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## 8th Grade Science Pacing Guide 18-19

2.0 TARGET	3.0 TARGET	4.0 TARGET	Cannot be extended	T1	T2	T3
<b>Unit 1</b>						
Develop and/or use a partially accurate model, with written explanation, to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.	<b>ESS2-6: Develop and use a model, with written explanation, to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.</b>	Develop detailed model(s) to illustrate the atmospheric circulation, oceanic circulation, and/or solar intensity of a given region and explain how these patterns have caused changes in regional climates.		X		
Analyze and interpret data, with some errors, on natural hazards to develop a claim supported by evidence to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	<b>ESS3-2: Analyze and interpret data on natural hazards to develop a claim supported by evidence to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</b>	Analyze and interpret complex data to identify the specific characteristics and causes of future catastrophic events.		X		
<b>Unit 2</b>						
Analyzes and interprets data with some errors for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.	<b>LS4-1: Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.</b>	Analyze and interpret complex data sets or methods to determine the age of different fossils.		X		
Analyzes similarities and differences among modern organisms and fossil organisms with major errors or cannot infer relationships.	<b>LS4-2: Apply scientific ideas to construct a written explanation for similarities and differences among modern organisms and fossil organisms to infer relationships.</b>	Analyze specific morphological changes in organisms to clearly demonstrate a link between fossils and modern organisms.			X	
<b>Unit 3: Trait Changes</b>						
Construct a written explanation based on evidence with some errors that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	<b>LS4-4: Construct a written explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.</b>	Construct a written explanation of specific methods of adaption producing genetic variation within a population.			X	
Gather and synthesize information in writing about the technologies that have changed the way humans influence the inheritance of desired traits in organisms with some inaccuracies.	<b>LS4-5: Gather and synthesize information in writing about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.</b>	Demonstrates an exceptional understanding of advanced technologies, the mechanisms in which they work, and the way they've influenced the inheritance of traits.			X	
<b>Unit 4: Changes in Population and Human Impact</b>						
Identify the factors that can cause a rise in global temperatures.	<b>ESS3-5: Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.</b>	Explain how the molecular structures of greenhouse gases influence thermodynamics in Earth's atmosphere				X
Construct a written argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations with some inaccuracies.	<b>LS2-4: Construct a written argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.</b>	Construct an argument based on student collected empirical evidence that illustrates how potential changes to physical or biological components of ecosystems affect populations.				X
Apply scientific principles to design a partially effective method for monitoring human impact on the environment, and explain, with some inaccuracy, how the principles aided in the design.	<b>ESS3-3: Apply scientific principles to design a method for monitoring human impact on the environment, and explain how the principles aided in the design.</b>	Design and implement a method for monitoring/reducing personal human impact over a period of time				X
<b>Science Literacy</b>						
See Rubric	Read closely to determine the central idea of the text and make logical inferences; cite specific textual evidence when writing or speaking to support conclusions drawn from texts.	Not Extendable	X	X		
See Rubric	Compare and/or contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	Not Extendable	X	X	X	
See Rubric	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	Not Extendable	X		X	X