N5 Biology MO1 Producing New Cells                               GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| mitosis | the sequence of events in a cell that makes two new diploid cells from one diploid cell in cell division |
| chromatid | identical strands in a replicated chromosome |
| nuclear membrane | membrane that surrounds the nucleus |
| equator | the middle of a cell |
| spindle fibres | strands that attach to the chromatids and pull them apart |
| chromosome complement | the number of chromosomes in a cell |
| diploid | cells with two sets of chromosomes |
| stem cells | unspecialised cells that can divide to self-renew of to make specialised cells |
| tissues | made up of specialised cells working together |
| organs | made up of tissues working together |
| systems | made up of organs working together |
| organisms | made up of systems working together |
| hierarchy | the organisation of multicellular organisms from cells-> tissues-> organs->systems -> organisms |

N5 Biology MO2 Control & Communication GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| central nervous systems (CNS) | consists of brain and spinal cord |
| cerebrum | part of the brain responsible for mental processes e.g. memory, reasoning, conscious thought |
| cerebellum | part of the brain that controls balance and coordination |
| medulla | part of the brain that control heart and breathing rates |
| neurons | nerve cells |
| electrical | type of signal transmitted by neurons |
| sensory neuron | nerve cell that sends electrical impulse form sense organ to CNS |
| inter neuron | nerve cell that sends electrical to connect sensory neuron to motor neuron |
| motor neuron | nerve cell that sends electrical impulse from CNS to muscle (or gland) |
| synapse | tiny gap between two neurons |
| chemical | type of signal that crosses synapses |
| reflex action | fast, automatic, protective response |
| reflex arc | neural pathway that controls a reflex action |
| endocrine gland | organ that releases a hormone into the blood |
| hormone | chemical messenger |
| receptor protein | molecule in the plasma membrane of a target tissue cell that detects a hormone |
| pancreas | organ that produces insulin and glucagon |
| liver | organ that stores glucose as glycogen |
| glucose | simple carbohydrate required by all living cells for respiration |
| glycogen | storage carbohydrate in animals |
| insulin | hormone that activates the enzyme that converts glucose to glycogen |
| glucagon | hormone that activates the enzyme that converts glycogen to glucose |

N5 Biology MO3 Reproduction GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| diploid | cells with two sets of chromosomes |
| gametes | sex cells |
| haploid | cells with only one set of chromosomes |
| sperm | male gametes in mammals |
| eggs | female gametes in mammals |
| ovule | contains female sex cells in flowers |
| pollen | contain male sex cells in plants |
| testes | produce sperm cells |
| sperm duct | tube that carries sperm from testes to penis |
| urethra | tube in penis |
| penis | deposits sperm into vagina |
| ovaries | produce egg cells in mammals and ovules in plants |
| oviduct | site of fertilisation in mammals |
| uterus | where embryo develops in mammals |
| vagina | where sperm is deposited during sexual intercourse |
| fertilisation | fusion of the male and female nuclei |
| zygote | fertilised egg cell |
| embryo | what a zygote develops into |
| anther | part of flower that makes pollen |
| stigma | where pollen should land in a flower |
| pollination | transfer of pollen from anther to stigma |
| pollen tube | growth that allows nucleus to travel from stigma to ovule |

N5 Biology MO4 Variation & Inheritance GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| variation | the differences between individuals in a species |
| discrete | type of variation where individuals can be put into one of two or more groups |
| continuous | type of variation where individuals fit somewhere on a scale between two extreme values |
| single gene | type of variation controlled by alleles of one gene |
| polygenic | type of variation affected by more than one gene |
| gene | single unit of inheritance |
| allele | one form of a particular gene |
| genotype | the combination of alleles inherited |
| phenotype | the effect of the genotype on the organism’s characteristics |
| dominant | the alleles that can mask the effect of other alleles |
| recessive | the alleles that can be masked by other alleles |
| homozygous | genotype with both alleles the same (e.g. HH or hh) |
| heterozygous | genotype with two different alleles (e.g. Hh) |
| fertilisation is a random process | the reason why predicted ratios and actual ratios of offspring in genetic crosses are rarely the same |

