D. TOPICS PRESENTED TO EACH GRADE

Kindergarten: Bones and general internal organs

First Grade: Overview of Body Systems (typically teams teach 2-4)

a. Digestive
b. Circulatory
c. Respiratory
d. Skeleto-muscular
e. Urinary
f. Reproductive
g. Nervous

Second Grade: The eye and the ear

Third Grade: The digestive system

Fourth Grade: The respiratory and cardiovascular system

Fifth Grade: The urinary and reproductive system

Sixth Grade: The skeletal and muscular systems

Seventh Grade: The nervous system

DETAILED LIST OF TOPICS

KINDERGARTEN:

Bones and general internal organs

Bones: The children should enjoy learning the names, locations, and functions of many bones in the body.

skull, vertebrae, ribs, pelvis, humerus, radius, ulna, wrist, hand, femur, patella (knee cap), tibia, fibula, ankle, foot

Internal organs: Each child should place his/her hand over the area occupied by these major organs and give at least one function.

heart, brain, stomach, intestines, kidneys, lungs, liver, spleen, pancreas, urinary bladder, etc.

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FIRST GRADE:

Overview of body systems

Each child should be aware of the several body systems, the meaning of a "system," and the major functions of the systems.

Digestive: A tube from mouth to anus designed to prepare food for use in the body and eliminate the waste; external glands (salivary glands, the liver, the pancreas) empty secretions into this tube to help process the food.

Circulatory: A heart which pumps blood through tubes – arteries, veins, and capillaries – to carry blood to and from all the cells in the body.

Respiratory: Air carried from the nose to the lungs and back again to provide oxygen for the cells and remove carbon dioxide waste, both of which are carried by the blood.

Skeleto-muscular: For movement, heat production, production of blood cells, and storage of calcium.

Urinary: Kidneys designed to clean the blood and balance electrolytes, remove the waste, store the waste in the urinary bladder, and excrete the waste.

Reproductive: Organs designed for the creation of babies.

Nervous: A brain connected with the spinal cord and peripheral nerves to carry information into and out of the core, for the survival and well-being of the individual.

SECOND GRADE:

The eye and ear

The eye: The structure and functions of the parts of the eye should be presented in addition to the surrounding structures which are designed to protect the eye.

The eye – cornea, sclera, choroids, iris, lens, vitreous body, retina, optic nerve, visual cortex
Support structures – eye socket, eyebrows, eyelashes, eyelids, tear glands, tear ducts
Common eye disorders
Use of glasses
Eye care

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The ear: The children should learn the basic parts of the ear and how they function so that hearing occurs.

External ear – auricle, canal, tympanic membrane (ear drum) Middle ear – three tiny bones, two small muscles, Eustachian tube Internal ear – cochlea, fluid, hair cells, auditory nerves

THIRD GRADE:

<u>The digestive system</u>

Beginning with the mouth and ending with the anus, the children should learn the parts of the digestive system and their functions.

mouth, teeth, salivary glands, tongue, esophagus, stomach, small intestine, large intestine (colon), rectum, anus, liver, gall bladder, pancreas

FOURTH GRADE:

<u>The respiratory system AND the cardiovascular system</u>

The structure and function of the heart, blood, and blood vessels should be offered.

The heart – right & left atria, right & left ventricles, a-v valves, semilunar valves, great vessels Vessel structure – muscle and elastic coats, single cell lining Blood production – inside some bones and lymph organs Blood cell types – red, white, platelets Common diseases of the heart and vessels Promotion of a healthy cardiovascular system

FIFTH GRADE:

<u>The urinary and reproductive systems</u>

The urinary system: Name and give the function of the various parts of the urinary system.

kidneys, ureter, urinary bladder, urethra

The reproductive system: Every individual should understand the structures and function of these systems in both males and females.

Females – ovaries, uterine tubes (oviducts/fallopian tubes), uterus, vagina Males – testes, vas deferens, prostate and other glands, penis

SIXTH GRADE:

<u>The skeletal and muscular systems</u>

The skeletal system: Name specific bones and give the function and composition of bones.

skull, vertebrae, rib, sternum, clavicle, scapula, radius, ulna, humerus, pelvis, femur, tibia, fibula, carpals, metacarpals, phalanges, tarsals, metatarsals, patella, bone marrow, epiphysis, diaphysis

The muscular system: Name the different muscle types and give the structure and function of muscles.

sternocloidomastoid, masseter, trapezius, deltoid, biceps, triceps, latissimus dorsi, rectus abdominis, gluteus maximus, gastrocnemius; smooth, cardiac, skeletal muscle; sarcomere, actin/myosin contractile system

SEVENTH GRADE:

<u>The nervous system</u>

The wonder of the brain and its basic structures and functions should be introduced early into the lives of the young people. Possibly greater tolerance, empathy, and human understanding will come from an appreciation of the nervous system.

Brain – medulla oblongata, cerebellum, pons, midbrain, cerebral hemispheres, etc. Spinal cord Spinal and cranial nerves – why such nerves are essential to coordinate the external environment with the spinal cord and brain Cell types – neurons, glial cells