

Scope & Sequence

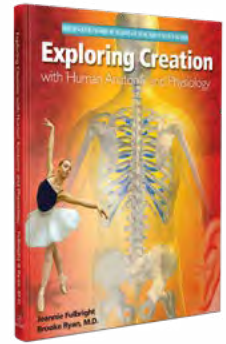
Exploring Creation with Human Anatomy and Physiology

GRADE LEVEL: K-6

TEXT SUMMARY: An elementary level anatomy and physiology book that gives glory to God as children discover all that goes on in their bodies from their heads to the nails on their toes! Beginning with a brief history of medicine and a peek into cells and DNA, your students will voyage through fourteen lessons covering many subjects, such as the body systems: skeletal, muscular, respiratory, digestive, cardiovascular, nervous and more!

Lesson	Summary	Main Themes	Supporting Activities and Experiments
<p style="text-align: center;">LESSON 1 <i>Introduction to Anatomy and Physiology</i></p>	<p style="text-align: center;">Lesson 1 provides an overview of the history of anatomy and physiology. Lesson 1 also provides an introduction to the cell.</p>	<ul style="list-style-type: none"> • History of Anatomy and Physiology • Ancient Egyptians • Ancient Hebrews • Ancient Greeks • Aristotle • Creation confirmation • Ancient Rome • European Scientists • Cells • Cell Anatomy • Cell Membrane • Mighty Mitochondria • Lysosome Patrols • Grocer Golgi • ER Delivery and Pick Up • Centrioles: Mothers of the City • The Nucleus Government • Inside the Nucleus • DNA • RNA • Cell creation 	<ul style="list-style-type: none"> • Mummify an apple • Personality test • Magnifying with water • Personal Person Project • Edible Cell • Personal Person Project • Edible Cell

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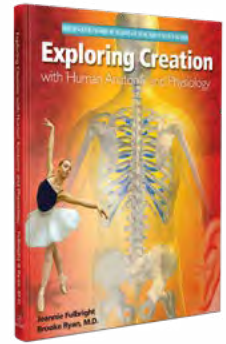


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<p>LESSON 2 <i>The Skeletal System</i></p>	<p>Lesson 2 provides an introduction to the skeletal system: its anatomy and physiology.</p>	<ul style="list-style-type: none"> • What Do Bones Do? • Got Blood? • Warehouse Wonder • Bone Brawn • Let's Get Moving • Bone Anatomy • On the Outside • Made to Last • Bouncy Bone • In the Marrow • Bone's A-Growing • Deep and Wide • Broken Basics • Shapin Up • Connect the Bones • Ligaments • A Head of the Game • Let's Face It • Shivers Down Your Spine • Baby Back Ribs • A Peck of Peppers • Armed and Dangerous • Girdles Around • The Last Leg • Joint Venture • Kinds of Joints 	<ul style="list-style-type: none"> • Make a clay figure • Brain protection • Explore cushioning • As tall as wide • Counting bones • Stiff fingers • Name those bones • Warming friction • Personal Person Project • Analyzing a Chicken Bone
<p>LESSON 3 <i>The Muscular System</i></p>	<p>Lesson 3 provides an introduction to the different types of muscles, how they work and how they move the skeletal system.</p>	<ul style="list-style-type: none"> • Skeletal Muscles • Tendons • Moving Skeletons • Muscle Cells • Get a Move On • Let's Face It • Contracting Muscles • Mighty Muscle • Mitochondria • Growing Muscles • Pack the Protein • Cardiac Muscles • Smooth Muscles 	<ul style="list-style-type: none"> • Weighing muscles • Body reflexes • Examine muscle fibers • Facial expressions • Timing muscles • Make intestines • Personal Person Project • Growing muscles

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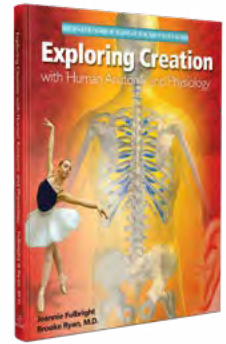


