

## Scope and Sequence Matrix for Science Concepts

1= First Grade	7= Seventh Grade	PC= Practical Chemistry
2= Second Grade	8= Eighth Grade	C= Chemistry
3= Third Grade	9= Ninth Grade	APC= Advanced Placement Chemistry
4= Fourth Grade	B= Biology	PH= Physics
5= Fifth Grade	APB= Advanced Placement Biology	APPH= Advanced Placement Physics
6= Sixth Grade	HAP= Human Anatomy & Physiology	AST= Astronomy
	PS= Plant Science	
	GEO= Geology	
	MA= Mankind & the Environment	

Life Science

Topic/Concept	K	1	2	3	4	5	6	7	8	9	B	A P B	H A P	P S	M A	P C	C	AP C	PH	AP PH	AST	GEO
<b>Animals</b>																						
Groups				X				X			X	X										
Structure		X						X			X	X										
Physiology	X			X				X			X	X										
Characteristics	X	X		X				X			X	X										
Behavior		X		X				X			X	X										
<b>Plants</b>																	X					
Groups				X				X			X	X		X								
Structure		X	X	X				X			X	X		X								
Physiology			X	X				X			X	X		X								
Characteristics	X		X	X				X			X	X		X								
Behavior	X		X	X				X			X	X		X								
<b>Microbiology</b>																						
The cell								X		X	X	X		X								
Cells – cells, tissues, organs. . .										X	X	X		X								
Structure								X		X	X	X		X								
Physiology										X	X	X										
Response to stimuli										X	X	X										
<b>Evolution</b>																						
Genetics & heredity - DNA									X	X	X	X		X								
Natural selection										X	X	X		X								
<b>Ecology</b>																						
Food webs				X				X				X		X								
Life cycles		X		X				X				X		X								
Populations				X				X			X	X		X	X							



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### Earth Science

Topic/Concept	K	1	2	3	4	5	6	7	8	9	B	AP B	H A P	P S	M A	P C	C	AP C	PH	AP PH	AST	GEO	
<b>Geology</b>																							
Earth materials				X					X	X													X
Earth's interior, mantle, crust									X	X													X
Minerals									X						X								X
Rocks		X																					X
Soils		X																					X
<b>Earth processes</b>																							
Weathering/erosion/deposition										X					X								X
Mountain building									X	X													X
Plate tectonics									X	X		X											X
Glaciers									X														X
Movement: water, wind, waves	X								X	X							X						X
Lakes, rivers										X							X						X
<b>Earth History</b>																							
Geologic time																							X
Energy in the earth system	X																						X
Geologic cycles																							
Fossils and life on earth	X	X								X	X	X											
Evolution of earth											X	X											X
<b>Meteorology</b>																							
Atmosphere	X		X	X						X							X					X	X
Composition										X												X	X
Motion-water cycle			X	X						X					X	X						X	X
Weather										X													
Air masses, fronts, pressure systems, disturbances										X						X							
Precipitation, clouds			X							X													
Mapping, forecasting										X													
<b>Climate</b>																							
Elevation										X													
Latitude				X						X												X	

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### Earth Science – Continued

Topic/Concept	K	1	2	3	4	5	6	7	8	9	B	AP B	H A P	P S	M A	P C	C	AP C	PH	AP PH	AST	GEO
Physical barriers										X												
Location				X						X												
Impact on economy										X												
<b>Astronomy</b>																						
Solar system	X			X					X	X											X	
Sun	X			X					X	X											X	
Moon	X			X					X	X											X	
Planets and other bodies	X			X					X	X											X	
Movement (seasons, time, eclipses)	X			X					X	X									X		X	
Space exploration	X			X					X	X											X	
Stars, galaxies, universe	X			X					X	X											X	
Evolution									X	X									X		X	
Composition									X	X									X		X	
Stellar bodies (Nova, Nebula . . .)									X	X											X	
Constellations	X			X					X	X											X	
<b>Environmental issues</b>																						
Water	X								X	X					X	X						
Oceans	X								X	X												X
Composition				X					X	X												X
Motion				X					X	X												X
Floor				X					X	X												X
Uses				X					X	X												X
Rivers, lakes, PONDS										X												X
Composition										X					X							X
Sedimentation										X												X
Motion										X												X
Bed										X												X
Uses										X					X							X
Soil										X					X	X						
Air										X					X							
<b>Safety</b>		X						X	X	X					X	X			X	X		

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### Physical Science

Topic/Concept	K	1	2	3	4	5	6	7	8	9	B	AP B	H A P	P S	M A	P C	C	AP C	PH	AP PH	AST	GEO
<b>Measurement</b>								X	X	X						X	X	X	X	X		
<b>Physics</b>																						
Energy				X				X	X	X					X		X	X	X	X		
Transfer of energy			X						X	X					X		X	X	X	X		
Conservation of energy									X	X					X		X	X	X	X		
Force and motion			X					X	X										X	X		
Work								X	X										X	X		
Heat									X	X							X	X	X	X		
Thermodynamics										X							X	X	X	X		
Fluids																	X	X	X	X		
Wave properties										X								X	X	X		
Sound										X									X	X		
Light										X								X	X	X		
Optics																			X	X		
Electricity				X						X									X	X		
Magnetism				X						X									X	X		
<b>Chemistry</b>																						
Properties of matter		X						X	X	X		X				X	X	X	X	X		
Atomic structure									X	X	X	X				X	X	X	X	X		
Compounds and mixtures								X	X	X	X	X				X	X	X				
Bonding										X		X					X	X				
Chemical reactions				X				X	X	X						X	X	X				
Formulas of compounds									X	X							X	X				
Periodic Table									X	X						X	X	X				
Reactions and equations									X	X	X						X	X				
Properties of gases									X							X	X	X		X		
Solutions												X					X	X				
Acids, bases, salts									X		X	X			X		X	X				
Equilibrium and kinetics																	X	X		X		
Nuclear science										X					X		X	X	X	X		





