

Chapter 1 : Buy Essential Anatomy 3 - Microsoft Store

Understanding the anatomy of a PC is no easy task, even if you've used one every day for years. You may have heard the terms "motherboard" or "central processing unit," but asking most people to.

Endocrine system, which regulates hormone production Cardiovascular system Urinary system Reproductive systems Although these systems have different names, they all work interdependently, meaning they work together and depend on each other. Microscopic anatomy On a microscopic level, anatomy looks at cell structure and function. Microscopic anatomy, also known as histology, is the study of cells and tissues of animals, humans and plants that are too small to be seen with the naked eye. By looking at tissue under the microscope, we can learn about the architecture of the cells, how they are put together, and how they relate to each other. For example, if a person has cancer, examining the tissue under the microscope will reveal how the cancer cells are acting and how they affect normal human tissue. This commonly involves studying tissues and cells using histological techniques such as sectioning and staining, and then looking at them under an electron or light microscope. Sectioning involves cutting tissue into very thin slices so they can be examined. Histological stains are added to biological structures, such as tissues, to add colors or to enhance colors so they can be more easily distinguished when they are examined, especially if different structures are next to each other. Histology is vital for the understanding and advancement of medicine, veterinary medicine, biology, and other aspects of life science. Histology is used for: Histology slides are used in teaching labs to help students who are learning about the microstructures of biological tissues. Tissue samples, or biopsies, are taken from patients and sent to the lab for analysis by a histologist. The microscopic study of biological tissues can help explain why, for example, somebody unexpectedly died. As in forensic investigations, biological tissues from deceased people and animals can be analyzed, so that investigators may better understand the causes of death. Biological samples from archeological sites can provide useful data about what was going on in history or ancient history. Histopathology Histotechnicians, also known as histology technicians, histology technologists, biomedical scientists, medical scientists, or medical laboratory technicians, work in histology laboratories. These specialists use special skills to process samples of biological tissues that may come from patients, from suspects if it is a forensic lab, or from corpses. Using a series of techniques, they prepare tiny slices of tissue, known as sections. They mount the slices on slides and add histology stains. The slides are then examined by a histopathologist, or pathologist, for analysis. The skills of a histologist must be meticulous and precise to deliver top-quality samples for examination under a microscope by histopathologist. A pathologist is a medical doctor who has graduated from medical school and then goes on to specialize in pathology through their residency. Residency programs are required for all specialties, and for pathology, the training is an additional four years. They examine cells and tissues and interpret what they see, so that they or others can use the data to decide on treatment for an illness, determine how somebody was injured or died, and so on. Histopathology is a sub-discipline of pathology. It is the microscopic study of disease tissues and cells. Studying anatomy Most health-care related studies need training in gross anatomy and histology. Paramedics, physical therapists, occupational therapists, medical doctors, orthotists and prosthetists, and biological scientists all need a knowledge of anatomy. Some websites offer a "tour" of the human body which explains the different organs and how they are made up. The National Institutes of Health offer a range of resources about the different parts of the body.

Chapter 2 : Anatomy: What is it and why is it important?

Anatomy is the identification and description of the structures of living things. It is a branch of biology and medicine. The study of anatomy goes back over 2,000 years, to the Ancient Greeks.

