lead4ward

Academic Vocabulary

CONTENT BUILDER FOR THE PLC

SCIENCE
GRADE 8

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.

Properties of Atoms

8.5 **Matter and energy.** The student knows that matter is composed of atoms and has chemical and physical properties.

		important words for concept development			
subcluster	**standards**	**new to grade level**		**previously introduced**	
Structure of Atoms	8.5(A), 8.5(B)	atom* atomic mass* atomic nucleus* atomic number* Bohr model* electron cloud* electron*	negative charge* neutral (no) charge* neutron* positive charge* proton* reactivity (reactive*) valence electron*	charge* chemical property chemical reactivity* electrical charge	element* mass number* mass* particle*
Periodic Table	8.5(C)	atomic number* chemical behavior* energy level* family* group*	period* Periodic Table* transition metal valence electron*	chemical property* physical property* property	
	6.6(A)			conductivity* density ductility element* luster	malleability* metal metalloid nonmetal*

Chemical Formulas, Equations, and Reactions

8.5 **Matter and energy.** The student knows that matter is composed of atoms and has chemical and physical properties.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Chemical Formulas	8.5(D)	atom* coefficient* Periodic Table of the Elements*		chemical formula* chemical substance* compound* dissolve*	element* molecule* subscript symbol*
Chemical Reactions	8.5(E)	chemical property law of conservation of mass precipitate	product reactant* reactivity yield	chemical reaction* coefficient compound* evidence	mass* physical change property solution*
	7.6(A)			chemical change chemical digestion digestive system	matter mechanical digestion physical change*
Density	6.6(B)			balance* density* formula graduated cylinder* mass*	substance* triple beam balance volume* water displacement

Force, Motion, and Energy

8.6 **Force, motion, and energy.** The student knows that there is a relationship between force, motion, and energy.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Force	8.6(A)	applied force* frictionless* net force*		acceleration* balanced force* direction friction*	motion speed* unbalanced force*
Motion	8.6(B), 8.6(C)	acceleration* constant velocity* law of action-reaction law of force and acceleration	law of inertia N*/Newton* net force* velocity*	balanced force displacement distance force* gravitational constant gravity*	inertia* mass* speed* tectonic* unbalanced force*
	6.8(C), 6.8(D)			average speed* constant speed* distance	motion* speed* time*
Energy	6.8(A), 6.9(C)			chemical energy* convert* elastic potential energy electrical energy* energy conversion energy transformation gravitational potential energy*	kinetic energy* law of conservation of energy light energy* mechanical energy* potential energy* thermal energy*

Sun, Earth, and Moon

8.7 **Earth and space.** The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Rotation and Revolution of the Earth	8.7(A)	equinox solstice		axis* day daylight hours* equator* model* night Northern hemisphere*	orbit* revolve/revolution* rotate/rotation* seasons* Southern hemisphere* tilt*
Lunar Cycle	8.7(B)	eclipse first quarter moon* lunar cycle* third quarter moon*	waning crescent moon* waning gibbous moon* waxing crescent moon* waxing gibbous moon*	full moon* Moon* new moon* pattern	phase* revolve/revolution* sequence
Tides	8.7(C)	daily tides high tide low tide neap tide spring tide		gravity lunar cycle ocean tide*	

Characteristics of the Universe

8.8 **Earth and space.** The student knows characteristics of the universe.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Characteristics of the Universe	8.8(A), 8.8(B), 8.8(C)	absolute magnitude apparent magnitude brightness* electromagnetic spectrum* elliptical galaxy* frequency* galaxy* gamma ray* giant* Hertzsprung-Russell diagram* irregular galaxy*	light wave luminosity* main-sequence star* microwave* Milky Way galaxy* nebulae* radio wave spectral class* spiral galaxy supergiant* wavelength* white dwarf* x-ray*	celestial body* mass* orbit* planet*	star* Sun* surface temperature* universe
	6.11(B)			comet* elliptical orbit* force gravitational attraction*	gravity orbit* solar system unbalanced forces*
Theories of Origins of the Universe	8.8(D)	theory		big bang evidence gravity intelligent design	

