Kettle Moraine Lutheran Federation Science Standards Checklist		x = This core idea is recommended to be part of science instruction for this grade level.								
The suggested grade level for each core idea is not critical. You could make a copy of this checklist for your school and revise the grade levels for the critical ideas that are the best fit for your school's curriculum and instruction schedule.		GRADE LEVEL						Middle School		
	CORE IDEA	K	1	2	3	4	5	6	7	8
ETS	Engineering Design									
ETS1-A	Defining and Delimiting and Engineering Problem									
ETS1-B	Developing Possible Solutions									
ETS1-C	Optimizing the Design Solution									
SCIENCE AND ENGINEERING PRACTICES										
1	Asking Questions and Defining Problems									
2	Developing and Using Models									
3	Planning and Carrying Out Investigations									
5	Analyzing and Interpreting Data									
5	Using Mathematics and Computational Thinking									
6	Constructing Explanations and Designing Solutions									
7	Engaging in Arguments from Evidence									
8	Obtaining, Evaluating and Communicating Information									
CROSSCUTTING CONCEPTS										
1	Patterns									
2	Cause and Effect: Mechanism and Explanation									
3	Scale, Proportion, and Quantity									
4	Systems and System Models									
5	Energy and Matter									
6	Structure and Function									
7	Stability and Change									
	CORE IDEA	K	1	2	3	4	5	6	7	8
Physical Science										
PS1	Matter and Its Interactions									
PS1-A	Structure and Properties of Matter			x			x			
PS1-B	Chemical and Physical Changes and Reactions			x			x			
PS1-C	Nuclear Processes			x			x			
PS1-D	Reversible and Irreversible Changes			x			x			
PS2	Motion and Stability: Forces and Interactions									

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	CORE IDEA	K	1	2	3	4	5	6	7	8
PS2-A	Forces and Motion	x			x					
PS2-B	Types of Interactions	x			x					
PS2-C	Stability and Instability in Physical Systems				x					
PS3	Energy									
PS3-A	Definitions of Energy	x				x	x			
PS3-B	Conservation of Energy and Energy Transfer	x				x				
PS3-C	Relationship Between Energy and Forces					x				
PS3-C	Energy in Chemical Properties and Everyday Life					x				
PS4	Waves and Their Applications in Technologies for Energy Transfer									
PS4-A	Wave Properties		x			x				
PS4-B	Electromagnetic Radiation		x			x				
PS4-C	Information Technologies and Instrumentation					x				
	CORE IDEA	K	1	2	3	4	5	6	7	8
Life Science										
LS1	From Molecules to Organisms: Structures, Functions and Processes									
LS1-A	Structure and Function of Organisms	x	x		x	x	x			
LS1-B	Growth and Development of Organisms					x				
LS1-C	Organization for Matter and Energy Flow in Organisms									
LS1-D	Information Processing by Organisms									
LS2	Ecosystems: Interactions, Energy and Dynamics									
LS2-A	Interdependent Relationships in Ecosystems			x	x		x			
LS2-B	Cycles of Matter and Energy Transfer in Organisms			x						
LS2-C	Ecosystem Dynamics, Functioning, and Resilience									
LS2-D	Social Interactions and Group Behavior									
LS3	Heredity: Inheritance and Variation of Traits									
LS3-A	Inheritance of Traits		x		x					
LS3-B	Variation of Traits				x					

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	CORE IDEA	K	1	2	3	4	5	6	7	8
LS4	Biological Evolution: Unity and Diversity									
LS4-A	Observations of Diversity of Life in Different Habitats			x						
LS4-B	Variations and Survival				x					
LS4-C	Habitat and Survival									
LS4-D	Biodiversity and Humans				x					
	CORE IDEA	K	1	2	3	4	5	6	7	8
Earth and Space Science										
ESS1	Earth's Place in the Universe									
ESS1-A	The Universe and Its Stars		x			x				
ESS1-B	Earth and the Solar System		x							
ESS1-C	The History of Planet Earth									
ESS2	Earth's Systems									
ESS2-A	Earth's Materials and Systems						x			
ESS2-B	Plate Tectonics and Large-Scale System Interactions	x			x		x			
ESS2-C	The Roles of Water in Earth's Surface Properties			x						
ESS2-D	Weather and Climate									
ESS2-E	Bio geology - The Relationship Between Organisms and Their Environment									
ESS3	Earth and Human Activity									
ESS3-A	Natural Resources	x			x		x			
ESS3-B	Natural Hazards	x			x					
ESS3-C	Human Impacts on Earth Systems									
ESS3-D	Global Climate Change									