

Academic Vocabulary

CONTENT BUILDER FOR THE PLC

SCIENCE
PHYSICS

PLEASE NOTE: The words contained in **Academic Vocabulary** are words/concepts/terms essential for concept development; this list is not intended to be comprehensive. The “new to grade level” vocabulary suggestions are a starting point, and educators are encouraged to refer to their district curriculum resources for additional words/concepts/terms.

Mechanics

P.5 Science concepts. The student knows and applies the laws governing motion in a variety of situations.

important words for concept development					
subcluster	standards	new to grade level		previously introduced	
Analyzing Motion	P.5(A), P.5(B), P.5(C), P.5(D)	acceleration acceleration-time graph centripetal acceleration circular motion frame of reference one-dimensional motion period position-time graph projectile	projectile motion Pythagorean theorem range relative velocity scalar tangential velocity trajectory vector velocity-time graph	direction displacement distance magnitude motion speed velocity	
Force Interactions	P.5(E), P.5(F), P.5(G)	acceleration centripetal force equilibrium force diagram force pair	law of conservation of momentum normal force tension vector	force free body diagram friction law of inertia net force	Newton's second law of motion Newton's third law of motion
Newton's Law of Universal Gravitation	P.5(H)	inverse-square law Newton's law of universal gravitation linear system	orbiting system universal gravitation constant	gravity magnitude mass	

The Nature of Forces

P.6 Science concepts. The student knows the nature of forces in the physical world.

important words for concept development				
subcluster	standards	new to grade level		previously introduced
Electric and Magnetic Forces	P.6(A), P.6(B)	charge(s) Coulomb's constant Coulomb's law electric field electric force electric potential difference	generator induction magnetic field magnetic force motor transformer	electric current
Conservation of Charge	P.6(C)	ammeter conservation of charge electric property induction Ohm's law	polarization resistance resistor voltage voltmeter	conduction conductor current insulator
Electric Circuits	P.6(D), P.6(E)	ammeter conservation of charge electric property Ohm's law parallel electrical circuit	resistance resistor series electrical circuit voltage voltmeter	closed circuit conductor current insulator open circuit

Laws of Conservation of Energy and Momentum

P.6 Science concepts. The student knows that changes occur within a physical system and applies the laws of conservation of energy and momentum.

important words for concept development				
subcluster	standards	new to grade level		previously introduced
Work and Power	P.7(A)	power work work-energy theorem		kinetic energy law of conservation of energy potential energy system
Mechanical, Potential, and Kinetic Energy	P.7(B)			kinetic energy mechanical energy potential energy system
Conservation of Energy	P.7(C)	work work-energy theorem		kinetic energy law of conservation of energy thermal energy
Momentum	P.7(D), P.7(E)	collision elastic collision impact force impulse	inelastic collision law of conservation of momentum momentum	law of conservation of energy

Characteristics and Behaviors of Waves

P.8 Science concepts. The student knows the characteristics and behavior of waves.

important words for concept development					
subcluster	standards	new to grade level		previously introduced	
Behavior of Waves	P.8(A), P.8(D)	diffraction Doppler effect Hooke's law interference oscillatory motion pendulum	polarization resonance simple harmonic motion sinusoidal standing wave wave propagation	longitudinal wave medium oscillation reflection	refraction superposition transverse wave
Characteristics of Waves	P.8(C)	wave speed wave velocity		frequency hertz	period wavelength
Transverse and Longitudinal Waves	P.8(B)	compression rarefaction wave propagation		electromagnetic wave longitudinal wave medium sound wave	transverse wave vacuum wave
Electromagnetic Spectrum	P.8(E), P.8(F)	atomic structure emission spectra energy level gamma ray infrared wave microwave	spectra spectroscopy ultraviolet light visible spectrum x-ray	electromagnetic spectrum radio wave	
Image Formation	P.8(G)	concave lens concave mirror convex lens convex mirror focal length law of reflection	magnification plane mirror real image thin lens equation virtual image	reflection refraction	

Quantum Phenomena

P.9 Science concepts. The student knows examples of quantum phenomena and their applications.

important words for concept development			
subcluster	standards	new to grade level	previously introduced
Nature of Light	P.9(A), P.9(C)	atomic level emission spectra photoelectric effect photon quantum state wave-particle duality of light	superposition
Malus's Law	P.9(B)	energy level Malus's law wave polarization	
Quantum Phenomena	P.9(D)	entanglement Heisenberg uncertainty principle quantum mechanics quantum phenomena wave-particle duality	superposition