SCIENCE WORDS THAT MATTER

Nouns and Verbs in ISBE Stage G—Grades 6-8—Science Performance Descriptors, Classified by the Center for Urban Education at DePaul University

PROCESSES SPECIFIED IN PERFORMANCE DESCRIPTORS

The following verbs are included in the performance descriptors.

To develop this science vocabulary in meaningful ways, students can:
- ✓ *Classify words*
- ✓ *Use words in sentences*
- ✓ *Make their own science glossaries*
- ✓ *Write about a science topic with the words that relate to a standard*

adapt	address	analyze	apply
assess	associate	calculate	carry out
categorize	change	chart	choose
circulate	classify	collect	communicate
compare	complete	conduct	consider
construct	correlate	create	demonstrate
denote	describe	design	determine
diagram	differentiate	display	distinguish
drive	encounter	evaluate	evolve
examine	explain	explore	find
follow	forecast	formulate	function
generate	identify	improve	include
incorporate	influence	interact	interpret
interview	introduce	investigate	map
measure	observe	plot	predict
prepare	present	preview	produce
propose	provide	record	refute
relate	report	represent	search
sketch	suggest	summarize	support
test	trace	visualize	

CONTENT REQUIRED BY PERFORMANCE DESCRIPTORS

The following nouns are listed below the standard for which they appear in the performance descriptors. This set of charts is intended to provide information for teachers about content required by Illinois Learning Standards at upper grade levels.

ILS 11A: Know and apply the concepts, principles, and processes of scientific inquiry.

analysis	applicability	cause-effect premise	conceptual models
consolidation	contextual hypotheses	data	data explanation
data sets	data tables	data-collecting format	direct technologies
equipment	equipment handling directions	explanations	findings
indirect technologies	inquiry hypothesis	inquiry investigation	investigations
materials	measurement	metric units	observations
oral final report	outliers	peer review	physical models
primary reading sources	procedural precautions	procedures	process
proposed hypothesis	qualitative data	quantitative data	questions
range	refinement	remote technologies	research
safety precautions	scale	sources of error	trends
trials	variables	written final report	

ILS 11B: Know and apply the concepts, principles and processes of technological design.

anecdotal observations	comparable simulation materials	conditions	constraints
construction	design	design constraints	design construction
design evaluation report	design stages	engineering principles	entrepreneurial events
historic conditions	historic innovation	historical foundation	historical significance
inventions	logical sequence	model	model testing
original simulation materials	parameters	progression	proportional scale
prototypes	science principles	steps	success criteria
technological design	technological innovation model	tested model	testing logistics

ILS 12A: Know and apply concepts that explain how living things function, adapt and change.

abnormal growth	adaptive functions	animal breeding	applied genetics
biological classification	blood	body	cells
cellular coordination of responses	cellular-to organism interrelationships	changes	competitive advantages
digestion	diversity	drugs	excretion
features	focus	food	forms
function	generations	genetic disorders	genetic factors
genetics	health	history	hormones
humans	inheritance	living things	macro-evolution
micro-evolution	mitotic cell division	natural selection	nervous system
normal growth	organ systems	organisms	organs
oxygen	photosynthesis	physiological systems	plant breeding
principles	reproduction	respiration	simple mathematical probabilities
species	stimulus-response paths	structure	substances
temperature regulation	time periods	tissues	vital functions

ILS 12B: Know and apply concepts that describe how living things interact with each other and with their environment.

biomass relationship	carbon cycle	chemical cycles	climate
consumers	decomposers	ecosystem survival	ecosystems
energy requirements	food chains	food webs	global biomes
groundwater resources	interactive relationships	land-based biomes	meteorological data
mutualism	nitrogen cycle	parasitism	population dynamics
population explosions	population growth rates	population ratios	precipitation
predation	producers	roles	soil
sources of contamination	temperature	water	

ILS 12C: Know and apply concepts that describe properties of matter and energy and the interactions between them.

acids	bases	basic structure	boiling
chemical combinations	chemical properties	chemical states	common solids
compounds	concepts	condensing	connections
density ratios	elemental matter	energy	energy conservation
energy conversions	examples	force	freezing
frequency	heat	heat energy	interactions
irregular solids	kinetic energy state	light	light energy
liquids	loudness	mass	matter
media	medieval alchemists	melting	metals
mixtures	momentum	motion	non-metals
phase changes	pitch	possibilities	potential energy state
power	production	properties	ratios
reflection	regular solids	relationship	representations
representative elements	salts	samples	simple chemical structure models
simple substances	sound	sound energy	volumes

ILS 12D: Know and apply concepts that describe force and motion and the principles that explain them.

acceleration	air resistance	balanced force	circular motion
components of motion	dimensions	directional units	frames of reference
free fall motion	frictional force	inclined motion	laws
Newton's Law of Universal Gravitation	Newton's three laws of motion	principles of mechanics	projectile motion
reference frames	scope of motion	simple machines	situations
speed	straight line motion	theories	time
unbalanced force	variant	velocity	

ILS 12E: Know and apply concepts that describe the features and process of the Earth and its resources.

atmospheric circulation	Continental drift	deposition	Earth
erosion	fresh water	geological features	global features
global weather data	impact	large-scale dynamic forces	large-scale meteorological forces
large-scale oceanographic forces	life zones	minerals	ocean motions
ocean water	origins	quantitative proportions	resources
rocks	solar heating	weather	weathering

12F: Know and apply concepts that explain the composition and structure of the universe and Earth's place in it.

age	asteroids	atmospheric conditions	comets
composition	discoveries	displays	eclipses
events	galactic components	galactic objects	galaxies
global space programs	imaging	imaging displays	magnifications
meteors	moon	moon phases	orbital factors
orbital shapes	orientation	periods of rotation and revolution	planets
positions	relative motions	rise	set
solar system	space	space exploration	sun
surface conditions	surface features	technologies	tides
timeline	tools	universe	views

ILS 13A: Know and apply the accepted practices of science.

biased scientific reasoning	cleaning procedures	creative thinking	creativity
critical thinking	direct investigations	disposal procedures	Earth science
environmental science	ethical care	experimental strategies	faulty scientific reasoning
hazardous chemical combinations	ideas	indirect investigations	insight
intellectual honesty	observational strategies	openness	organism collections
persistence	physical science	practices	principles of safety
reactions	remote investigations	responses	safe transport
science concepts	scientific discoveries	scientific equipment	scientific habits of mind
scientific investigations	scientific reasoning	scientific studies	scientific understanding
scientist	skepticism	skill	space science
storage	strategies	technological improvements	threatening chemical scenarios
tolerance of ambiguity			

ILS 13B: Know and apply concepts that describe the interaction between science, technology and society.

advances	applications of scientific concepts	belief systems	century
economic interactions	economic setting	influences	introduction
job market trends	leaders	life science	methods
multicultural setting	personal biographic information	products	projected technology interventions
rejection	requirements	resource access	resource depletion
scientific technologies	societal setting	society	technological innovations
technology			