

SB7a Hormones

Word	Pronunciation	Meaning
adrenal gland	<i>ad-reen-al gland</i>	A gland located on top of a kidney that produces the hormone adrenalin. It can be referred to as an adrenal.
endocrine gland		An organ that makes and releases hormones into the blood.
hormone	<i>hor-moan</i>	Chemical messenger that is released into the blood from an endocrine gland and causes target cells to change how they work.
hormonal system		The collection of glands in the body that release hormones. This system controls long-term or widespread responses by the body to changes inside and outside the body.
ovary		Organ in the female reproductive system that releases egg cells and the hormones oestrogen and progesterone.
pancreas	<i>pan-cree-as</i>	Organ in the body that produces some digestive enzymes, as well as the hormones insulin and glucagon.
pituitary gland	<i>pit-you-i-tar-ee</i>	An organ just below the brain that controls many activities of the body (e.g. metabolic rate and the menstrual cycle) by the release of hormones into the blood. It can be referred to as the pituitary.
sex hormone		Any hormone that affects reproduction (e.g. oestrogen, testosterone).
target organ		An organ on which a hormone has an effect.
testis		An organ in the male reproductive system that produces sperm cells and the hormone testosterone. Plural is testes.
thyroid gland		A gland that releases the hormone thyroxine into the blood.

SB7b Hormonal control of metabolic rate

Word	Pronunciation	Meaning
adrenalin		A hormone that is released from the adrenal glands when you are nervous or excited.
fight-or-flight response		Several responses that prepare the body for sudden action, including increased heart rate, increased blood flow to muscles, and release of glucose into the blood.
glycogen	<i>gly-co-jen</i>	A polymer storage material made from glucose, particularly in liver cells
metabolic rate	<i>met-a-bol-ick</i>	The overall rate at which chemical reactions take place in the body.
negative feedback		A control mechanism in which a change in a condition, such as temperature, causes the opposite change to happen and so brings the condition back to a normal level.

resting metabolic rate		The metabolic rate when the body is at rest.
thyroxine	<i>thy-rox-in</i>	A hormone released by the thyroid gland, which affects metabolic rate by changing how certain cells work (e.g. causes heart cells to contract more strongly).

SB7c The menstrual cycle

Word	Pronunciation	Meaning
contraception	<i>con-tra-sep-shun</i>	The prevention of pregnancy.
fertilisation		Fusing of a male gamete with a female gamete.
menopause	<i>men-o-paws</i>	When the menstrual cycle stops completely.
menstrual cycle	<i>men-strew-al</i>	A monthly cycle involving the reproductive organs in women.
menstruation	<i>mens-strew-ay-shun</i>	The breakdown and loss of the thickened part of the uterus lining at the start of a woman's menstrual cycle.
oestrogen	<i>ee-stro-jen</i>	A hormone produced by the ovaries which is important in the menstrual cycle.
ovulation		The release of an egg from an ovary.
period		The 'bleed' that occurs during menstruation.
pregnancy	<i>preg-nan-see</i>	The time during which a fertilised egg develops in the uterus until the birth of the baby.
progesterone	<i>pro-jest-er-own</i>	One of the hormones released by the ovaries.
puberty	<i>pew-ber-tee</i>	The stage of life when the body develops in ways that make it able to reproduce (e.g. production of sperm cells in testes, and the release of egg cells from ovaries).

SB7d Hormones and the menstrual cycle

Word	Pronunciation	Meaning
Assisted Reproductive Technology (ART)		Technology that helps to increase the chance of pregnancy, such as the use of hormones to stimulate egg release.
clomifene therapy	<i>clom-if-eeen</i>	A form of therapy used to stimulate ovulation.
corpus luteum	<i>cor-pus lew-tee-um</i>	A structure formed from the egg follicle after an egg cell is released from an ovary. It produces progesterone.
egg follicle	<i>egg foll-ick-ul</i>	Cells in the ovary that surround a developing egg. The follicle produce hormones, such as oestrogen.
follicle-stimulating hormone (FSH)		A hormone produced by the pituitary gland that causes egg cells to mature in ovaries.
in vitro fertilisation (IVF)		Fertilising an egg cell by placing it in a sterile container then adding sperm cells.
luteinising hormone		A hormone produced by the pituitary gland that causes ovulation.

