutrients including fiber, and locate five essential nutrients (carbohydrates, fats, proteins, vitamins, minerals) on food labels and recognize that this information helps one make healthy food choices.

b. Describe the relationship between food intake and energy.

B. Balance, Variety and Moderation

a. Make decisions regarding food choices based on balance (e.g., food log, meal planning, grocery shopping), moderation and variety.

D. Food Handling and Safety

a. Describe proper food guidelines and storage (e.g., expiration date, refrigerated vs. non-refrigerated food).

3. Consumer Health and Safety

A. Media Influence on Health Habits and Decisions

a. Collect and display examples of how the media can influence a consumer decision regarding health practices and products (e.g., magazine, newspaper, commercial).

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C. Community Services/Careers

a. Compare and contrast community helpers and agencies who can provide assistance for specific health issues or problems (e.g., firemen, policemen, paramedics, American Heart Association).

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4. Life Management Skills

A. Decision Making and Problem Solving

a. Explain and cite examples where the decision making process may be used (e.g., choosing sports, snacks, friends).

B. Refusal/Assertive Skills and Conflict Resolution

a. Identify steps of conflict resolution: (1) identify the conflict; (2) agree to disagree; (3) listen to each other; (4) negotiate; (5) compromise on a solution.

C. Goal Setting and Asset Development

a. Assess situations that may require coping strategies (e.g., loneliness, boredom, grief, anger, shyness) and list assets that would help address these situations.

D. Stress Management and Coping Skills

a. Identify personal stressors in daily living (e.g., large groups, tests, family pressures, too busy, language barriers) and describe strategies to deal with these stressors (coping, time management, decision-making).

E. Harassment/Bullying and Violence Prevention

a. Describe strategies to prevent bullying (e.g., avoid being alone, stay away from people who fight, ignore insults).

b. Describe strategies to prevent violence (e.g., count to 10 before acting, talk to a trusted adult about feelings, physical activity, channel energy into worthwhile activity).

Risk Assessment and Reduction

1. Disease Prevention and Control

A. Communicable vs. Non-Communicable Diseases

a. Identify and describe basic causes, symptoms, treatments, and management of common communicable diseases and health problems.

B. Body Defenses and Recovery

a. Explain how healthy behaviors enhance the body's basic lines of defense (e.g., sleep, physical activity, healthy food choices).

C. Types of Pathogens and Transmission

a. Identify that there are certain conditions and lifestyle behaviors that enhance both the growth and spread of pathogens (e.g., person-to-person, food, water, not washing hands, improper refrigeration, lack of purification).

E. HIV/AIDS Prevention Education

a. Describe how HIV affects the immune system.

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2. **Injury Prevention and Safety**
    A. Safety for Home, School, and Communities
        a. Assess personal environment and recognize the potential for danger in everyday situations (e.g., not wearing seatbelt, too many plugs in one outlet, telling caller parents are out).
    B. First Aid Procedures
        a. Demonstrate basic first aid procedures for handling weather-related emergencies (e.g., hypothermia, frostbite, and heat exhaustion).
    C. Activity Related Injuries and Environmental Conditions
        a. Predict the outcome when safety equipment is used/not used in physical activity.
    D. Water-Related Emergencies
        a. Explain the cause and effect of following water safety rules.

3. **Substance Education**
    A. Safe and Unsafe Substances
        a. Classify substances in the home according to proper and improper usage (e.g., bleach is for cleaning and not for ingesting; vitamins are one a day and not several a day).
    B. Purpose and Guidelines for Prescription, OTC Drugs and Natural Substances
        a. Identify the purposes of prescriptions, OTC drugs, and other natural substances (herbs) and how they can be used safely (e.g., treat illness, prevent health problems).
    C. Substance Use vs. Non-Use
        a. Describe how TAOD can affect the body systems (e.g., circulatory, respiratory, nervous).
        b. Analyze the effects of choosing healthy alternatives rather than using or abusing substances.

4. **Environmental Health**
    A. Effects of Pollution on Health
        a. Compare the air quality between the smoking and non-smoking area of a restaurant and identify harmful effects of second hand smoke.
    B. Individual Responsibility
        a. Identify actual or potential risks factors and reduction methods within the environment that can affect one's health (e.g., wearing sunscreen, having parent change furnace filter).