

Coach Paris Final Exam Science Definitions – Courtesy of Anthony Catotti

Active transport – energy-requiring process in which transport proteins bind with particles and move them through a cell membrane.

Aerobe – any organism that uses oxygen for respiration.

Allele – an alternate form that a gene may have for a single trait; can be dominant or recessive.

Amino acids – building blocks of proteins.

Anaerobe – any organism that is able to live without oxygen.

Anus – opening at the end of the digestive tract through which wastes leave the body.

Aorta – largest blood vessel in the body; transports oxygen-rich blood from the left ventricle of the heart to the arteries.

Asexual Reproduction – a type of reproduction-fission, budding and regeneration-in which a new organism is produced from one organism and has DNA identical to the parent organism.

Asthma – lung disorder in which the bronchial tubes contract quickly and cause shortness of breath, wheezing or coughing; may occur as an allergic reaction.

Atom – smallest particle of an element that has the characteristics of that element; basic building block of that element.

Atria – two upper chambers of the heart that contract at the same time during a heartbeat.

Bilateral symmetry – body parts arranged in a similar way on both sides of the body; with each half being nearly a mirror image of the other half.

Bile – chemical substance produced by the liver and stored in the gallbladder that helps break down fats during digestion.

Bladder – elastic, muscular organ that holds urine until it leaves the body through the urethra.

Bone marrow – the fatty network of connective tissue that fills the cavities of bones.

Brain – the part of the central nervous system that includes all the higher nervous centers; enclosed within the skull; continuous with the spinal cord.

Brain stem – connects the brain to the spinal cord and is made up of the midbrain, the pons, and the medulla.

Bronchi – two short tubes that branch off the lower end of the trachea and carry air into the lungs.

Carnivore – animal that eats only other animals or the remains of other animals; mammals having large, sharp canine teeth and strong jaw muscles for eating flesh.

Capillaries – microscopic blood vessels that connect arteries and veins; have walls one cell thick, through which nutrients and oxygen diffuse into body cells, and waste materials and carbon dioxide diffuse out of body cells.

Cartilage – tough, flexible tissue that joins vertebrae and makes up all or part of the vertebrae endoskeleton; in humans; thick, smooth, flexible, and slippery tissue layer that covers the ends of bones, makes movement easier by reducing friction, and absorbs shocks.

Carbohydrates – nutrients that are usually the body's main source of energy.

Catalysis – acceleration of a chemical reaction induced the presence of material that is chemically unchanged at the end of the reaction.

Cells – the smallest units of an organism that can carry on life functions.

Cell membrane – protective outer covering of all cells that regulate the interaction between the cell and the environment.

Cell theory – states that all organisms are made up one or more cells, the cell is the basic unit of life, and all cells come from other cells.

Cell wall – rigid structure that encloses, supports, and protects the cells of plants, algae, fungi, and most bacteria.

Chemical digestion – occurs when enzymes and other chemicals break down large food molecules into smaller ones.

Chloroplast – green, chlorophyll-containing, plant-cell organelle that uses light energy to produce sugar from carbon dioxide and water.

Chlorophyll – green, light-trapping pigment in plant chloroplasts that is important in photosynthesis.

Chromosome – structure in a cell's nucleus that contains hereditary material.

Chyme – liquid product of digestion.

Control – standard to which the outcome of a test is compared.

Coronary circulation – flow of blood to and from the tissues of the heart.

Cytoplasm – constantly moving gel-like mixture inside the cell membrane that contains hereditary material and is the location of most of a cell's life process.

Dermis – skin layer below the epidermis that contains blood vessels, nerves, oil and sweat glands, and other structures.

Diaphragm – muscle beneath the lungs that contracts and relaxes to move gases in and out of the body.

Diffusion – a type of passive transport in cells in which molecules move from areas where there are more of them to areas where there are fewer of them.

Diploid – cell whose similar chromosomes occur in pairs.

DNA – deoxyribonucleic acid; the genetic material of all organisms; made up of two twisted strands of sugar-phosphate molecules and nitrogen bases.

Dominant – describes a trait that covers over, or dominates, another form of that trait.

Egg – haploid female sex cell produced by meiosis.

Electrons – negatively charged particles that move around the nucleus of an atom and form an electron cloud.

Endocytosis – process by which a cell takes in a substance by surrounding it with the cell membrane.

Endoplasmic reticulum – cytoplasmic organelle that moves materials around in a cell and is made up of a complex series of folded membranes; can be rough (with attached ribosomes) or smooth (without attached ribosomes).

Enzyme – a type of protein that regulates nearly all chemical reactions in cells; a type of protein that speeds up chemical reactions in the body without being changed or used up itself.

