

PHYSICAL EDUCATION VOCABULARY



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A

Acceleration

The rate of change of velocity over time (where velocity is the rate of change of position with respect to direction).

Accuracy

The ability to control movement in a given direction or at a given intensity.

Adolescence

The stage of maturing into an adult, which involves more than sexual maturity.

Aerobic

Rhythmic, steady exercise which uses oxygen to oxidize glucose, fats, and proteins to release energy for the working muscles.

Agility

The ability to change the position of your body and/or its parts quickly and accurately.

Alactic Anaerobic Phosphagen system or process

The fastest source of energy in the body, using ATP and CP. Used in explosive strength, and speed activities.

Amateur

Participants who are not directly paid for performing. They take part for enjoyment and satisfaction, and not to make money.

Anabolic Steroids

Drugs based on the male hormone testosterone, which stimulate the building of more muscle tissue

Anatomy

The internal structure of the body.

Antagonistic (pairs of muscles)

Most muscles in the body are arranged in opposing pairs. When one contracts, the other relaxes and is stretched, and vice versa. This arrangement is necessary as muscles can only contract (get shorter) when stimulated by motor nerves, they cannot restretch themselves.

Anxiety

Worry about what might happen in a situation. (See also State Anxiety and Trait Anxiety).

Assessment of physical activities

A process of judging/grading a persons level in relation to a set of criteria. In GCSE this involves a process of planning, performing, evaluating, analyzing, and improving chosen physical activities.



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Associative Stage of learning

The second stage of learning. Patterns of coordination are learnt, motor programmes begin to be laid down in the brain.

ATP (Adenosine Triphosphate)

The substance through which all energy to be used in the body is channeled. Once used to supply energy to some process, eg. muscle contraction, it must be reformed using energy from other sources, eg. the oxidation of glucose.

ATP => ADP + P + energy to be used by the body

ADP + P + energy => ATP from the oxidation of glucose

Autonomous Stage of learning

The third stage of learning. The movement has been learned, and the performer has time to think about tactics, strategies, style, expression, and the fine tuning of skills.

B

Balance

Maintaining the equilibrium of the body, either without movement (static balance) or during movement (dynamic balance). The ability to control the placement of the body's centre of gravity in relation to its support base.

Base of Support

The base of support involves the relationship between you and the surface you are performing on. It includes the points of contact you have with the surface you are performing on.

Bending

Moving a joint

Body awareness

What the body can do (transferring weight, balancing, flight, etc)

Body Composition

The relative proportions of fat and lean (non-fat) body mass.

Break away

Aceleración.



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C

Calorie

The energy it takes to raise the temperature of water by one degree Celsius

Carbohydrates

Energy rich substances, e.g. starch, found in foods like bread, potatoes, pasta, etc. Starch is digested to glucose which is absorbed by the body.

Cardiac Output

The amount of blood pumped out by the heart per minute.

Cardiac = Stroke x Heart

Output Volume Rate

Cardiovascular system - the heart and lungs

Cardiovascular / Respiratory endurance

The ability of body systems to gather process and deliver oxygen

Catching

Receiving and controlling an object using the body or its parts

Centre of Gravity (of the body)

The point about which your body weight is evenly distributed in any position.

Circuit Training

Training that uses a circuit of exercises around a number of different work stations. Each circuit lasting about 20 minutes.

Change of pace

Cambio de ritmo

Closed Skills

These are performed in predictable and stable conditions. The performer tries to repeat the movement the same way each time, eg. a free shot in basketball.

Cognitive Stage of learning

The first stage of learning. Beginners learn to understand what they have to do.

Commercialization

The process of organizing an event or performance along business lines.

Community Physical Recreation

An attempt to provide individuals, and groups with access and opportunities in a range of physical recreational activities, at a local neighborhood level. The idea of 'community' brings a more 'human' feeling to such provision.



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Compulsory Competitive Tendering - CCT

Forcing Local Authority leisure centers etc. to allow various groups to bid for contracts to supply various services.