Skeleton of a diamondback rattlesnake

Reptiles are a class of animals comprising turtles, tuataras, lizards, snakes and crocodiles. They are tetrapods, but the snakes and a few species of lizard either have no limbs or their limbs are much reduced in size. Their bones are better ossified and their skeletons stronger than those of amphibians. The teeth are conical and mostly uniform in size. The surface cells of the epidermis are modified into horny scales which create a waterproof layer. Reptiles are unable to use their skin for respiration as do amphibians and have a more efficient respiratory system drawing air into their lungs by expanding their chest walls. The heart resembles that of the amphibian but there is a septum which more completely separates the oxygenated and deoxygenated bloodstreams. The reproductive system has evolved for internal fertilization, with a copulatory organ present in most species. The eggs are surrounded by amniotic membranes which prevents them from drying out and are laid on land, or develop internally in some species. The bladder is small as nitrogenous waste is excreted as uric acid. They have an inflexible trunk encased in a horny carapace above and a plastron below. These are formed from bony plates embedded in the dermis which are overlain by horny ones and are partially fused with the ribs and spine. The neck is long and flexible and the head and the legs can be drawn back inside the shell. Turtles are vegetarians and the typical reptile teeth have been replaced by sharp, horny plates. In aquatic species, the front legs are modified into flippers. There is one living species, *Sphenodon punctatus*. The skull has two openings fenestrae on either side and the jaw is rigidly attached to the skull. There is one row of teeth in the lower jaw and this fits between the two rows in the upper jaw when the animal chews. The teeth are merely projections of bony material from the jaw and eventually wear down. The brain and heart are more primitive than those of other reptiles, and the lungs have a single chamber and lack bronchi. The tuatara has a well-developed parietal eye on its forehead. This results in the jaws being less rigidly attached which allows the mouth to open wider. Lizards are mostly quadrupeds, with the trunk held off the ground by short, sideways-facing legs, but a few species have no limbs and resemble snakes. Lizards have moveable eyelids, eardrums are present and some species have a central parietal eye. The skeleton consists of a skull, a hyoid bone, spine and ribs though a few species retain a vestige of the pelvis and rear limbs in the form of pelvic spurs. The bar under the second fenestra has also been lost and the jaws have extreme flexibility allowing the snake to swallow its prey whole. Snakes lack moveable eyelids, the eyes being covered by transparent "spectacle" scales. They do not have eardrums but can detect ground vibrations through the bones of their skull. Their forked tongues are used as organs of taste and smell and some species have sensory pits on their heads enabling them to locate warm-blooded prey. The head and trunk are dorso-ventrally flattened and the tail is laterally compressed. It undulates from side to side to force the animal through the water when swimming. The tough keratinized scales provide body armour and some are fused to the skull. The nostrils, eyes and ears are elevated above the top of the flat head enabling them to remain above the surface of the water when the animal is floating. Valves seal the nostrils and ears when it is submerged. Unlike other reptiles, crocodilians have hearts with four chambers allowing complete separation of oxygenated and deoxygenated blood.

Bird anatomy

Part of a wing. Birds are endothermic, have a high metabolic rate, a light skeletal system and powerful muscles. The long bones are thin, hollow and very light. Air sac extensions from the lungs occupy the centre of some bones. The sternum is wide and usually has a keel and the caudal vertebrae are fused. There are no teeth and the narrow jaws are adapted into a horn-covered beak. The eyes are relatively large, particularly in nocturnal species such as owls. They face forwards in predators and sideways in ducks. The only cutaneous gland is the single uropygial gland near the base of the tail. This produces an oily secretion that waterproofs the feathers when the bird preens. There are scales on the legs, feet and claws on the tips of the toes.

Mammal anatomy

Mammals are a diverse class of animals, mostly terrestrial but some are aquatic and others have evolved flapping or gliding flight. They mostly have four limbs but some aquatic mammals have no limbs or limbs modified into fins and the forelimbs of bats are modified into wings. The