Epidermis – outer, thinnest skin layer that constantly produces new cells to replace the dead cells rubbed off its surface.

Epiglottis – flap of cartilage that closes over the opening of the respiratory tract during swallowing; prevents food from entering the respiratory tract.

Equilibrium – occurs when molecules of one substance are spread evenly throughout another substance.

Esophagus – muscular tube that connects the mouth to the stomach; moves food by peristalsis.

Exocytosis – process by which vesicles release their contents outside the cell.

Fission – simplest form of asexual reproduction in which the two new cells are produced with genetic material identical to each other and identical to the previous cell.

Flagellum – long, thin whip-like structures that help organisms move through moist or wet surroundings.

Fronde – leaf of a fern that grows from the rhizome.

Fungus – group of unicellular or multicellular heterotrophic eukaryotes that do not move from place to place; absorb nutrients from organic materials in the environment.

Gallbladder – small organ that stores bile before the bile passes duodenum of the small intestine.

Genotype – the genetic makeup of an organism.

Genus – first word of the two word scientific name used to identify a group of similar species.

Golgi Bodies – organelles that package cellular materials and transport them within the cell or out of the cell.

Haploid – when a cell has only half the number of chromosomes as body cells.

Heart – a hollow muscular organ that by its rhythmic contraction acts as a force pump maintaining the circulation of the blood.

Hemoglobin – iron-containing protein molecule in red blood cells that binds to oxygen and carries it from the lungs to the body cells.

Heredity – passing on of characteristics from parents to offspring.

Herbivore – any animal that feeds chiefly on grass and other plants.

Heterozygous – when there are two different alleles for a trait.

Homeostasis – organisms regulation of its internal environment to maintain conditions suitable for survival; a characteristic of all living things. Process of maintaining equilibrium in cells' internal environment.

Homozygous – when there are two identical alleles for a trait.

Hypothesis – prediction or statement that can be tested and may be formed by prior knowledge, any previous observations, and new information.

Inorganic compound – compound such as H₂O, that is made from elements other than carbon and whose atoms can usually be arranged in only one structure.

Ion – atom or groups of atoms that gain or lose electrons; has an electrical charge.

Kidney – bean shaped urinary system organ that is made up of about 1 million nephrons and filters blood, producing urine.

Kingdom – taxonomic grouping of similar phyla or divisions.

Large intestine – muscular tube through which indigestible materials are passed to the rectum for excretion.

Larynx – a cartilaginous structure at the top of the trachea; contains elastic vocal cords that are the source of the vocal tone in speech.

Law – a statement of an order or relation of phenomena that so far as is known is invariable under the given conditions.

Lichen – organism formed from a symbiotic association between a fungus, usually an ascomycete, and a photosynthetic green alga or cyanobacteria.

Ligament – tough band of connective tissues that attaches one bone to another; joints are often held together and enclosed by ligaments.

Liver – large, complex organ of the digestive system that produces many chemicals for digestion, including bile.

Lungs -the lungs are a pair of breathing organs located within the chest, which remove carbon dioxide from and bring oxygen to the blood.

Lymph node – small mass of tissue that contains lymphocytes and filters pathogens from the lymph; made of a network of connective tissue fibers that contain lymphocytes.

Lymphatic system – is a network of conduits that carry a clear liquid fluid called lymph. It also includes the lymphoid tissue through which lymph travels.

Mechanical digestion – is the chewing of food.

Medusa – -a cnidarian body form that is umbrella-shaped with tentacles that hang down.

Meiosis – type of cell division where one body cell produces four gametes, each containing half the number of chromosomes as a parent's body cell,

Melanin – pigment found in cells of the interior layer of the epidermis; protects cells from solar radiation damage.

Metabolism – all of the chemical reactions that occur within an organism.

Minerals – inorganic substances that are important for chemical reactions or as building materials in the body,

Mitochondria – eukaryotic membrane-bound organelles that transform energy stored in food molecules; has a highly folded inner membrane that produces energy-storing molecules.

Mitosis – period of nuclear cell division in which two daughter cells are formed, each containing a complete set of chromosomes.

Mixture – combination of substances in which individual components retain their own properties.

Molecule – group of atoms held together by covalent bonds; has no overall charge.

Muscles – a tissue composed of fibers capable of contracting to effect bodily movement.

Neutron- particle without an electrical charge that is located in the nucleus of an atom.

Nucleolus – organelle in eukaryotic cell nucleus that produces ribosomes.

Nucleus – positively charged center of an atom composed of neutrons and positively charged protons, and surrounded by negatively charged electrons. In eukaryotic cells, the central membrane-bound organelle that manages cellular functions and contains DNA.

Omnivore – an organism which gets its food energy from both plant and animal material

Osmosis – a type of passive transport that occurs when water diffuses through a cell membrane.