Concentric (muscle action)

Muscles shorten as they contract. When they shorten normally, eg. in a biceps curl, it is also known as an isotonic contraction. When stopped from shortening very much by an immovable resistance, it is also known as an isometric contraction.

Coordination

The ability to control, and put together (integrate) movements made by different parts of the body. The ability to minimize transition time from one movement pattern to another.

Cramp

A sudden, uncontrollable, painful contraction of a muscle or a group of muscles, that may last for only seconds, or for hours at a lower intensity. Of unknown cause, but loss of salts can be a cause. Treated by stretching and massage.

Creatine Phosphate (CP)

An energy reserve in the muscles that is used to regenerate ATP after it has been used in muscle contractions. $ADP + CP \Rightarrow ATP + C$

D

Decision Making

This involves you in making a decision about what action to perform, after you have been through the process of giving meaning to information, and comparing the information received with your memories.

Discrimination

This is the act of distinguishing between people on the grounds of sex, race, religion. etc. and dealing differently with them because of these perceived differences.

Distributed Practice

Practice of an activity with rest breaks in the practice session.

Doping

The taking or mis-use of substances, or participation in doping methods, prohibited by the IOC and by the International Sports Federations. In addition, assisting or inciting others to contravene doping regulations is also a doping offence.



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Dual Use

The sharing of school and other educational facilities with users who are not pupils, students, or staff.

Dribbling

The skill of striking an object multiple times in a row (using hands or feet).

E

Eccentric (muscle action)

When a muscle is trying to contract whilst actually being lengthened by stretching, e.g. the thigh muscles while running down hill.

Effort awareness

How the body moves (time, speed, effort, force, etc)

Endocrine Glands

Glands without ducts (tubes) which produce hormones, and pass them direct into the bloodstream, eg. pituitary, thyroid, and adrenal glands.

Endurance

Stamina, the ability to keep going for long periods. Includes cardiovascular-respiratory (heart-breathing) endurance, and muscular endurance.

Enzymes

Chemicals (proteins) produced by living organisms, which act as catalysts, i.e. they speed up the rate of chemical reactions in the body, without themselves being used up in the reaction.

Excellence *"every child is a winner when they try their very best!"*

Achieving standards above average, nationally set performance targets encourage performers to strive for excellence.

Excretion

Getting rid of poisonous waste products produced by the body, eg. carbon dioxide (by breathing out), and urea in the urine from the kidneys.

Exercise

Involves exertion of the body. It is important in maintaining general health, and includes cardiovascular-respiratory (heart-breathing) endurance, muscular endurance, strength, mobility and flexibility, and body composition. (See also Physical fitness).

Extrinsic Feedback

This is information given to the performer from an outside source, eg. teacher/coach/ video/ spectator etc. It can be in the form of Knowledge of Results,



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and/or Knowledge of Performance. These are always external in origin. It is also called Supplementary Feedback and Augmented Feedback.

Extroversion

A personality factor (trait) which involves sociability, talkativeness, and self assurance.

F

Fartlek

'Speed play', running as you please, fast and slow, over different terrains.

Fats

Energy rich substances, e.g. butter, oils, etc.

Feedback

Information you receive about your actions, in the form of Knowledge of Results and Knowledge of Performance. (See also Extrinsic Feedback and Intrinsic Feedback).

Fine Motor Skills

Involve movements using small groups of muscles in delicate actions, e.g. wrist action in table tennis.

First Aid

This is the treatment given by the first person to arrive on the scene of an accident. It is better if the first aider is properly trained.

Flexibility

The range of movement at a joint allowed by the muscles (length & elasticity) that surround it.

Force

Force can be described as a 'pull' or a 'push'.

G

Galloping

A combination of a step and a run in which there is a lead leg and a trail leg (same leg stays in front) - forward direction

Gender

Which sex a person is, e.g. male or female.



