# Communication

International Baccalaureate · IB Diploma · Sports, Exercise and Health Science · HL · Vocabulary in context

| Word | Example |
|---|---|
| **nervous system** /ˈnɜːvəs ˈsɪstəm/ | The **nervous system** carries fast messages. |
| **central nervous system** /ˈsentrəl ˈnɜːvəs ˈsɪstəm/ | The brain and spinal cord form the **central nervous system**. |
| **peripheral nervous system** /pəˈrɪfərəl ˈnɜːvəs ˈsɪstəm/ | The **peripheral nervous system** connects the body to the brain and spinal cord. |
| **somatic nervous system** /səˈmætɪk ˈnɜːvəs ˈsɪstəm/ | The **somatic nervous system** controls the muscles you choose to move. |
| **autonomic nervous system** /ɔːtəˈnɒmɪk ˈnɜːvəs ˈsɪstəm/ | The **autonomic nervous system** controls things like heartbeat, without you thinking. |
| **sympathetic** /ˌsɪmpəˈθetɪk/ | **Sympathetic** activity raises heart rate before a race. |
| **parasympathetic** /ˌpærəˌsɪmpəˈθetɪk/ | **Parasympathetic** activity helps slow heart rate after exercise. |
| **neuron** /ˈnjuːrɒn/ | A **neuron** carries nerve signals. |
| **dendrite** | A **dendrite** receives signals from other nerve cells. |
| **cell body** /sel ˈbɒdi/ | The neuron's **cell body** contains its nucleus. |
| **axon** /ˈæksɒn/ | An **axon** carries signals away from the cell body. |
| **myelin sheath** /ˈmaɪəlɪn ʃiːθ/ | The **myelin sheath** covers the axon and makes impulses travel faster. |



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| **nodes of Ranvier** | Signals jump between the **nodes of Ranvier**, the gaps in the myelin. |
| **motor neuron** | A **motor neuron** carries signals towards a muscle. |
| **action potential** /ˈækʃn pəˈtenʃl/ | An **action potential** travels along the nerve. |
| **resting potential** /ˈrestɪŋ pəˈtenʃl/ | At **resting potential**, the inside of the neurone is about −70 mV.<br>−70 mV |
| **threshold** /ˈθreʃəʊld/ | The alarm goes off above a **threshold** temperature. |
| **depolarisation** /diːˌpəʊləraɪˈzeɪʃn/ | During **depolarisation**, the inside of the nerve becomes less negative. |
| **repolarisation** /rɪˌpəʊləraɪˈzeɪʃn/ | During **repolarisation**, the inside of the nerve becomes negative again. |
| **synapse** /ˈsɪnæps/ | A **synapse** is a small gap between two nerve cells. |
| **neurotransmitter** /ˈnjuːrətrænsmɪtə/ | A **neurotransmitter** crosses the gap between two neurones. |
| **neuromuscular junction** /ˌnjuːrəˈmʌskjʊlə ˈdʒʌŋkʃn/ | At a **neuromuscular junction**, a nerve passes its signal to a muscle. |
| **acetylcholine** /ˈæsɪtɪlkəliːn/ | **Acetylcholine** carries the signal across the gap between two neurones. |
| **motor unit** | A **motor unit** is one nerve cell and all the muscle fibres it controls. |
| **recruitment** /rɪˈkruːtmənt/ | Lifting heavier weights needs the **recruitment** of more motor units. |

| Word | Example |
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| **proprioceptor** | A **proprioceptor** tells the brain where your body parts are. |
| **muscle spindle** | A **muscle spindle** detects muscle stretch. |
| **golgi tendon organ** | A **Golgi tendon organ** senses how hard a tendon is pulled. |
| **reflex** /ˈriːfleks/ | Blinking when something flies at your eye is a **reflex**. |
| **endocrine system** /ˈendəʊkraɪn ˈsɪstəm/ | The **endocrine system** uses hormones to send messages in the blood. |
| **gland** /glænd/ | A sweat **gland** makes sweat. |
| **hormone** /ˈhɔːməʊn/ | Insulin is a **hormone**. |
| **adrenaline** /əˈdrenəlɪn/ | **Adrenaline** makes your heart beat faster when you are scared. |
| **insulin** /ˈɪnsjuːlɪn/ | **Insulin** lowers the level of sugar in the blood. |
| **glucagon** /ˈgluːkægən/ | **Glucagon** raises the level of sugar in the blood. |
| **cortisol** /ˈkɔːtɪsɒl/ | **Cortisol** is a stress hormone. |
| **growth hormone** | **Growth hormone** supports growth and tissue repair. |
| **erythropoietin** | **Erythropoietin** makes the body produce more red blood cells. |
| **antidiuretic hormone** /ˌæntɪˌdjuːˈretɪk ˈhɔːməʊn/ | **Antidiuretic hormone** makes the kidneys save water, so urine is darker. |



