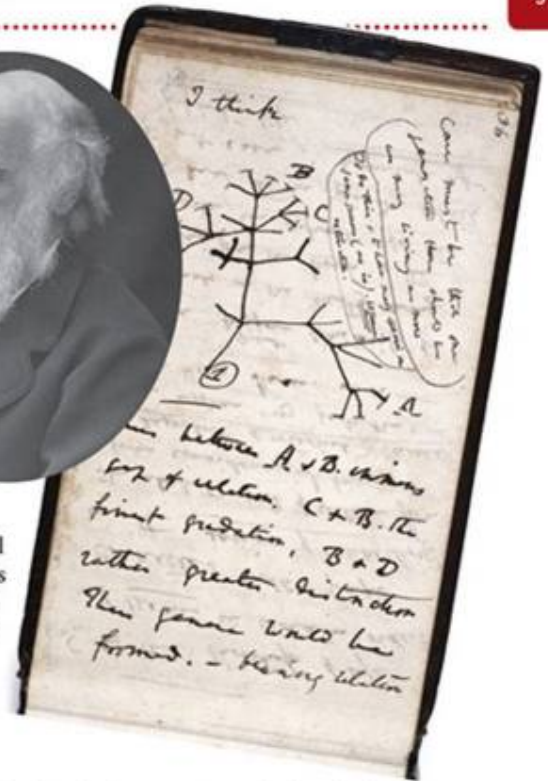
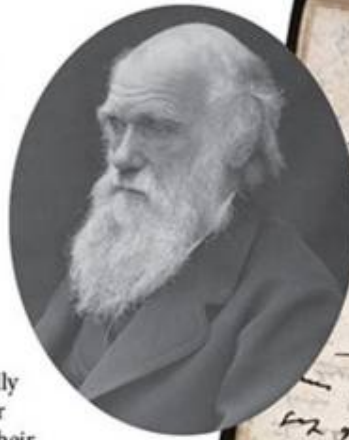


THE MYTH OF EVOLUTION

For a long time in the West, the literal six-day biblical creation was generally accepted, until 18th-century geologists began to question Noah's Flood. Later, Charles Darwin published *On the Origins of Species*, the book that shook the foundations of modern science. Darwin proposed that living creatures were not specially created but were instead the result of natural forces. His theory rests upon three main assertions. The first is that all biological life came from a single creature called a *universal common ancestor*. This creature multiplied and gradually changed into the variety of modern species we see today through a mechanism called *natural selection*. Natural selection, Darwin's second assertion, says that creatures naturally change in small ways in response to environmental pressures or other natural forces, and the ones more fit for their environment survive while the others die. In this way, life gradually evolved from simple to complex—step by tiny step. All of this supposedly happened over a *vast amount of time*, which is the third assertion. Darwin illustrated his theory in the tree of life, with the common ancestor at its root and evolution of other creatures as the branches.



"So God created man in His own image; in the image of God He created him; male and female He created them." (Genesis 1:27)



Thankfully, the whole universe—including the human body—proclaims the existence of a Creator through its sophisticated design that refutes slow, evolutionary, step-by-step construction by blind natural forces. Believing that

God created it all best explains the intricate mechanisms we find in nature. Studying it with eyes wide open will satisfy many questions over origins and confirm God's inerrant and inspired Word.

"For since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse." (Romans 1:20)

As we examine the design of the human body, the answer to "Who made it?" becomes abundantly clear, since His signature of complexity, precision, and all-or-nothing unity has been written on every part.

"Not only must we understand that the universe and all that is in it were *created*, but we must know that everything has been *designed* by the omnipotent and omniscient God and has a purpose for being."

—Dr. Henry M. Morris III,
CEO of the Institute for Creation Research



History of Anatomy

Over thousands of years, people of many cultures and time periods have been intrigued by the human body and its design. Many beliefs, theories, and experiments have caused our understanding to change over time. Here are some famous characters in history who contributed to the greater understanding we have today.