legs of most mammals are situated below the trunk, which is held well clear of the ground. The bones of mammals are well ossified and their teeth, which are usually differentiated, are coated in a layer of prismatic enamel. Mammals have three bones in the middle ear and a cochlea in the inner ear. They are clothed in hair and their skin contains glands which secrete sweat. Some of these glands are specialized as mammary glands, producing milk to feed the young. Mammals breathe with lungs and have a muscular diaphragm separating the thorax from the abdomen which helps them draw air into the lungs. The mammalian heart has four chambers and oxygenated and deoxygenated blood are kept entirely separate. Nitrogenous waste is excreted primarily as urea. The exception to this are the egg-laying monotremes, the platypus and the echidnas of Australia. Humans have a head, neck, trunk which includes the thorax and abdomen, two arms and hands, and two legs and feet. Generally, students of certain biological sciences, paramedics, prosthetists and orthotists, physiotherapists, occupational therapists, nurses, podiatrists, and medical students learn gross anatomy and microscopic anatomy from anatomical models, skeletons, textbooks, diagrams, photographs, lectures and tutorials, and in addition, medical students generally also learn gross anatomy through practical experience of dissection and inspection of cadavers. The study of microscopic anatomy or histology can be aided by practical experience examining histological preparations or slides under a microscope. Human anatomy can be taught regionally or systemically; that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such as the nervous or respiratory systems. They are often involved in teaching anatomy, and research into certain systems, organs, tissues or cells. By definition, none of these creatures has a backbone. The cells of single-cell protozoans have the same basic structure as those of multicellular animals but some parts are specialized into the equivalent of tissues and organs. Locomotion is often provided by cilia or flagella or may proceed via the advance of pseudopodia, food may be gathered by phagocytosis, energy needs may be supplied by photosynthesis and the cell may be supported by an endoskeleton or an exoskeleton. Some protozoans can form multicellular colonies. The most basic types of metazoan tissues are epithelium and connective tissue, both of which are present in nearly all invertebrates. The outer surface of the epidermis is normally formed of epithelial cells and secretes an extracellular matrix which provides support to the organism. An endoskeleton derived from the mesoderm is present in echinoderms, sponges and some cephalopods. Exoskeletons are derived from the epidermis and is composed of chitin in arthropods insects, spiders, ticks, shrimps, crabs, lobsters. Calcium carbonate constitutes the shells of molluscs, brachiopods and some tube-building polychaete worms and silica forms the exoskeleton of the microscopic diatoms and radiolaria. The outer epithelial layer may include cells of several types including sensory cells, gland cells and stinging cells. There may also be protrusions such as microvilli, cilia, bristles, spines and tubercles. He observed that when a ring-like portion of bark was removed on a trunk a swelling occurred in the tissues above the ring, and he unmistakably interpreted this as growth stimulated by food coming down from the leaves, and being captured above the ring. Arthropod, Insect morphology, and Spider anatomy Arthropods comprise the largest phylum in the animal kingdom with over a million known invertebrate species. The segments of the body are organized into three distinct parts, a head, a thorax and an abdomen. The thorax has three pairs of segmented legs, one pair each for the three segments that compose the thorax and one or two pairs of wings. The abdomen is composed of eleven segments, some of which may be fused and houses the digestive, respiratory, excretory and reproductive systems. Spiders have no wings and no antennae. They have mouthparts called chelicerae which are often connected to venom glands as most spiders are venomous. They have a second pair of appendages called pedipalps attached to the cephalothorax. These have similar segmentation to the legs and function as taste and smell organs. At the end of each male pedipalp is a spoon-shaped cymbium that acts to support the copulatory organ. Other branches of anatomy[edit] Superficial or surface anatomy is important as the study of anatomical landmarks that can be readily seen from the exterior contours of the body. Superficial is a directional term that indicates that structures are located relatively close to the surface of the body.

Chapter 3 : Anatomy of a Web Page

Anatomy is a natural science dealing with the structural organization of all living things. You will often encounter a course in gross anatomy as part of a medical school program. During such a course, you are required to attend lectures as well as participate in dissection laboratory sessions, which provide you with hands-on exposure to.

Anatomy of a Web Page This tutorial is a description of the basic structure of a web page and the anatomy of a web page. Here you will learn a web page basic structure. The Anatomy of a Web Page To make it easier for the beginner, below is an image of the anatomy of a web page. Click the image to see a larger view. This is the only web page element within the head section of the web page the visitor will see. If the visitor just typed www. File Name File name is the web page file name. It cannot contain any spaces! The file name can be written as one long name e. When you create a web page you have to give it a name. The file name has what is called an extension at the end of it. The extension at the end of the file name tells the browser what kind of file it is. A HTML document would have an extension of .html. If your web page uses a certain programming language it would have the appropriate extension. Servers and some browsers will not render show your page if you refer to it differently in your links than the way it is actually named. To combat this problem always name your files with lower case letters. Scroll Bars Scroll bars are on the right side and bottom of the browser window. If there is a scroll bar at the bottom horizontal scroll bar your web page content is too wide for the browser window. A web page layout should be designed so there is no horizontal scroll bar. You need to test your web page at different resolutions and on different operating systems to see if the way the page is laid out will result in horizontal scroll bars when viewed at smaller resolutions or by different operating systems. One way to avoid this problem is to use a flexible fluid design. A flexible design will adjust to the browser window size. As long as all your elements add up to less than the browser width there will not be a horizontal scroll bar. Next, we will look at the web page content portion of the anatomy of a web page. Header The header is at the very top of the web page. It usually contains a logo for the website. Navigation A website can use a left navigation system, a right navigation system or a navigation system that spans horizontally right under the header or above the header. The navigation system of a website has to be consistent throughout the website so the visitor will learn your navigation system. Changing the navigation system from page to page is confusing to the visitor and they will get frustrated and leave! We have already looked at some of the web page content, the header and navigation system. Also considered web page content is the web page footer we will discuss this next and the center section of this page that you are looking at now. Footer The footer is the bottom section of the web page. This section is where you usually put your copyright notice, link to your privacy policy and your website contact information. Summary of Anatomy of a Web Page In this tutorial we have looked at the anatomy of a web page from top to bottom. We started with the page title, moved onto the website URL and web page file name, discussed vertical and horizontal scroll bars, then moved onto the web page content. If you found this web page a useful resource for your own website please link as follows: A description of the basic structure of the anatomy of a web page. Page title, URL, file name, header, footer, navigation, web page content are all parts to the anatomy of a web page.