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| Word | Example |
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| **cardiovascular system** | The **cardiovascular system** transports blood around the body. |
| **double circulation** /ˈdʌbl ˌsɜːkjʊˈleɪʃn/ | Humans have a **double circulation**. |
| **atria** /ˈeɪtrɪə/ | The **atria** receive blood returning to the heart. |
| **ventricle** /ˈventrɪkl/ | The left **ventricle** pumps blood to the body. |
| **valve** /vælv/ | A **valve** in the vein stops blood flowing backwards. |
| **myogenic** /ˌmaɪəʊˈdʒenɪk/ | Heart muscle is **myogenic**: it beats by itself without a signal from a nerve. |
| **sinoatrial node** /sɪˈnəʊtrɪəl nəʊd/ | The **sinoatrial node** is the heart's pacemaker: it starts each beat. |
| **atrioventricular node** /ˌeɪtrɪˌəʊvənˈtrɪkjʊlə nəʊd/ | The **atrioventricular node** holds the signal back for a moment before passing it on. |
| **purkinje fibre** | A **Purkinje fibre** carries the signal quickly through the heart wall. |
| **systole** /ˈsɪstəʊl/ | During **systole**, the heart muscle squeezes and pushes blood out. |
| **diastole** /ˈdaɪəstəʊl/ | During **diastole**, the heart relaxes and fills with blood. |
| **artery** /ˈɑːtəri/ | An **artery** carries blood away from the heart. |
| **capillary** /kəˈpɪləri/ | A **capillary** has walls only one cell thick, so things pass through easily. |
| **vein** /veɪn/ | A **vein** carries blood back to the heart. |

| Word | Example |
|---|---|
| **red blood cell** /red blʌd sel/ | A **red blood cell** has no nucleus, so it has more room for haemoglobin. |
| **haemoglobin** /ˌhiːməˈgləʊbɪn/ | **Haemoglobin** in red blood cells carries oxygen. |
| **blood pressure** /blʌd ˈpreʃə/ | **Blood pressure** is the push of blood against the walls of the arteries. |
| **venous return** | Muscles squeezing the veins increase **venous return** to the heart. |
| **cardiac output** /ˈkɑːdiæk ˈaʊtpʊt/ | **Cardiac output** is heart rate times stroke volume. |
| **stroke volume** /strəʊk ˈvɒljuːm/ | **Stroke volume** is the amount of blood pumped by each beat. |
| **vascular shunt** | During exercise, the **vascular shunt** sends more blood to the muscles. |
| **respiratory system** | The **respiratory system** exchanges oxygen and carbon dioxide. |
| **alveoli** /ˈælvɪəlɪ/ | Gas exchange happens in the **alveoli**. |
| **inspiration** | During **inspiration**, air enters the lungs. |
| **diaphragm** /ˈdaɪəfræm/ | The **diaphragm** contracts and flattens during breathing in. |
| **expiration** | During **expiration**, air leaves the lungs. |
| **spirometer** | A **spirometer** measures volumes of air breathed. |
| **tidal volume** | **Tidal volume** is the air moved in one normal breath. |



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| Word | Example |
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| **residual volume** | **Residual volume** is the air left in the lungs after you breathe out hard. |
| **vital capacity** | **Vital capacity** is the most air you can breathe out after a deep breath in. |
| **minute ventilation** /ˈmɪnɪt ˌventɪˈleɪʃn/ | **Minute ventilation** is how much air you breathe in one minute. |
| **diffusion** /dɪˈfjuːʒn/ | The smell of perfume spreads across a room by **diffusion**. |
| **chemoreceptor** /ˌkiːməʊˈreseptə/ | A **chemoreceptor** detects chemicals, such as carbon dioxide in the blood. |
| **homeostasis** /ˌhəʊmiːəˈstɑːsɪs/ | Sweating is part of **homeostasis**: it keeps body temperature steady. |
| **negative feedback** /ˈnegətɪv ˈfiːdbæk/ | **Negative feedback** brings body temperature back to normal. |
| **receptor** /rɪˈseptə/ | The skin has a **receptor** for heat. |
| **effector** /ɪˈfektə/ | A muscle is an **effector**. |
| **hypothalamus** /ˌhaɪpəʊˈθælæməs/ | The **hypothalamus** in the brain checks the water level of the blood. |
| **vasodilation** /ˌvæsədɪˈleɪʃn/ | **Vasodilation** makes your skin red when you are hot. |
| **vasoconstriction** /ˌvæsəkənˈstrɪkʃn/ | **Vasoconstriction** makes your skin pale when you are cold. |
| **acclimatisation** | After two weeks in a hot country, **acclimatisation** makes exercise easier. |