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<p>LESSON 4 <i>The Digestive and Renal Systems</i></p>	<p>Lesson 4 teaches how the digestive system converts food into materials the body needs to live, repair itself, and grow.</p>	<ul style="list-style-type: none"> • Down the Hatch • Grand Opening Mouth • Terrific Teeth • Super saliva • Terrific Tongue • Stirring Stomach • Stomach Stories • Chyme to Go • Living Liver • Pancreas Potential • Large Intestine • The Renal System 	<ul style="list-style-type: none"> • Acid and teeth • Digestive enzymes • Stomach in action • Measuring intestines • Bile and oil • Personal Person Project • Design a Digestion Theme Park
<p>LESSON 5 <i>Health and Nutrition</i></p>	<p>Lesson 5 teaches the importance of fruits, vegetables, protein, sugar, and fat in the diet.</p>	<ul style="list-style-type: none"> • Necessary Nutrients • Win with Water • Carb Control • Simply Energetic • Complex Carbohydrates • Carbohydrates: The inside Story • Power Packed Protein • Getting the Essentials • Protein: The Inside Story • The Skinny on Fats • Fundamental Fatty Acids • Counting Calories • Victorious Vitamins • Vitamin A • Vitamin C • Where's the C at Sea? • Vitamins D and K • B Vitamins • Vitamins: The Inside Story • Minerals 	<ul style="list-style-type: none"> • Water vapor • Finding starch • Calculating Protein • Fat in your house • Pantry examination • Oxidation • Create a food pyramid • Testing for Vitamin C

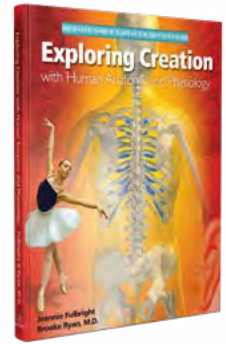
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<p>LESSON 6 <i>The Respiratory System</i></p>	<p>Lesson 6 provides an introduction to the respiratory system: how all the parts work together and what happens when they are impaired.</p>	<ul style="list-style-type: none"> • Hairy Catchers • Musky Mucus • Slashing Cilia • Crazy Conchae • Holes in Your Head • Speaking Strings • Trachea Track • Bronchi Branches • Baby Bronchioles • Alveoli Alley • Catching Cold • Asthma Attack • Smoking Insanity • The Great Exchange • Filled to Capacity • Diaphragm Design • Heimlich Maneuver • Tasty Diaphragms 	<ul style="list-style-type: none"> • Humidity • Honey mucus • Breath • Uvula • Examining pitches • Vocal cords • Trachea straw • Tape a breath • Abdominal muscles • Personal Person Project • Diaphragm Model • Vital Lung Capacity
<p>LESSON 7 <i>Life in the Blood</i></p>	<p>Lesson 7 provides an introduction to blood: its make-up and how it moves through the body.</p>	<ul style="list-style-type: none"> • Super Highway • Artery Highways & Capillary Byways • Capillaries • Transporter • Protector • Message Carrier • Thermostat • Blood Basics • Plasma • Red Blood Cells • White Blood Cells • Platelets • Wound Care • Making Blood • Need Blood? • Blood Types 	<ul style="list-style-type: none"> • Light your circulatory system • Finding iron in cereal • Type your blood

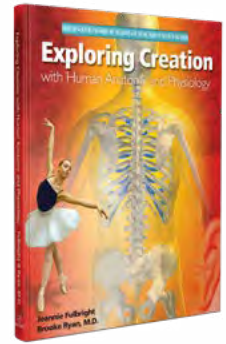


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LESSON 8 <i>The Cardiovascular System</i>	Lesson 8 provides an introduction to the heart, how it works, and how we can observe its function externally.	<ul style="list-style-type: none"> • Heart Matters • Heart Anatomy • Pumping Iron • Heart Health • Signs of a Heart Attack • Capillary Switch • Cardiac Components • Open Sesame • Beating Heart • Vascular Vehicles • Zoe's Life 	<ul style="list-style-type: none"> • Build a heart • Color a heart • Find your pulse • Personal Person Project • Make a Stethoscope
LESSON 9 <i>The Nervous and Endocrine Systems</i>	Lesson 9 provides an introduction to the nervous system and how it works with the endocrine system to control the different functions in the body.	<ul style="list-style-type: none"> • The Central Highway • Peripheral Points • On My Nerves • Sense and Do • Between It All • Integration Sensation • Sending the SNS • ANS Unaware • Ending with Endocrine 	<ul style="list-style-type: none"> • Build a brain • Create neurons • Trick your SNS • Calming techniques • Personal Person Project • Anatomy Trivia Game
LESSON 10 <i>The Nervous System Extended</i>	Lesson 10 provides an overview of how the brain functions and works with the nervous system.	<ul style="list-style-type: none"> • Half a Brain • Shapely Cerebrum • Frontal Fractions • Temporal Tones • Occipital Optics • Parietal Position • What's the Matter? • My Myelin • Swinging Cerebellum • Bossy Brainstem • Sorting Stimuli • The Spinal Cord • The Reflex Arc • Packaged and Protected • Bigger Brains • My Brain 	<ul style="list-style-type: none"> • Making connections • Right-left handed • Build brain hemisphere • Stacking pennies • Quick connections • Brain connections • Eye dominance • Mapping pain • Skull protection • Design a Science Fair Project