Impact of Natural Events

8.9 **Earth and space.** The student knows that natural events can impact Earth systems.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Plate Tectonics	8.9(A), 8.9(B)	Alfred Wegner Continental Drift theory fault* fossil record	Pangea Plate Tectonics theory rift trench	asthenosphere continental crust* convection current convergent boundary* converging plates* crustal features divergent boundary* earthquake* evidence folded mountains*	lithosphere magma mid-ocean ridge* oceanic crust* plate boundary* subduction boundary* subduction zone* tectonic plates* transform boundary* volcanic island*
Topographic Maps	8.9(C)	contour interval* elevation* satellite image* topographic map*		canyon crater* deposition erosion* erosional feature geologic* landform	mountain range* satellite view/photograph* sediment valley weathering
	7.8(C)			aquifer evaporation groundwater* percolate* permeability pollution	porosity precipitation surface water water table* watershed*

Climatic Interactions

8.10 **Earth and space.** The student knows that climatic interactions exist among Earth, ocean, and weather systems.

		important words for concept development			
subcluster	**standards**	**new to grade level**		**previously introduced**	
Atmospheric Movement and Weather	8.10(A), 8.10(B)	coriolis effect easterlies El Niño global winds gulf stream humidity jet stream La Niña	ocean current pressure system (high, low) prevailing wind weather front (cold, warm) weather system westerlies	atmosphere climate conduction convection current energy transformation	radiant energy radiation solar energy thermal energy weather map
Role of Oceans in Weather	8.10(C)	air mass hurricane* ocean current* weather patterns (La Niña, El Niño)		cold front storm system* surface temperature* warm front	

Interdependence of Living Systems

8.11 **Organisms and environments.** The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems.

important words for concept development					
subcluster	**standards**	**new to grade level**		**previously introduced**	
Interdependence	8.11(A)	host parasitism		abiotic factor abundance biotic factor carnivore compete compete competition* ecosystem* herbivore light* niche	nutrient omnivore photosynthesis population predator-prey relationship* soil composition space species* temperature range* water quality*
	7.5(B), 7.10(B)			adaptation* autotrophic biodiversity* ecosystem* energy loss energy pyramid* flow of energy*	food chain food web* genetic variation* heterotrophic species* sustainability* trophic level
Environmental Changes	8.11(B)	long-term environmental change short-term environmental change	subsequent population tolerance	adaptation* biodiversity* camouflage environment	extinct life expectancy* population* trait
	7.10(C)			climax community ecological succession* microhabitat pioneer species	primary succession* secondary succession* species* succession

Interdependence of Living Systems (continued)

8.11 **Organisms and environments.** The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems.

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Dependence on Ocean Systems	8.11(C)	artificial reef fertilizer* phytoplankton*	dependence resource runoff	
Genetics and Heredity	7.11(A), 7.11(C), 7.14(B), 7.14(C)		adaptation* allele asexual reproduction* chromosome* classify/classification* dichotomous key* diverse offspring DNA domestic animal dominant species* environmental change* gene* genetic material* genetically identical* genotype habitat* heterozygous gene	homozygous gene hybrid plant identification key* mutation natural selection nucleus offspring* organism phenotype Punnett Square selective breeding* sexual reproduction* species* structure trait uniform offspring

Interdependence of Living Systems (continued)

8.11 **Organisms and environments.** The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems.

important words for concept development				
subcluster	**standards**	**new to grade level**	**previously introduced**	
Structure and Function	7.12(B), 7.12(D), 7.12(F), 6.12(D)		animalia*	kingdom*
			archaebacteria	metabolic activity
			asexual reproduction	mitochondrion*
			autotrophic*	muscular
			bacteria	nervous
			cell	nucleus*
			cell membrane*	organelle
			cell theory*	physiology
			cell wall	plantae*
			chloroplast*	prokaryotic
			circulatory*	protista
			cytoplasm	reproductive
			digestive*	respiratory*
			endocrine*	Rudolph Virchow*
			eubacteria*	sexual reproduction
			eukaryotic	skeletal
			excretory	structure
			function	taxonomic classification
			fungi*	unicellular*
			heterotrophic*	vacuole*
			integumentary	