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Goal setting

Process of setting performance targets or goals, and organizing ways of achieving these goals. Goals should be Specific, Measurable, Agreed, Realistic, Time phased, Exciting, and Recorded - SMARTER.

Goals

Standards of performance to be aimed for. Can be based on your own performance, eg. achieving a personal best - Performance Based Goals; or on your performance compared to others, e.g. position in a race - Outcome Goals.

Gross Motor Skills

These are skills which involve large groups of muscles, eg. discus throwers.

H

Health

A state of complete physical, mental, and social well-being, and not only the absence of disease or infirmity.

Heart

The motor of the body. It contracts and forces blood out and through the body

Hooliganism

Anti-social, threatening, and rowdy behavior

Hopping

A springing action leaving the ground with one foot and landing on the same foot

Hormone

A chemical 'messenger' produced by an endocrine gland. Very small amounts have powerful effects on the body, eg. adrenaline 'pumps the body up' for activity.

I

Information Processing

A model of the way in which a skill is learnt. It tries to explain what goes on when you turn information you receive into movements.

lowest number of calories eaten

Resting metabolic rate

Isometric Muscle Action

Occurs when a muscle starts to contract and shorten, but is then stopped by an immovable resistance, e.g. trying to lift a weight that is too heavy for you to move.



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Isotonic Muscle Action

Normal muscle action, when the muscle shortens as it produces movement, e.g. a biceps curl.

Interference with learning

When established skills which have already been learnt, interfere with the learning of new skills, and new skills interfere with existing skills. For example a tennis player might find it difficult to learn badminton, and that in trying to learn it, their tennis gets worse.

Interval Training

Training with alternating work intervals and rest intervals, e.g. 6 x 200m with 60 seconds rest between each 200m run.

Intrinsic Feedback

This is information you give to yourself from your actions or from the activity. It can be in the form of Knowledge of Results (you see/hear it), and/or Knowledge of Performance (you feel it).

Introversion

A personality dimension, where the person is withdrawn, anxious, and insecure.

Inverted U Theory

Motivation (arousal) increases to an optimum point, at which performance is at its best, past which control and quality of performance decreases through trying too hard and becoming anxious.

Involuntary Muscle

Muscle that you cannot control by your conscious decisions.

J

Joint Provision

The providing of new facilities for the shared use of different groups, eg. school, and public.

Joule

A measure of energy. 4.2 joules = 1 calorie.

Jumping

A springing action leaving the ground with one or two feet and landing on two feet



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K

Kicking

Making contact with an object using your feet

Knowledge of Performance (KP)

Is a type of feedback in which a performer receives information about the quality of their performance in terms of movement, style, etc. When given by a coach/video it is extrinsic. When felt by the performer it is intrinsic.

Knowledge of Results (KR)

Is a type of feedback in which a performer receives information about the results of their actions. When given by a coach/video it is extrinsic. When seen/heard directly by the performer it is intrinsic.

L

Lactic Acid

An acid produced by muscles working powerfully without enough oxygen (anaerobically). The increased acidity stimulates faster breathing, and causes muscle pain.

Lactic Anaerobic System

The way in which energy is released from glycogen (glucose) without using oxygen (anaerobic), and which results in the production of lactic acid in the muscles.

Leaping

An extension of a run using greater force; leaving the ground with one foot and landing on the opposite foot

Learning Curve

A graphical depiction of the progress of learning (or lack of it).

Leisure

That time not spent working, eating, and sleeping, which is available for your own recreation.

Levers

A structure with a pivot point about which an effort moves a load. There are three types of lever according to the different positions of the effort, load, and pivot.

Limited Channel Capacity

The information processing model that emphasises that the brain can only deal with a limited amount of information at once. You could become confused and overloaded by too much information.



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Local Provision

Local facilities for sport, provided by public, private, and voluntary organizations.

Locomotor skills

A skill using the feet to move from one place to another or project the body upward

Long Term Memory

A more permanent memory store. When information is practiced and coded, it passes from the short term memory into the long term memory, from where it can be retrieved (recalled) using the coded memory keys.