HIPPOCRATES

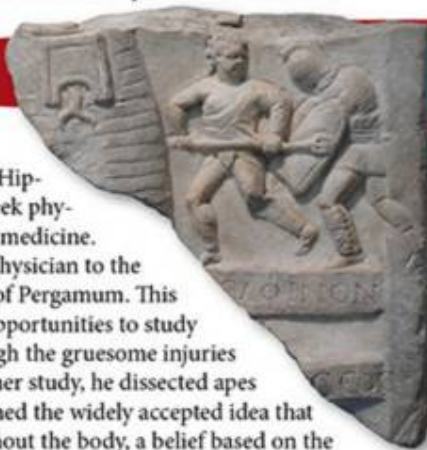
In the 4th century B.C. a doctor lived in the Greek city of Cos who would later be called the Father of Medicine—Hippocrates. Born into a family of physicians, Hippocrates soon became proficient at the practice of medicine and was well-known throughout the Mediterranean area. He is credited with curing many diseases, including the tuberculosis that afflicted the king of Macedonia. Myth and truth are difficult to separate regarding his life, and many medical works may have been falsely attributed to him. However, it is known that he wrote around 60 documents on medicine collectively referred to as the *Hippocratic Corpus*. His life and works became the foundation of Western medicine and inspired today's Hippocratic Oath, in which beginning physicians swear to follow ethical standards in their practice of medicine.



Hippocrates

GALEN

About 600 years after Hippocrates, another Greek physician revolutionized medicine. Galen was the chief physician to the gladiators in the city of Pergamum. This role gave him many opportunities to study the human body through the gruesome injuries of his patients. For further study, he dissected apes and pigs. Galen overturned the widely accepted idea that arteries carry air throughout the body, a belief based on the arteries of dead animals, which appeared empty. His expertise moved him to Rome, where his fame continued to rise through his public demonstrations on anatomy. He identified the valves of the human heart and differentiated arteries and veins. He successfully cured many people whom other doctors had given up on. The Roman joint emperors hired him as their physician for a military campaign in northern Italy.



Leonardo da Vinci

LEONARDO DA VINCI

After Galen, Western medical study was largely ignored—until the 15th century, when Leonardo da Vinci practically stumbled into the profession. He had built a successful career as an artist in Milan, Italy. A doctor named Marcantonio della Torre approached him to do the sketches for a book on human anatomy. The two collaborated, with della Torre dissecting human bodies and da Vinci sketching them. However, della Torre passed away unexpectedly before finishing the book, and so da Vinci took up both tasks. He dissected bodies in a cathedral cellar and sketched his findings. He created over 500 diagrams that still amaze physicians with their accuracy and depth of anatomical understanding.





DID YOU KNOW?

Fingerprints form in the womb when the dermal cell layer of your skin is squeezed between the inner subcutaneous tissue and the outer dermis. The pressure creates wrinkles within the dermal cell layer, which forms the loops, arches, and ridges that make your prints one of a kind.



FRECKLES

Some skin melanocytes produce more melanin than others, causing spots called freckles. Freckles become dark when exposed to the sun, but usually diminish over time without sun. People with red hair and green eyes tend to have greater amounts of pheomelanin so they are more prone to have freckles. Though most freckles are harmless, individuals should get regular checkups on any that appear to be changing or are multi-colored or bigger than a pencil eraser to guard against melanoma.



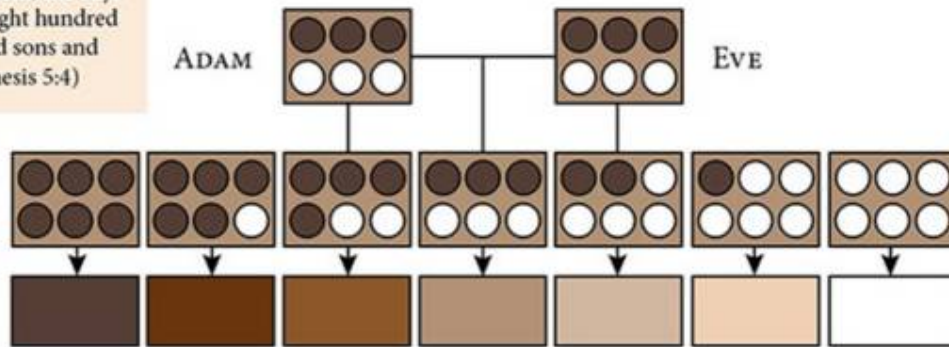
On top of the numerous traits seen in our skin, hair, and eyes, other features vary from person to person. The Lord Jesus Christ built the potential for diversity into Adam and Eve's genes, beautifully expressed in their descendants all around the world.