Chapter 4 : Anatomy of Switching Power Supplies - Inside a PC Power Supply of 11 - Hardware Secrets

The power supply unit in a computer changes over the force from the wall outlet to the kind of power required by the computer. It sends power through the links to the motherboard and different components.

A CRT is essentially an oddly-shaped, sealed glass bottle with no air inside. It begins with a slim neck and tapers outward until it forms a large base. Phosphors are chemicals which emit light when excited by a stream of electrons: Each dot consists of three blobs of coloured phosphor: These groups of three phosphors make up what is known as a single pixel. In the bottle neck of the CRT is the electron gun, which is composed of a cathode, heat source and focusing elements. Colour monitors have three separate electron guns, one for each phosphor colour. Images are created when electrons, fired from the electron guns, converge to strike their respective phosphor blobs. Convergence is the ability of the three electron beams to come together at a single spot on the surface of the CRT. Precise convergence is necessary as CRT displays work on the principal of additive coloration, whereby combination of different intensities of red green and blue phosphors create the illusion of millions of colours. When each of the primary colours are added in equal amounts they will form a white spot, while the absence of any colour creates a black spot. Misconvergence shows up as shadows which appear around text and graphic images. The electron gun radiates electrons when the heater is hot enough to liberate electrons negatively charged from the cathode. While the radiated electron beam will be circular in the middle of the screen, it has a tendency to become elliptical as it spreads its outer areas, creating a distorted image in a process referred to as astigmatism. The focusing elements are set up in such a way as to initially focus the electron flow into a very thin beam and then "having corrected for astigmatism" in a specific direction. This is how the electron beam lights up a specific phosphor dot, the electrons being drawn toward the phosphor dots by a powerful, positively charged anode, located near the screen. The deflection yoke around the neck of the CRT creates a magnetic field which controls the direction of the electron beams, guiding them to strike the proper position on the screen. This starts in the top left corner as viewed from the front and flashes on and off as it moves across the row, or raster, from left to right. When it reaches the edge of the screen, it stops and moves down to the next line. Its motion from right to left is called horizontal retrace and is timed to coincide with the horizontal blanking interval so that the retrace lines will be invisible. The beam repeats this process until all lines on the screen are traced, at which point it moves from the bottom to the top of the screen "during the vertical retrace interval" ready to display the next screen image. Since the surface of a CRT is not truly spherical, the beams which have to travel to the centre of the display are foreshortened, while those that travel to the corners of the display are comparatively longer. This means that the period of time beams are subjected to magnetic deflection varies, according to their direction. Before the electron beam strikes the phosphor dots, it travels through a perforated sheet located directly in front of the phosphor. Originally known as a shadow mask, these sheets are now available in a number of forms, designed to suit the various CRT tube technologies that have emerged over the years. They perform a number of important functions: When this happens each is illuminated, to a greater or lesser extent, and light is emitted in the colour of the individual phosphor blobs. Their proximity causes the human eye to perceive the combination as a single coloured pixel.

Chapter 5 : Essential Anatomy 5 on the App Store

Anatomy (Greek anatomĀ, "dissection") is the branch of biology concerned with the study of the structure of organisms and their parts. Anatomy is a branch of natural science which deals with the structural organization of living things.

Contact Us Chapter 1: I will try to keep things very simple, even a grade school student may understand this. Try to look at the diagram below to see the layout in the computer. Basically, these are the major components that make the system unit of the basic computer run. There are other components which may be added like aftermarket sound cards, optical drives and the like but ultimately, the ones above are the things that you need to make your computer run. Detailed information will be catered on the next chapters of this guide. It is basically the one that provides "power" to the entire system. I like to call it the "processor" only. What does it do? It processes every bit of information. Memory Stick This is a bit different from what you see in mobile phones. To put it very simple The memory handles data to be processed before it goes to the CPU. Video Card The eyes of the computer. You want your computer to run smooth on games and graphics, you need a decent video card. Motherboard Basically this thing right here holds every other internal component of the PC. The word you are going to look for when choosing a motherboard is "compatibility". The motherboard or simply "mobo" is responsible for communication between other parts of the PC. This is where your files will be stored. This is equivalent to the Micro SD Card of your mobile phone. So far, are you still with me? Power Supply - powers the entire unit Processor - processes every bit of information Memory Stick - handles data before it dumps into the CPU Video Card - makes games and graphics run smoothly Motherboard - holds everything in place and communicating channel of internal parts Hard Disk - file storage Got it? Lets go to the other components. The other things are pretty basic.