M

Manual/Mechanical Guidance

Physical help in learning what to do.

Massed Practice

Practice of an activity without any rest breaks in the practice session.

Mechanical disadvantage

When the arrangement of the pivot, effort, and load, of a lever system results in the effort having to be greater than the load.

Media

A term used to describe local and national newspapers, magazines, radio, and television, which are all involved in reporting and broadcasting activities and events, and in interviewing the performers.

Memory

A storage and retrieval (finding) system.

Mental Practice

Imagining the successful performance of an activity. Mentalism of the knee.

Motion

Movement and the change of position, including the idea of speed.

Motivation Reflects the commitment and determination of a performer.

Motivation Reflects the commitment and determination of a performer. It is a general level of arousal (intensity) to action. It involves a sense of purpose, direction, and sustainment. Intrinsic motivation is when the source of motivation comes from the individual (enjoyment, satisfaction), and extrinsic motivation is when the source of motivation comes from a source other than yourself (prizes, money, etc.).



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Motor Programmes

Patterns of muscle commands recorded in the central nervous system which can be used quickly when needed.

Motor (movement) Skill

There isn't a single, agreed definition of a motor skill. We could say that motor skill is, 'the learned ability to perform in a physical activity efficiently, successfully, and consistently'.

Movement Time

The time it takes to actually move as a result of the brain sending nerve impulses to the muscles. Part of the response time.

N

National Curriculum

Programmes of study and attainment targets laid down by the Government, stating what pupils must study from the time they enter primary school, to when they take GCSE in year 11. It is divided into 4 Key Stages, and Maths, English, Science are the core subjects.

Neuroticism

A personality factor (trait) which involves sensitivity, anxiety and insecurity.

Newton's Third Law

To every action there is an equal and opposite reaction.

Non-locomotor skills

Twisting, Bending, Stretching...

O

Olympic Ideal

The Olympic Ideal is expressed in the idea of Olympism, which is an outlook on life which includes the enjoyment of taking part, trying hard, fair play, respect for the rules, and the pursuit of excellence. The Olympic movement exists to promote these ideals.

Open Skill

These are performed in situations which are continually changing so that the performer has to adapt the skill to the changing situation, eg. tackling in football.

Overload of training

(see Progressive Loading)



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Overloading of information

Receiving too much information at once, causing confusion. A part of information Processing Theory.

Oxygen Debt

The amount of oxygen taken up after intense exercise has stopped. It is needed to oxidize the lactic acid that was produced by the release of energy from glucose without oxygen (anaerobically) during the intense activity. See also Oxygen deficit.

Oxygen Deficit

The amount of oxygen a performer is short of during intense exercise in which they are getting energy from glucose without oxygen (anaerobically). (See also Oxygen debt).

P

P.E.

(See Physical Education).

Pace

The distance between every two steps you take

Parts Learning

Breaking a skill down to its basic parts, which are then learnt one at a time, before putting them altogether in the complete skill. If you join each part together as they are learned, it is called progressive parts (stages).

Participation

The taking part in physical activities.

Perception

To understand (give meaning to) what has been seen, heard, and felt. The first step in interpreting information. Acts as a filter, and helps you separate out important information from the less important.

Personality

A person's character and temperament. A complex series of factors, unique to the individual.

Phosphagen System

See "Alactic anaerobic phosphagen system".

Physical Education - P.E.

A foundation subject in the National Curriculum. It involves people in learning and taking part in physical activities. It could help develop a more positive attitude towards yourself, and to life. It is, for many people, the same as playing games, taking part in many different physical activities, or keeping fit. It is through these



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types of activities at school that learning happens, and Physical Education is taught. Physical Education focuses on bodily movement, and involves the development of enjoyment, understanding, co-ordination, and control. The overall aims are to develop: physical skills and abilities; knowledge and understanding; positive attitudes to activity and health; social awareness.