Some may be surprised that such a wide range of traits could be passed down from only two people, but this is perfectly consistent with modern genetics. Many genes influence our physical traits, including at least three producing pigments that darken skin color. If Adam and Eve carried three genes for pigment and three genes for no pigment, then they would have had medium-brown skin—the most common tone still seen today. The chart below illustrates how different combinations of Adam and Eve's genes in this scenario could express all known skin tones in their children.

DID YOU KNOW?

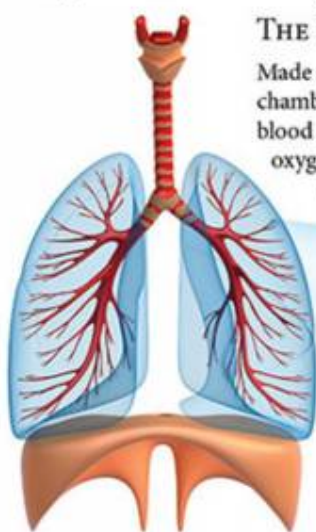
The integumentary system includes the skin, hair, and nails. The skin is the largest organ in the human body and consists of layers of tissue: the epidermis, dermis, and hypodermis.

"After he begot Seth, the days of Adam were eight hundred years; and he had sons and daughters." (Genesis 5:4)



The Circulatory System: A Matter of the Heart

Your circulatory system is like an elaborate network of river canals used for transporting goods. It consists of the heart, lungs, and blood vessels. Blood picks up nutrients from the “port” of your liver, and oxygen from the “port” of your lungs, and delivers them throughout the body using the “canals”—known as blood vessels—of your circulatory system. Their rapid delivery service is aided by the pumping of your heart.



THE HEART

Made almost entirely of pure muscle, the heart has four chambers. The right atrium and ventricle process oxygen-poor blood and send it to the lungs for replenishment. The now oxygen-rich blood is circulated to the left atrium and ventricle. The top of the heart is called the *base*. It connects the heart to the major vessels of your body: aorta, vena cava, pulmonary trunk, and pulmonary veins. A wall of muscle called the *septum* separates the right and left sides of the heart.



THE LUNGS

When the lungs inhale air, microscopic air sacs called *alveoli* absorb oxygen from the air and help transfer it into the blood. Blood vessels in the pulmonary circuit then carry the oxygen from the lungs to the heart.

DID YOU KNOW?

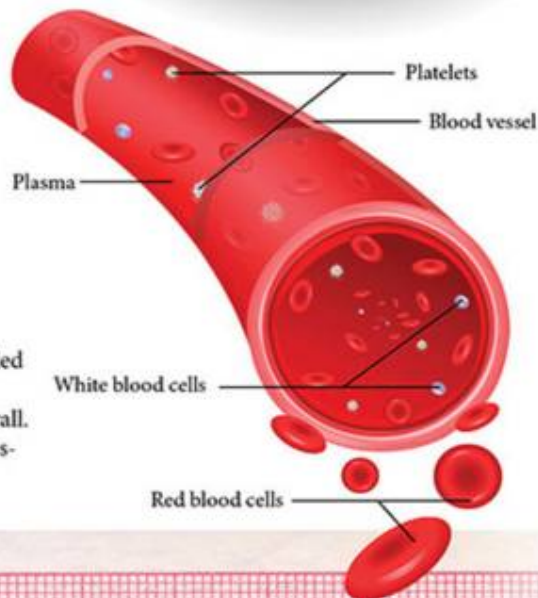
The average human body contains about five liters of blood, and your heart at rest can pump it all through your body every minute!

DID YOU KNOW?

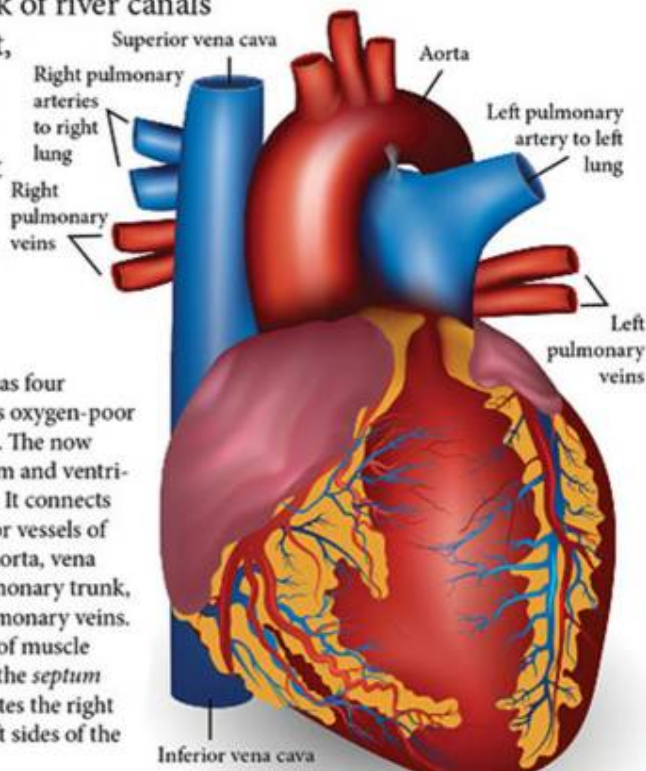
If all your blood vessels were laid end to end, they would wrap around the earth more than twice!