Chapter 6 : Anatomy: Whats Inside? Apk: Discover New Anatomies - TutuApp

Basically, these are the major components that make the system unit of the basic computer run. There are other components which may be added like aftermarket sound cards, optical drives and the like but ultimately, the ones above are the things that you need to make your computer run.

How can this square block of metal perform enormous amount of computation in a blink of an eye? How can it let you play games that require powerful graphical processing capabilities along with superb calculation and artificial intelligence? They are pretty straightforward but learning them can be a great asset especially if you are encountering problems with your PC. Its job is to carry commands. A faster processor can execute instructions more rapidly. Nonetheless, the real speed of the computer relies on upon the speed of numerous distinctive components— not only the processor. **Motherboard** The motherboard is where the CPU and other components of the computer connect. **Power Supply Unit** The power supply unit in a computer changes over the force from the wall outlet to the kind of power required by the computer. It sends power through the links to the motherboard and different components. Whenever your computer performs calculations, it temporarily stores the data into the RAM until it is needed. The more RAM you have, the more things your computer can do at the same time. **Hard drive** This is where data are permanently kept. This is where all of your games, software and OS are installed. This is also where your files are located. Unlike the RAM, where all data is lost when you turn off or unplug the PC, the hard drive will store all of your data indefinitely. **Video Card** This is the one responsible for processing video and computer graphics. They also have their own memory and speed. Basically, the bigger the memory and the faster the speed it has, the faster your computer will be when processing graphics intensive applications like games and 3D rendering. **Other Expansion Cards** The sound card, network card and Bluetooth cards are all optional as they come integrated into most motherboards. FYI, video cards are integrated too, but if you want better and higher quality performance, you might want to consider buying expansion cards.

Chapter 7 : Anatomy | Definition of Anatomy by Merriam-Webster

Gross anatomy, or the branch of anatomy has a large-scale focus on organs and body structures as a whole. Zootomy, or the anatomical study of animals. Phytotomy, or the anatomical study of plants.

May 29, at 6: You may have heard the terms "motherboard" or "central processing unit," but asking most people to define these very essential components is likely to draw blank stares. Pin The two main types of computers are portable and desktop. Portable computers come in various shapes and sizes, and include laptops and hand-held devices. Desktops are stationary, typically with a more powerful configuration. Several components are essential to both. Hands down, the most powerful component of a computer is the central processing unit CPU. Other basic and necessary components include memory, the motherboard, the hard drive and the power supply. Pin Central processing unit The CPU handles all of the computation work and is distinguished by its speed. The higher the speed, the faster the PC. RAM is the hardware inside the computer that stores information. Get a minimum of megabytes -- memory is even more important than the speed of the processor. Motherboard The motherboard provides the connections within the computer and hosts the RAM, microprocessor and drive controllers. The motherboard should have at least two USB ports to plug in a digital audio player or additional memory drive. It has a much larger capacity than the RAM. Power supply The last of the mandatory computer components is the power supply. Pin Modem With the Internet being the center of the world for many of us, access to it could actually move to the essential list. Most PCs have a modem for dial-up Internet access and an Ethernet port for broadband access. If you want to run games or multimedia programs faster, then many of these options can prove beneficial. Integrated sound is already adequate on most computers, but upgrading to surround sound is a desirable option. Pin Keyboard, mouse and monitor The keyboard allows users to enter commands, and the mouse is an interface with the same function. The monitor, serving as a desktop computer screen, comes in various sizes. A small monitor is typically around 17 inches, while greater than 20 inches is considered large. Select the latest version of an operating system such as Microsoft Windows, the best-selling operating system for years. Also purchase an anti-virus program such as Norton or Trend Micro, and choose from other programs such as word processing and spreadsheets. This ultra-complex machine deserves our thanks. After all, functioning without a computer these days would be like living in the dark.

Chapter 8 : The Anatomy of a CRT Monitor (and CRT TVs)

2. Basic anatomy of your computer. Your computer has a processor chip inside it that does the actual computing. It has internal memory (what DOS/Windows people call "RAM" and Unix people often call "core"; the Unix term is a folk memory from when RAM consisted of ferrite-core donuts).

Chapter 9 : Hand | anatomy | www.nxgvision.com

The motherboard makes sure all those components are speaking the same language and that the system all runs together properly, without any sparks or grating noises.