

The **OPEN** Academic Language Project

Based on the Virginia Physical Education Standards of Learning

Academic Language Card Set

GRADE NINE

Anatomical Basis of Movement



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AEROBIC RESPIRATION

(Noun)

The energy pathway in which oxygen provides the chemical catalyst for the generation of energy. This system is associated with longer, more sustained forms of physical activity.

When Chandler was jogging in the Halloween 5K, his body was using aerobic respiration to fuel his run.

[VA SOL 9.2]

ANAEROBIC RESPIRATION

(Noun)

The energy pathway in which energy is generated without the use of oxygen. In humans, glycolysis is the main anaerobic metabolic pathway.

Glucose is a carbohydrate used as a fuel source during anaerobic respiration.

[VA SOL 9.2]

ANALYZE

(Verb)

To examine methodically and in detail the constitution and/or structure of something; especially information.

The students were asked to analyze their partners' dance performances to see what specific locomotor skills were used.

[VA SOL 9.2]

CONCENTRIC

(Adjective)

Muscle contraction that permits the muscle to shorten.

Erika realized that when she performed an arm curl, the contraction of her biceps were concentric.

[VA SOL 9.2]

COOL DOWN

(Noun)

A period or act of slowing physiological movement back to normal after a game, performance, or exercise session, involving gentle exercise or practice.

It is important to perform a cool down after strenuous exercise, such as running.

[VA SOL 9.2]

ECENTRIC

(Adjective)

Characterized by the force working against an active muscle while it is lengthening under load.

Jim told Erika that as she brought the weight back down from a bicep curl, her muscles were experiencing an eccentric contraction.

[VA SOL 9.2]

EFFICIENT

(Adjective)

Achieving maximum productivity with minimum wasted effort or expense.

As Rosemarie became more efficient during her swimming practices, she began to improve more quickly.

[VA SOL 9.2]

EVALUATE

(Verb)

To form an idea regarding the amount, number, or value of something; assess; to judge or determine the significance, worth, or quality of something.

The students used a rubric to evaluate and record their performance on the paddle board self-assessment.

[VA SOL 9.2]

EXTENSION

(Noun)

The action associated with straightening a limb out of a bent position.

Ryan knew that he had to strengthen his legs if he wanted to improve his extensions in ballet class.

[VA SOL 9.2]

FITT PRINCIPLE

(Noun)

The inclusion of Frequency, Intensity, Time, and Type of exercise as four factors that lead to a successful fitness plan.

Coach Stasia told her athletes to use the FITT principle when setting goals in order to be sure they were including all the elements necessary for success.

[VA SOL 9.2]

FLEXION

(Noun)

The action of bending or the condition of being bent, especially the bending of a limb or joint.

Flexion of the knees is important when shooting a free throw.

[VA SOL 9.2]

FORCE

(Noun)

Strength or energy as an attribute of physical action or movement.

During volleyball practice, Allison applied a great deal of force in order to successfully serve the ball over the net.

[VA SOL 9.2]

FREQUENCY

(Noun)

The rate at which something occurs or is repeated over a particular period of time.

Jose wanted to implement the FITT principle in his workout routine and decided the frequency of his cardiovascular workout would encompass 3 days a week.

[VA SOL 9.2]

INTENSITY

(Noun)

The amount of power or energy used to complete a specific exercise.

Pedro increased the intensity of his workouts in order to achieve his fitness goals more quickly.

[VA SOL 9.2]

ISOMETRIC

(Adjective)

Of, relating to, or denoting muscular action in which the joint angle and muscle length do not change during contraction

As she held a perfect plank position, Zoie recognized the sensation of isometric contraction.

[VA SOL 9.2]

LEVER

(Noun)

A moderately rigid object or bone that may rotate about an axis by the application of force. i.e.: bone that can move around a joint by the muscles that are attached.

Without the many levers in our bodies, we would not be able to move or perform basic tasks.

[VA SOL 9.2]

METABOLIC RESPONSE

(Noun)

Any reaction by the body in response to a particular stimulus.

The metabolic response to jogging will include increased heart rate and quickening of the breath.

[VA SOL 9.2]

MOVEMENT SKILLS

(Noun)

Foundational movement patterns using various body parts that serve as the basis of physical literacy.

A person must develop strong basic movement skills before they can begin to master complex techniques regularly used in sport.

[VA SOL 9.2]

MUSCLE CONTRACTION

(Noun)

The movement of tension-generated sites within muscle fibers in response to load or force; causes the muscle to tighten and shorten.

Christian watched the muscle contraction in his arm as he was lifting weights.

[VA SOL 9.2]

PHYSIOLOGY

(Noun)

The branch of biological science dealing with the functions and activities of living organisms and their parts.

Clark used his knowledge of physiology to analyze his movements and improve his long jump.

[VA SOL 9.2]

PLANES OF MOVEMENT

(Noun)

A sectioned off view of the body that includes the frontal plane, the sagittal plane, and the transverse plane.

Kate was taking a test on the planes of movement and answered correctly that a flexion movement can be seen in the sagittal plane.

[VA SOL 9.2]

SCIENTIFIC PRINCIPLES

(Noun)

As it relates to health, physiological and biomechanical principles used to improve movement skills.

Lori and Deb brainstormed how they could use the scientific principles to make improvements to their weightlifting movements.

[VA SOL 9.2]

SHORT-TERM

(Adjective)

Occurring in or relating to a relatively short period of time.

Alliah created a short-term exercise plan to quickly enhance her muscular strength.

[VA SOL 9.2]

SPECIFICITY

(Noun)

The quality or condition of being specific; working on a specific body area.

Jonah needed to improve is balance and decided to include specificity aimed at strengthening his core muscles.

[VA SOL 9.2]

TIME

(Noun)

The duration of an event or period.

Marco aimed to increase the amount of time he could exercise without stopping.

[VA SOL 9.2]

TYPE

(Noun)

The genre of exercise that is chosen for participation.

Malliky was having a hard time deciding what type of exercise he should do to increase his muscular endurance: running or cycling?

[VA SOL 9.2]

WARM-UP

(Noun)

A period or act of preparation for a game, performance, or exercise session, involving gentle exercise or practice.

Renee did a warm-up before she started her weight training so that she wouldn't pull any muscles.

[VA SOL 9.2]