SB7e Control of blood glucose

Word	Pronunciation	Meaning
diabetes		A disease in which the body cannot control blood glucose concentration at the correct level.
glucagon	<i>gloo-ka-gon</i>	A hormone that increases blood glucose concentration.
homeostasis	<i>gly-co-jen</i>	Controlling the internal environment of the body at stable levels.
insulin	<i>in-syoo-lin</i>	A hormone that decreases blood glucose concentration by causing cells to take in glucose. It is used in the treatment of type 1 diabetes.
type 1 diabetes	<i>die-a-beet-ees</i>	A type of diabetes in which the pancreas does not produce insulin.

SB7f Type 2 diabetes

Word	Pronunciation	Meaning
body mass index (BMI)		An estimate of the amount of fat in a person's body, using their mass and height, on which judgements of health are made.
correlation		A relationship between two variables, so that if one variable changes so does the other correlation can be positive or negative.
type 2 diabetes	<i>die-a-beet-ees</i>	A type of diabetes in which cells do not respond to insulin, or too little insulin is produced.
waist : hip ratio		An estimate of the amount of the fat in the body, calculated by dividing the waist measurement by the hip measurement. It can be used to make judgements about health.

SB7g Thermoregulation

Word	Pronunciation	Meaning
dermis		Layer below the epidermis of the skin, which contains temperature receptors, sweat glands and erector muscles.
epidermis		Outer layer of skin.
erector muscle		Muscle in the skin dermis that contracts and raises a body hair.
fever		A core body temperature that is too high (above 38 °C).
hypothalamus		Part of the brain that monitors and controls body temperature.
hypothermia		A core body temperature that is too low (below 36 °C).
negative feedback		Where a change in a system causes a response that brings about the opposite change, returning the system to a 'normal' level.
shivering		Rapid contraction and relaxation of muscles that causes the body to warm up.

thermoregulation		The control of body temperature, especially in core parts of the body (e.g. heart, liver and brain).
vasoconstriction	<i>vay-so-con-strik-shun</i>	Narrowing of blood vessels, which reduces blood flow.
vasodilation	<i>vay-so-die-lay-shun</i>	Widening of blood vessels, which increases blood flow.

SB7h Osmoregulation

Word	Pronunciation	Meaning
antigen	<i>an-tee-jen</i>	A substance on the outside of a cell that the immune system uses to identify whether the cell is from the same body or a different one.
dialysis	<i>die-al-i-sis</i>	Process used to clean the blood of people with kidney failure. It involves the exchange of substances between blood and dialysis fluid across a partially permeable membrane.
kidney		The organ that removes urea, excess water and other substances from the blood to form urine.
kidney failure		When both kidneys do not work properly.
organ donation		The transfer of a healthy organ (e.g. kidney) into the body of someone whose own organ has failed.
osmoregulation		The control of the balance of water and mineral ions in the body.
rejection		When the immune system attacks cells, tissues or an organ that has been placed in the body.
urea		A waste product from the breakdown of excess amino acids in the liver.
urinary system		Body system that removes excess substances and waste products from the body in urine.

SB7i The kidneys

Word	Pronunciation	Meaning
active transport		The movement of particles across a cell membrane from a region of lower concentration to a region of higher concentration (<i>against</i> the concentration gradient). The process requires energy.
ADH		Antidiuretic hormone. Hormone produced by the pituitary gland that increases the permeability of the collecting duct in a nephron to water.
Bowman's capsule		The start of a nephron where filtration occurs.
collecting duct		The final part of a nephron.
dehydrated		Lacking in water.
filtration (in kidney)		Separating large molecules from smaller ones, as in the glomerulus and Bowman's capsule of a nephron.
first convoluted tubule		Part of a nephron where selective reabsorption of glucose and some mineral ions takes place.

glomerulus		A network of blood capillaries associated with the Bowman's capsule of a nephron.
loop of Henle		Long loop of a nephron involved in osmoregulation.
microvilli		Finger-like projections of the cell surface membrane that greatly increase its surface area.
nephron		Long tubule found in the kidney where filtration of blood occurs, and reabsorption of useful substances, leaving waste and excess substances in urine.
permeability		A measure of how well a membrane allows substances to pass through it. More permeable membranes allow more substances through.
pituitary gland		Part of the brain that detects changes in the body and controls them by releasing many hormones.
selective reabsorption		Taking back particular (useful) substances, such as glucose and some mineral ions, into the nephron.
urine		A fluid produced by the kidneys, containing urea and other waste or excess substances dissolved in water.