

**9Aa – Science and imagination/Genetic information**

<b>Word</b>	<b>Pronunciation</b>	<b>Meaning</b>
cell division		When a cell grows in size and splits in two. Cells increase their numbers using cell division.
characteristics	<i>kar-ack-ter-riss-ticks</i>	The features of an organism.
chromosome	<i>krO-mO-sOme</i>	Huge molecule of DNA found inside the nucleus of a cell.
DNA		The substance that chromosomes are made from.
egg cell		Female sex cell (gamete).
embryo	<i>em-bree-O</i>	Ball of cells formed by cell division from fertilised egg cell.
fertilisation	<i>fert-ill-eyes-ay-shun</i>	Fusing of a male sex cell with a female sex cell.
fertilised egg cell		Produced when a sperm cell fuses with an egg cell.
fuse		Join together.
gamete	<i>gam-meet</i>	Scientific word for sex cell.
gene	<i>jeen</i>	A section of a chromosome that controls the inherited characteristics of an organism.
genetic information	<i>jen-et-tick</i>	The instructions that control your characteristics. These instructions are found on genes.
hybrid	<i>high-brid</i>	The offspring of parents from two different species.
inherited		Passed on to an organism from its parents.
mutation	<i>mew-tay-shun</i>	A change in a gene, which often alters the instructions that the gene carries.
nucleus	<i>new-lee-us</i>	Part of the cell that controls it. Plural = nuclei.
ovum	<i>O-vum</i>	Scientific word for a female sex cell. Plural = ova.
sex cell		A cell used for sexual reproduction.
species	<i>spee-shees</i>	A group of organisms that can reproduce with each other to produce offspring that will also be able to reproduce.
sperm cell		Male sex cell (gamete).
variation	<i>vair-ee-ay-shun</i>	The differences between organisms.

**9Aa – Focus on: Chromosomes**

<b>Word</b>	<b>Pronunciation</b>	<b>Meaning</b>
allele	<i>al-eel</i>	Different variations of the same gene are called alleles.
carrier		Someone whose cells contain an allele for a genetic disease.
cystic fibrosis		A genetic disease that causes the lungs and parts of the digestive system to become blocked with sticky fluid.
dominant allele	<i>al-eel</i>	An allele that has an effect even if other alleles are present.
genetic disease		A disease caused by genes, e.g. cystic fibrosis.
Punnett square		A model used to work out how likely it is that certain combinations of alleles will be inherited.
recessive allele	<i>al-eel</i>	An allele that only has an effect if there are no dominant alleles for a characteristic.
sex chromosomes	<i>krO-mO-sOmes</i>	Chromosomes that determine the sex of an organism.
zygote	<i>zy-goat</i>	Scientific word for 'fertilised egg cell'.

**9Ab – Genes and the environment**

Word	Pronunciation	Meaning
breed		A group of animals that have different characteristics from other animals of the same species.
environmental variations		Variations caused by environmental factors.
environmental factors		Things in an environment that can change something about an organism.
resistant		An organism that is not affected by disease is resistant to it.
variety		A group of plants that have different characteristics from other plants of the same species.

**9Ac – Different animals**

Word	Pronunciation	Meaning
clone		An organism that has identical genes to its parent.
cloning	<i>clO-ning</i>	The process by which a part of an organism is used to create an identical organism.
cross-breeding		When different varieties or breeds mate with one another.
genetic modification		A process in which the genes of an organism are altered, often by adding genes from other species.
selective breeding		When humans choose certain animals and plants that have useful characteristics and breed more of these organisms.

**9Ad – Different plants/Ethics and genetics**

Word	Pronunciation	Meaning
anther		Male part of a flower that produces pollen grains.
asexual reproduction		Reproduction that only involves one parent. All the offspring are clones of that parent.
fertilisation	<i>fert-ill-eyes-ay-shun</i>	Fusing of a male gamete (sex cell) with a female gamete.
ovary	<i>o-very</i>	Part of the female reproductive organs in a plant. It contains ovules, each of which contains an egg cell.
ovule	<i>ov-you'll</i>	Contains egg cells in plants. Found in the ovary.
pollen grain		The male gamete (sex cell) in plants.
pollen tube		Tube that grows from a pollen grain down through the stigma and style and into the ovary.
pollination	<i>poll-in-ay-shun</i>	Transfer of pollen from an anther to a stigma.
seed		Made by conifers and flowering plants to grow into new plants.
stigma		Female reproductive organ in a plant to grow into new plants where pollen lands.