Physical Fitness

The capacity to perform physical activity with relative success and enjoyment without undue discomfort during or after. This normally involves a measure of the relative efficiency of the heart, blood vessels, lungs and muscles, in carrying out movements. In hard physical activity the enjoyment involves knowing that you have achieved your aims.

Physical Recreation

This is entertaining oneself, or relaxing, in leisure time, through physical activity.

Physiology

The study of how the body works.

Physique

The physical build of the body.

Planning (of training)

The organizing of a training programme. Account should be taken of frequency, intensity, time (duration), and type of exercise - F.I.T.T.

Plateau

A period in learning when no progress appears to be made.

Play

How young children physically explore their environment to facilitate language, creativity, and social skills. Play may or may not include moderate to vigorous physical activity (child directed).

Posture

The way all the parts of the body are aligned together.

Power

The rate at which work is done: $\text{Power} = \frac{\text{work}}{\text{time}} = \text{force} \times \text{distance}$. The ability of a muscular unit, or combination of muscular units, to apply maximum force in a minimum time.

Professional

Participants who are paid for performing. They earn their living from the activity.



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Progressive Loading (Overload of training)

Increasing the training effort in carefully controlled stages - not actually overloading in the sense of overstraining the body and its systems, which could lead to injury.

Proteins

Substances which build and repair the body, especially muscle. Protein containing foods must be eaten every day, eg. meat, eggs, cheese, nuts, soya beans etc.

Puberty

The beginning of the development of sexual maturity.

Pulse

The rhythmic beat of the blood being pumped by the heart through the arteries, which are swollen in diameter when the heart contracts, and recoil back to normal when the heart relaxes. Can be felt at the wrist and at the side of the neck.

Punting

The skill of kicking an object that has been released from the hands, while it is still in the air

Q

R

Reaction Time

The time it takes for the brain to receive information, to decide what to do, and to send impulses to the muscles. Part of the response time.

Recess

Unstructured playtime where children have choices; develop rules for play and release energy and stress. It is an opportunity for children to practice or use skills developed in physical education (teacher facilitated).

Recovery Position

The position to place an injured person into if possible, and if safe to do so.

Red Blood Cell

A cell that is responsible for carrying oxygen

Relationships awareness

How the body relates to objects and others (matching movements, mirroring movements, etc)



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Relaxation

A process of reducing tension, rigidity, anxiety, and intensity. Specific techniques can be developed, e.g. Progressive Muscular Relaxation, the Quiet Place, Centring.

Response Time

The time it takes to respond to some stimulus, eg. the actions of people.

Response = Reaction + Movement Time

Where the reaction time is the time it takes the brain to receive information, to decide what to do, and to send impulses to the muscles; and the movement time is the time it takes to actually move.

Resting heart rate

The rate your heart beats while at rest

Reversibility (of training)

Gains in fitness as result of training are not permanent, they are easily lost (reversed) if training stops.

Rules

The laws/regulations governing participation in a physical activity.

Run

Both feet leave the ground during each stride

Running

Same as walking but at a faster rate with brief moments of flight when both feet are off the ground

S

Safe

Being free from danger or harm. What you must always be!

Selective Attention

A process of focusing your mind (attention) on important information (actions, stimuli, etc.). A part of Information Processing theory.

Sensory Input

Information received from the senses, e.g. sight, sound, touch, taste, smell, and feelings.

Short Term Memory

A temporary memory store, from which information is easily forgotten. Information that is considered significant is coded and practiced, and passed on into Long Term Memory.

Skiing

A combination of a step and a hop, alternating feet.



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Sliding

A combination of a step and a run in a sideways direction

Somatotyping

The classification of body types (physique) on the basis of basic skeletal structure, into endomorph, mesomorph, and ectomorph.

Space awareness

Where the body moves (personal, general, directions, levels, pathways, etc)

Specificity (of training)

Different types of training improve different (specific) parts and systems of the body, e.g. cycling will not help a swimmer improve their swimming.