BLOOD VESSELS

Blood vessels contain a hollow area called the *lumen* through which blood flows. Surrounding the lumen is the vessel's wall. There are three major types of blood vessels: arteries, capillaries, and veins.



A medical machine called a *cardiograph* is often used by doctors to record the electrical signal moving through your heart. It displays them in the form of a cardiogram.



Exquisite Design of Hands

And let the beauty of the LORD our God be upon us, and establish the work of our hands for us; yes, establish the work of our hands. (Psalm 90:17)

We would be hard-pressed to find a tool more versatile than the human hand. It is exquisitely designed to hold, soothe, grip, wield, pinch, tuck, strike, tap, clap, guide, beckon, lift, rub, fold, clasp, grasp, signal, squeeze, and the list goes on. Human hands possess superior capabilities that are fundamentally distinct from those of any other creature, thanks to their unique muscle configuration and the brain's extensive sensory-motor functions.

HAND BONES

Each hand contains 27 bones, granting amazing range and flexibility. Two rows of four bones in the wrists are the carpals. Five metacarpals serve as the framework for the palm. Each finger has three phalanges, while the thumb has only two.

DID YOU KNOW?

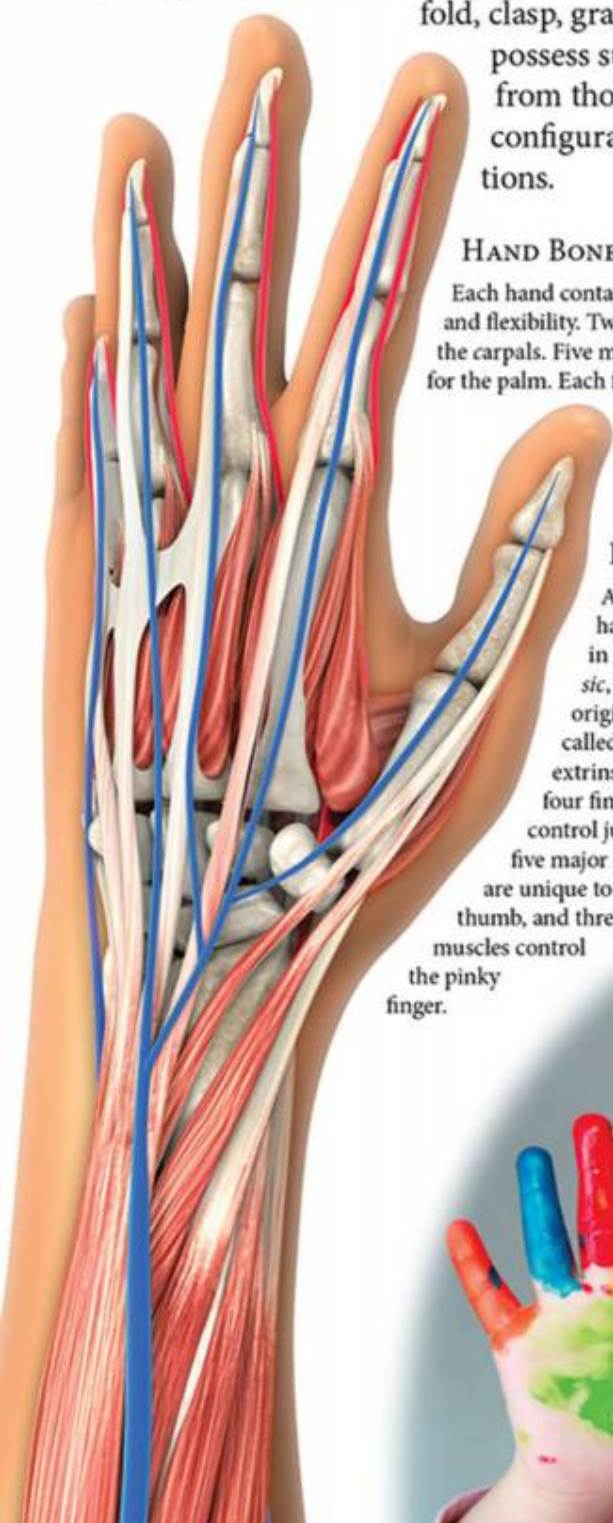
Scientists tried to replicate the human hand using robotics, but their best efforts only replicated about 10% of its functionality.