N5 Biology MO5 Transport Systems  - Plants GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| roots, stems, leaves | organs in a plant |
| upper epidermis | top layer of protective cells in a leaf |
| palisade mesophyll | tightly packed layer of photosynthesising cells in leaf |
| spongy mesophyll | layer of photosynthesising cells in leaf, contain air spaces |
| vein | leaf structure composed of xylem and phloem |
| lower epidermis | protective layer of cells on underside of leaf |
| guard cells | pairs of cells that control the opening and closing of stomata |
| stomata | tiny pores in leaf epidermis that allow gas exchange |
| xylem | transport tissue for water |
| lignin | forms rings or spirals to strengthen xylem vessels |
| transpiration | evaporation from leaves into air through stomata |
| transpiration stream | continuous flow of water form root to leaf in plants |
| root hair cells | specialised cells offering a large surface area for absorption of water into roots |
| osmosis | movement of water form soil to root hair cells and form cell to cell in plants |
| evaporation | movement of water from leaf cells to air spaces in the leaf |
| wind speed temperature surface area | factors that when they increase, increase the rate of transpiration |
| humidity | factor that when it increases, decreases the rate of transpiration |
| phloem | transport tissue for sugar |
| sieve tubes | cells in phloem tissue that allow continuous stream of cytoplasm |
| companion cells | cells in phloem tissue that contain a nucleus |

N5 Biology MO7 Absorption of Materials Animals GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| oxygen & nutrients | need to be absorbed to be used in respiration |
| carbon dioxide | a waste material that need to be removed from cells |
| efficiency of absorption | is increased by having large surface are, thin walls and rich blood supply |
| capillary network | ensures all cells are in close proximity to the blood supply |
| alveoli | the site of gas exchange in lungs |
| oxygen | diffuses from alveoli to blood |
| carbon dioxide | diffuses from blood to alveoli |
| glucose | product of breakdown of starch, absorbed into blood capillary in villi |
| amino acids | products of breakdown of protein, absorbed into blood capillary in villi |
| fatty acids and glycerol | products of breakdown of fats, absorbed into lacteal in villi |
| villi | finger-like projections in small intestines for absorption |
| lacteal | transport vessel in villi |

N5 Biology MO6 Transport Systems  - Animals GLOSSARY

ANSWERS

|  |  |
| --- | --- |
| word / term | meaning |
| plasma | liquid part of the blood |
| red blood cells | part of blood that carries oxygen |
| biconcave disc | shape that increases the surface area of red blood cells |
| nucleus | missing organelle to make more room in a red blood cell |
| haemoglobin | protein that picks up oxygen at the lungs |
| oxyhaemoglobin | chemical formed when oxygen combines with haemoglobin |
| white blood cells | part of blood involved in defending the body against pathogens |
| pathogen | disease causing microorganism |
| lymphocytes | white blood cells that produce antibodies |
| antibody | Y shaped proteins produced by lymphocytes |
| phagocytes | white blood cells that destroy pathogens by engulfing them |
| phagocytosis | process carried out by cells when they engulf another cell |
| deoxygenated | blood low in oxygen |
| vena cava | main vein returning blood from body to right atrium of the heart |
| right atrium | chamber in the hear that pumps blood through a valve to the right ventricle |
| right ventricle | chamber in the hear that pumps blood through a valve to the pulmonary artery |
| pulmonary artery | blood vessel taking blood from right ventricle to the lungs |
| oxygenated | blood rich in oxygen |
| pulmonary vein | blood vessel carrying blood from the lungs to the left atrium |
| left atrium | chamber in the hear that pumps blood through a valve to the left ventricle |
| left ventricle | chamber in the hear that pumps blood through a valve to the aorta |
| heart valves | 4 structures that prevent blood flowing back into the chamber it was pumped out of |
| aorta | main artery taking blood from the left ventricle to the body |
| artery | blood vessel carrying blood, at high pressure, away from the heart to organs |
| vein | blood vessel carrying blood, at low pressure, back to the heart from body |
| capillary | tiny blood vessel delivering blood to the tissues |
| valve | structure in veins that prevents the back flow of blood |