Speed

The distance covered in a certain time. The ability to minimize the time cycle of a related movement.

Sponsorship

The giving of money or other material goods to an activity, event, organization, performance, or individual(s), by a sponsor, in return for which, the goods/services of the sponsor are publicised/advertised.

Sport

This term is used in many different ways. It could be described as 'a type of physical activity which you choose to compete in fairly, and try to win.' There have been many attempts to divide sport into different groups.

Stability (of personality)

A personality dimension involving calmness and a feeling of security.

Stability (of the body)

This involves the equilibrium or balance of the body on a base, it is increased if: the area of the base is wider or larger; the centre of gravity is lowered; the centre of gravity is brought nearer to the centre of the base.

State Anxiety

Anxiety which is caused by/related to a specific situation, eg. a rock face.

Stitch

A pain in the chest/abdomen region associated with running. Of unknown cause, but possibly a result of the jarring action of running acting on the liver, which is suspended below the diaphragm on the right hand side.

Strength

The amount of force that is produced by muscles contracting. Includes static or isometric strength, where effort is made against an immovable resistance; and



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dynamic or isotonic strength where effort moves a resistance. The ability of a muscular unit, or combination of muscular units to apply force.

Stretching

Exercise to improve flexibility. This can be passive, eg. limb being pushed to the limit of movement by a partner; active, eg. moving and holding your own stretch position; and ballistic, eg. swinging arms and/or legs.

Striking

Making contact with an object using another object

Stroke Volume

The volume of blood pumped out by each contraction of the ventricles of the heart.

Supplementary Feedback

(See Extrinsic Feedback).

Swaying

Fluidly and gradually shifting the center of gravity from one body part to another.

Swinging

Rhythmical, smooth motion of a body part resembling a pendulum

T

Target Heart Rate

The rate you want your heart to beat while doing any exercise

Techniques

The basic patterns of movement which have to be developed in every activity.

Throwing

Propelling an object away from the body using your hands

Trace Decay (forgetting)

The fading away of a memory which has been learned but not practised or used.

Training (physical)

A process which is designed to improve physical capacity, fitness, skill, etc.

Transfer of Training (learning)

The influence of previously learned skills and activities on the learning of new ones. This appears to depend on the amount of similarity between the skills and activities, and may be helpful (positive) or harmful (negative).

Trait Anxiety

A personality factor (trait). The tendency to become anxious in almost all or any situation.



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Turning

Rotating the body along the long axis.

Twisting

The rotation of a selected body part around its long axis

U

V

Variation (of training)

Training should be varied to prevent boredom occurring and injuries developing. Variation should always be safe.

Vascularisation

The growth of new capillary networks in muscles working aerobically over long periods of time. It increases their potential blood supply, and therefore their oxygen supply during aerobic exercise. Similar changes as a result of aerobic training occur within the coronary arteries of the heart muscle.

Verbal Guidance

Telling a performer what to do to improve their performance.

Visual Guidance

Showing a performer how to improve their performance.

Voluntary Muscle

Muscle that can be controlled by your conscious decisions

Volleying

Making contact with an object using body parts

W

Walk

Moving the body with one foot always on the ground

Walking

The process of alternately losing balance and recovering while moving forward or backward in an upright position

Warm-down (cool down)

A warm-down brings the mind and the body back to a relaxed state. Helps to reduce the risk of injury.

Warm-up



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A warm-up should involve a gradual increase in the heart rate and breathing rate, a slight rise in body temperature, and prepare the mind and the body for activity. Helps to reduce the risk of injuries.

White Blood Cell

A cell that helps the body ward off infection

Whole Learning

Learning a skill as a complete action, without breaking it down into its basic parts. Faulty parts can then be identified and attempts made to improve them. If the faulty part is isolated and practiced, and the skill then performed as a whole again, this is called whole-part-whole learning.

X

Y

Z