HAND MUSCLES

About 32 muscles control your hand. Nineteen muscles originate in the palm and are called *intrinsic*, while the other 13 muscles originate in your forearm and are called *extrinsic*. Both intrinsic and extrinsic muscles help control the four fingers and thumb. Seven muscles control just the index finger, five major muscles are unique to the thumb, and three muscles control the pinky finger.

SKIN

Your palms are constructed in a way that makes it easy for you to hold and grip things. The skin is hairless and cannot tan, making it tough and reliable. A layer of fibrous tissue connects the skin to the skeleton in a unique way that allows you to grip things without the skin moving and sliding. The creases allow your skin to fold without bunching up and getting in the way.



Life in the Womb: Fearfully and Wonderfully Made

Perhaps no greater wonder exists in the human body than the processes involved in the conception and development of a baby—one human life growing within another human life. Mother and baby are deeply connected yet two very separate beings. Bible passages such as Psalm 139 tell us that God knows us intimately and has a plan for our lives even while we are still in our mother's womb.

"Your eyes saw my substance, being yet unformed. And in Your book they all were written, the days fashioned for me, when as yet there were none of them." (Psalm 139:16)

The development of a baby is a marvelous process of construction and could not possibly happen without intentional design. Many working parts and processes must happen in order to ensure a baby's survival before and after birth. God put special features in place so that we could not only survive, but thrive.

MONTH 1

The fertilized egg implants in the uterus and will grow 10,000 times larger by the end of the month via cell division. At this stage, the baby is referred to as an embryo and begins forming the heart, digestive system, backbone, and spinal cord. A temporary organ called a *placenta* develops in the uterus to carry oxygen and nutrients to the baby through the umbilical cord.



MONTH 2

The baby's heart is now beating. During this month her eyes, nose, lips, tongue, ears, and teeth are forming. She is active, though mom cannot yet feel her tiny movements.



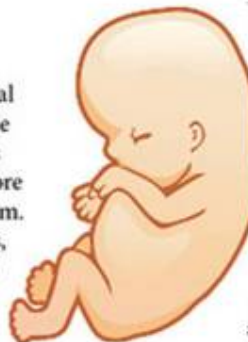
MONTH 3

The heartbeat can now be heard with a special instrument called a fetal Doppler. A lot of visible development occurs as her body takes on a more recognizably human form. Arms, hands, fingers, legs, feet, toes, and even earlobes finish their formation, while a little more work remains on her nails, eyes, and some organs and tissues.



MONTH 4

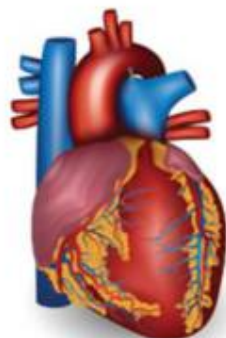
Though gender was determined at conception, a sonogram can now reveal it, and the baby may be found sucking his or her thumb. The skin is bright pink and covered in *lanugo*, a temporary downy coating of hair. Additional tasks this month are developing tooth buds and sweat glands.



DID YOU KNOW?

Babies form their own unique set of fingerprints only 14 weeks from conception.

GUIDE TO THE HUMAN BODY



The design of the human body inspires awe and fascination. How can so many different parts and systems work together so seamlessly? Not only that, how do they sustain us and enable us to perform such incredible feats? *Guide to the Human Body* delves into such things as the complex construction of the cell, a baby's development in the womb, the mechanics of hands and feet, and the incredible abilities of the brain. Discover astonishing facts about the circulatory, nervous, respiratory, and immune systems, and more. Find out how DNA serves as the foundational building instructions for every part of the body. It is easy to see great wisdom and purpose in the design of the human

body. And everything we find points back to one magnificent Engineer!



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