

These are the definitions the mark scheme accepts, in its own words. Where a definition names a place or a condition (“in the cytoplasm”, “at constant temperature”), that part usually carries the second mark. 定义题按大纲表述给分, 限定条件不能省。

Characteristics and organisation of living things

Respiration 呼吸作用 — the chemical reactions in cells that break down nutrient molecules and release energy for metabolism

Excretion 排泄 — the removal of the waste products of metabolism, toxic materials and substances in excess of requirements

Nutrition 营养 — the taking in of materials for energy, growth and development

Growth 生长 — a permanent increase in size and dry mass

Sensitivity 应激性 — the ability to detect and respond to changes in the internal or external environment

Species 物种 — a group of organisms that can reproduce to produce fertile offspring

Binomial system 双名法 — an internationally agreed system in which the scientific name of an organism is made of two parts, the genus and the species

Tissue / organ / organ system 组织、器官、系统 — a group of cells with similar structures working together; a structure made of several tissues with a particular function; a group of organs with related functions

Cells and transport

Diffusion 扩散 — the net movement of particles from a region of higher concentration to a region of lower concentration, down a concentration gradient, as a result of their random movement

Osmosis 渗透 — the net movement of water molecules from a region of higher water potential to a region of lower water potential, through a partially permeable membrane

Active transport 主动运输 — the movement of particles through a cell membrane from a lower to a higher concentration, using energy from respiration

Turgid 膨胀的 — a plant cell that has taken in water so the cytoplasm pushes against the cell wall, which supports the plant

Plasmolysis 质壁分离 — the pulling away of the cell membrane from the cell wall when a plant cell loses water

Magnification 放大倍数 — image size divided by actual size

Biological molecules and enzymes

Enzyme 酶 — a protein that functions as a biological catalyst, speeding up a reaction without being changed itself

Catalyst 催化剂 — a substance that increases the rate of a reaction and is not changed by it

Denatured 变性 — the shape of the enzyme’s active site has changed permanently, so the substrate no longer fits

Optimum temperature 最适温度 — the temperature at which an enzyme works fastest

Plant biology

Photosynthesis 光合作用 — the process by which plants make carbohydrates from raw materials using energy from light

Limiting factor 限制因素 — the factor present in the environment in such short supply that it restricts life processes

Transpiration 蒸腾作用 — the loss of water vapour from the leaves of a plant through the stomata by evaporation and diffusion

Translocation 韧皮部运输 — the movement of sucrose and amino acids in the phloem from the source to the sink

Pollination 传粉 — the transfer of pollen from an anther to a stigma

Fertilisation 受精 — the fusion of the nuclei of a male gamete and a female gamete

Human biology

Balanced diet 均衡饮食 — a diet containing all the nutrients in the correct amounts and proportions for good health

Digestion 消化 — the breakdown of large insoluble food molecules into small soluble molecules that can be absorbed

Absorption 吸收 — the movement of digested food molecules through the wall of the small intestine into the blood

Assimilation 同化 — the movement of digested food molecules into the cells, where they are used

Aerobic respiration 有氧呼吸 — the chemical reactions in cells that use oxygen to break down nutrient molecules and release energy

Anaerobic respiration 无氧呼吸 — the chemical reactions in cells that break down nutrient molecules without oxygen, releasing much less energy

Homeostasis 稳态 — the maintenance of a constant internal environment

Negative feedback 负反馈 — a change in a condition triggers a response that reverses the change and returns the condition to normal

Excretory product 排泄物 — a waste product of metabolism, such as urea or carbon dioxide

Reflex action 反射 — a means of automatically and rapidly integrating and coordinating stimuli with the responses of effectors

Hormone 激素 — a chemical substance made by a gland, carried in the blood, which alters the activity of one or more target organs

Pathogen 病原体 — a disease-causing organism

Active immunity 主动免疫 — defence against a pathogen by antibody production in the body

Inheritance, variation and ecology

Chromosome / gene / allele 染色体、基因、等位基因 — a thread of DNA made up of genes; a length of DNA that codes for a protein; a version of a gene

Haploid / diploid 单倍体与二倍体 — a nucleus containing a single set of unpaired chromosomes; a nucleus containing two sets

Mitosis 有丝分裂 — nuclear division giving rise to genetically identical cells, used for growth, repair and asexual reproduction

Meiosis 减数分裂 — reduction division in which the chromosome number is halved from diploid to haploid, producing genetic variation

Genotype / phenotype 基因型与表型 — the genetic make-up of an organism in terms of its alleles; the observable features of an organism

Dominant / recessive 显性与隐性 — an allele expressed when it is present; an allele expressed only when there is no dominant allele present

Variation 变异 — differences between individuals of the same species; continuous variation gives a range, discontinuous gives distinct categories

Adaptive feature 适应特征 — an inherited feature that helps an organism to survive and reproduce in its environment

Natural selection 自然选择 — the greater chance of passing on genes by the best adapted organisms

Food chain 食物链 — a chart showing the flow of energy from one organism to the next, beginning with a producer

Producer / consumer / decomposer 生产者、消费者、分解者 — an organism that makes its own organic nutrients using sunlight; an organism that gets its energy by feeding on other organisms; an organism that gets its energy from dead or waste organic matter

Ecosystem 生态系统 — a unit containing the community of organisms and their environment, interacting together

Sustainable resource 可持续资源 — a resource which is produced as rapidly as it is removed, so it does not run out