Pancreas - soft flattened gland that secretes digestive enzymes and hormones; products help break down carbohydrates, proteins and fats.

Passive transport – movement of particles across cell membranes by diffusion or osmosis; the cell uses no energy to move particles across the membrane.

Periosteum – the dense fibrous membrane covering the surface of bones except at the joints and serving as an attachment for muscles.

Peristalsis series of involuntary smooth muscle contractions along the walls of the digestive tract that move food through the digestive tract.

Pharynx – the tube-like muscular organ that extends from the mouth; aids in feeding and digestion.

Phenotype – outward appearance of an organism, regardless of its genes.

Pistil – female reproductive organ of a flower.

Plasma – fluid portion of the blood that makes up about 55 percent of the total volume of the blood; contains red and white blood cells.

Proteins – large complex polymers essential to all life composed of carbon, hydrogen, oxygen, nitrogen, and sometimes sulfur; provides structure for tissues and organs and helps carry out cell metabolism.

Platelets – small cell fragments in the blood that help blood clot after an injury.

Pollination - from male reproductive organs to female reproductive organs of plants, usually within the same species.

Protons – positively charged particles that are located in the nucleus of an atom.

Radial symmetry – an animal's body plan that can be divided along any plane, through a central axis, into roughly equal halves.

Pulmonary circulation – the circulation of blood through the lungs for the purpose of oxygenation and the release of carbon dioxide.

Recessive – trait of an organism that can be masked by the dominant form of a trait.

Rectum – last part of the digestive system through which feces passes before it exits the body through the anus.

Red blood cells – round, disk-shaped cells in the blood that carry oxygen to body cells; make up 44 percent of the total volume of the blood.

Rhizome – thick underground stem of a fern and other vascular plants; often functions as an organ for food storage.

Ribosomes – non-membrane bound organelles in the nucleus where proteins are assembled.

Saprophyte – an organism, especially a fungus or bacterium, that grows on and derives its nourishment from dead or decaying organic matter.

Scientific Methods – procedures that biologists and other scientists use to gather information and answer questions; include observing and hypothesizing, experimenting, and gathering and interpreting results.

Sessile (**SE sul**) – organism that is permanently attached to a surface.

Sexual Reproduction – pattern of reproduction that involves the production and subsequent fusion of haploid sex cells.

Small intestines – muscular tube about 6 m long where digestion is completed; connects the stomach and the large intestine.

Smooth Muscle – type of involuntary muscle found in the walls of internal organs and blood vessels; most common function is to squeeze, exerting pressure inside the tube or organ it surrounds.

Sori – fern structures in which spores are produced.

Sperm – haploid sex cells formed in the male reproductive organs.

Spinal cord – elongated, approximately cylindrical part of the central nervous system of vertebrates that lies in the vertebral canal and from which the spinal nerves emerge. A major part of the central nervous system which conducts sensory and motor nerve impulses to and from the brain; a long tube-like structure extending from the base of the brain through the vertebral canal to the upper lumbar region. Enclosed in the protective backbone, the spinal cord is essentially the 'motorway' to the Central Nervous System and is involved in the co-ordination of movement.

Spongy bone – soft bone containing many holes and spaces surrounded by a layer of more dense compact bone.

Spore- haploid cells produced in the gametophyte stage that can divide by mitosis and form plant structures or an entire new plant or can develop into sex cells.

Stamen – male reproductive organ inside the flower of an angiosperm where pollen grains form.

Stomach – muscular, pouch like enlargement of the digestive tract where chemical and physical digestion take place.

Stinging cell – at the end of thread-like tubes, tentacles, that paralyze their prey; found on many cnidarians.

Toxin – poison produced by a bacterium.

Trachea – tubelike passageway for air flow that connects with two bronchi tubes that leads into the lungs.

Tropism – growth response of a plant to an external stimulus.

Ureter – tube that transports urine from each kidney to the urinary bladder.

Urethra – tube through which urine is passed from the urinary bladder to the outside of the body.

Vacuole – membrane-bound space in the cytoplasm of cells used for the temporary storage of materials.

Variable – something that is changed and manipulated during an experiment.

Veins – large blood vessels that carry blood toward the heart.

Ventricles – two lower chambers of the mammalian heart; receive blood from the atria and send it to the lungs and the body.

Vertebrae – any of the bones or cartilaginous segments forming the spinal column.

Villi – single projection on the lining of the small intestine that functions in the absorption of digested food; they increase the surface area of the small intestine and increase the absorption rate.

Vitamins – organic nutrients required in small amounts to maintain growth and metabolism; are either fat-soluble or fat-insoluble vitamins.

Zygote – diploid cell formed when a sperm fertilizes an egg.