

### SB4a – Evidence for human evolution

Word	Pronunciation	Meaning
<b>Ardi</b>		Nickname for a 4.4-million-year-old fossilised specimen of <i>Ardipithecus ramidus</i> .
<b>binomial system</b>	<i>by-nO-mee-al sis-tem</i>	System of naming organisms using two Latin words.
<b>evolution</b>	<i>e-vol-oo-shun</i>	A change in one or more characteristics of a population over a long period of time.
<b>Lucy</b>		Nickname for a 3.2-million-year-old fossilised specimen of <i>Australopithecus afarensis</i> .
<b>species</b>	<i>spee-shees</i> or <i>spee-sees</i>	A group of organisms that can reproduce with each other to produce offspring that will also be able to reproduce. Organism names have two Latin words – the first is its genus and the second is its species.

### SB4b – Darwin's theory

Word	Pronunciation	Meaning
<b>ancestor</b>	<i>an-ses-ter</i>	An organism from which more recent organisms are descended.
<b>antibiotic</b>		Medicine that helps people recover from a bacterial infection by killing the pathogen.
<b>competition</b>	<i>com-pet-ish-un</i>	There is competition between organisms that need the same things as each other (such as food). We say that they 'compete' for those things.
<b>genetic variation</b>	<i>jen-et-ick</i> <i>vair-ee-ay-shun</i>	Differences between organisms caused by differences in genes and passed on to offspring by their parents through reproduction. Also called inherited variation.
<b>natural selection</b>		A process in which certain organisms are more likely to survive and reproduce than other members of the same species, because they possess certain genetic variations.
<b>resistant</b>		Unaffected or less affected by something.

### SB4c Development of evolution theory

Word	Pronunciation	Meaning
pentadactyl limb	<i>pen-ta-dak-til lim</i>	A limb that has five digits (fingers and thumbs). Amphibians, reptiles, birds and mammals share this characteristic.

### SB4d – Classification

Word	Pronunciation	Meaning
<b>classification</b>		Sorting things into groups.
<b>domain</b>		The three main groups that organisms are now sorted into: Archaea, Bacteria and Eukarya.
<b>genus</b>		A group of similar organisms. The genus name is the first word in the scientific name for a species (the second word is the 'species name'). Different closely related species belong to the same genus.

Word	Pronunciation	Meaning
kingdom		There are five kingdoms into which organisms are divided: plants, animals, fungi, protists and prokaryotes.
species	<i>spee-shees or spee-sees</i>	A group of organisms that can reproduce with each other to produce offspring that will also be able to reproduce. Organism names have two Latin words – the first is its genus and the second is its species.

### SB4e – Breeds and varieties

Word	Pronunciation	Meaning
artificial selection		When people choose organisms with certain characteristics and use only those ones for breeding.
breed		Group of animals of the same species that have characteristics that make them different to other members of the species.
disease resistance		Unaffected or less affected by a certain disease.
gene	<i>jeen</i>	Section of the long strand of DNA found in a chromosome, which often contains instructions for a protein.
genetic engineering		Altering the genome of an organism, often by adding genes from another species. Also called genetic modification.
genetically modified organism (GMO)		Organism that has been produced using genetic engineering.
genome	<i>jee-nOhm</i>	All the DNA in an organism. Each body cell contains a copy of the genome.
GMO		Short for 'genetically modified organism'.
selective breeding		When humans choose an organism that has a certain characteristic and then breed more of these organisms, making that chosen characteristic more and more obvious.
variety		Group of plants of the same species that have characteristics that make them different to other members of the species.
yield		The amount of useful product that you can get from something.

### SB4f Tissue culture

Word	Pronunciation	Meaning
callus		Small clump of unspecialised plant cells.
clone		Offspring that is genetically identical to its parent.
differentiate	<i>diff-er-en-she-ate</i>	When a cell becomes specialised for a particular function.
extinction	<i>ex-tink-shun</i>	When a species dies out.
reject (biology)		When the immune system attacks tissue and cells that it does not recognise.
stem cell		An unspecialised cell that continues to divide by mitosis to produce more stem cells and other cells that differentiate into specialised cells.

Word	Pronunciation	Meaning
tissue culture		Growing tiny pieces of tissue or cells in or on a medium containing nutrients.
virus		A particle that can infect cells and cause the cells to make copies of the virus.

### SB4g – Genes in agriculture and medicine

Word	Pronunciation	Meaning
<b>allele</b>	<i>a-leeel</i>	Most genes come in different versions, called alleles. So a gene for eye colour may have a version (allele) that can cause dark eyes and an allele that can cause pale eyes.
<b>base</b>		There are four substances called bases that help make up DNA, often shown by the letters A, C, G and T. Pairs of bases form 'links' between two 'spines' formed of phosphate groups and a type of sugar.
<b>diabetes</b>		Disease in which the body cannot control the blood glucose concentration at the correct level.
<b>insulin</b>	<i>in-syu-lin</i>	The hormone that decreases blood glucose concentration. Used in the treatment of type 1 diabetes.
<b>ligase</b>	<i>lie-gaze</i>	An enzyme that joins two DNA molecules together.
<b>plasmid</b>	<i>plaz-mid</i>	A small loop of DNA found in the cytoplasm of bacteria.
<b>recombinant DNA</b>		DNA made by joining two sections of DNA together.
<b>restriction enzyme</b>		An enzyme that cuts DNA molecules into pieces.
<b>sticky end</b>		A short section of single-stranded DNA found at the end of a section of DNA that has been cut by a restriction enzyme.
<b>type 1 diabetes</b>		Type of diabetes in which the pancreas does not produce insulin.
<b>vector</b>		Anything that transfers material from one organism to another.

### SB4h GM and agriculture

Word	Pronunciation	Meaning
Bt toxin		A natural insecticide made by the bacterium <i>Bacillus thuringiensis</i> that kills some kinds of caterpillar.
insecticide	<i>in-sect-iss-l'd</i>	A chemical substance used to kill insect pests of crops.
monoculture		A large area of one kind of crop.
pest		An animal that causes problems, such as by damaging crops.
resistance (biology)		Being unaffected or less affected by something.
strain		Bacteria of a species that are slightly different to other strains of the species.
yield	<i>yeeld</i>	The amount of useful product obtained from an organism.

## SB4i Biological control and fertilisers

Word	Pronunciation	Meaning
biological control		Using living organisms to kill problem organisms such as pests or weeds.
fertiliser		Substances that add plant nutrients to soil, such as artificial fertilisers containing nitrogen compounds, or manure (a natural fertiliser made from animal waste).
pollution	<i>poll-oo-shun</i>	Harm caused to the environment, for example by the addition of poisonous substances or by abnormally high amounts of a substance.
weeds		Plants that are growing where they are not wanted, and where they cause problems such as competing with crop plants for light, water and nutrients.