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<p>LESSON 11 <i>Your Senses</i></p>	<p>Lesson 11 provides an introduction to the five senses and the specific organs on which they are dependent.</p>	<ul style="list-style-type: none"> • Old Fashioned Olfaction • Tasty Taste Buds • Dissolving Donuts • Get It While It's Hot • Now Hear This • External Ear • Middle Ear • Inner Ear • Hearing in a Nutshell • Sound off • All Fall Down • Seeing is Believing • Eyeball to Eyeball • Color My World • Cornea Control • Glass Helpers • Upside Down World • Double Vision • Eye Will Protect You • Eye will Understand 	<ul style="list-style-type: none"> • Smell and taste • Smell and air • Smell and memories • Examine your mouth • Investigate taste buds • Sweet and salty • Smell, taste, texture • Sound waves • Locating sound • Spinning • Examining Irises • Night and color vision • Magnifying light • Test your vision • Create action figures • Blind spot • Follow the mark • Testing Taste
<p>LESSON 12 <i>The Integumentary System</i></p>	<p>Lesson 12 provides an introduction to the skin.</p>	<ul style="list-style-type: none"> • Stretch and Grow • Dearly Departed Hair • Skin Stories • Thick Skin • Your Epidermis is Showing • Skin Deep • Carrots Please • Melanin Melody • The Dermis • Bruising • Bursting Blisters • Don't Sweat It • Heat Exhaustion • Thermostat • Hair Controls • Very Hairy • Layered Hair • Straight or Curly • Dermal Indentions • Happy Hypodermis • Sensing General Senses • Nails 	<ul style="list-style-type: none"> • Elbow skin • Evaporation • Hairy face • Dead hair • Feel hairs move • Stretching hair • Sliding skin • Heat sensing • Detecting vibrations • Personal Person Project • Fingerprints • Braille Challenge • Sensing Sensitivity



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<p style="text-align: center;">LESSON 13 <i>The Lymphatic and Immune Systems</i></p>	<p>Lesson 13 provides a basic understanding of how the body protects, communicates, and responds to viruses, bacteria, and parasites.</p>	<ul style="list-style-type: none"> • The Bad Guys • Pathological Parasites • Bad Bacteria • Freaky Fungi • Wonky Worms • Viral Villains • Cursed Cancer • Dastardly Disease • Our Faithful Father • The Lymphatic System • The Spleen • Immunity • Special Agents B and T • Antibodies and Antigens • Antibody Antics • Immunity Modes • Acquired immunity • Vaccinations • Amazing Antibiotics 	<ul style="list-style-type: none"> • Experiment: Testing for Bacteria and Fungi
<p style="text-align: center;">LESSON 14 <i>Growth and Development</i></p>	<p>Lesson 14 provides an overview of the total body, including how it grows and changes. Lesson 14 also provides an explanation of how genes work and the differences between humans and all other creatures created.</p>	<ul style="list-style-type: none"> • Diving Cells • Development in the Womb • Development Outside the Womb • Genetics • Chromosome Commotion • Merry Mitosis • Magnificent Meiosis • Time for Twins? • Redhead Revelation • Gregor Mendel • Personhood • In His Image • Apes and Apemen • What about Cavemen? • Why Did God create Me? • Grow in Wisdom 	<ul style="list-style-type: none"> • Change through life • Predicting height • Study traits • Hidden genes • Possible Purpose Page • Prayer Journal Activity • Bible Reading Plan • Dominant and Recessive Traits

ADDITIONAL INFORMATION: This textbook also has a corresponding notebooking journal. An audio book version is available. Additional websites for further exploration of the topics in the text are provided at the Book Extras link for this title. You can learn more about this title at apologia.com.