

Component Idea	Scope	Performance Expectation (PE)	Disciplinary Core Idea (DCI)	Science and Engineering Practice(s) (SEP)	Crosscutting Concepts (CCC)
PS1: Matter and Its Interactions					
 Structure and Properties of Matter Chemical Reactions	Properties and States of Matter	2-PS1-1	PS1.A	Planning and Carrying Out Investigations	Patterns
	Properties of Materials	2-PS1-2 2-PS1-3	PS1.A	Analyzing and Interpreting Data	Energy and Matter Cause and Effect
	Building Blocks of Matter	2-PS1-3	PS1.A	Constructing Explanations and Designing Solutions	Energy and Matter
	Changes from Heat	2-PS1-4	PS1.B	Engaging in Argument from Evidence	Cause and Effect
LS2: Ecosystems: Interactions, Energy, and Dynamics					
 Interdependent Relationships in Ecosystems Biodiversity and Humans	What Plants Need	2-LS2-1	LS2.A	Planning and Carrying Out Investigations	Cause and Effect
	Animal and Plant Dependence	2-LS2-2	LS2.A	Developing and Using Models	Structure and Function
	Diversity of Living Things	2-LS4-1	LS4.D	Planning and Carrying Out Investigations	none
ESS1: Earth's Place in the Universe					
 The History of Planet Earth	Quick Changes to Land	2-ESS1-1	ESS1.C	Constructing Explanations and Designing Solutions	Stability and Change
	Slow Changes to Land	2-ESS1-1	ESS1.C	Constructing Explanations and Designing Solutions	Stability and Change

STEMscopes Overview of 5E + IA Lesson Format

Scope Sections	My Scope: Effects of Wind and Water
ESSENTIALS <ul style="list-style-type: none"> • Overview of the Scope for Lesson Planning 	
ENGAGE <ul style="list-style-type: none"> • How the teacher will capture students' interest. • What kind of questions should the students ask themselves after the engagement? • 10 to 20 minutes depending on the activity 	
EXPLORE <ul style="list-style-type: none"> • What hands-on/minds-on activities students will be doing • What "big idea" conceptual questions the teacher will use to encourage and/or focus students' exploration? • 30 to 60 minutes depending on the activity (if the activity is observing changes over time, such as a life cycle, Exploration may occur over several class periods for short time intervals) 	
EXPLAIN <ul style="list-style-type: none"> • What vocabulary will be introduced and how will it connect to students' observations? • What questions or techniques will the teacher use to help students connect their exploration to the concept under examination? • What higher order thinking questions will be used to solicit <i>student</i> explanations and help them to focus throughout the unit and justify their explanations? • 15 to 30 minutes depending on the activities 	
ELABORATE <ul style="list-style-type: none"> • How students will develop a more sophisticated understanding of the concept? • How is this knowledge applied in our daily lives? • What Tier 2 Supplemental and Targeted Interventions are planned? • 30 to 60 minutes depending on the activities 	
EVALUATE <ul style="list-style-type: none"> • How will students demonstrate that they have achieved the lesson objective? • What Tier 3 Supplemental and Targeted Interventions are planned? • 30 to 60 minutes depending on the activities 	
INTERVENTION <ul style="list-style-type: none"> • When additional support is needed to gain mastery • Useful for tutoring, remediation, small group review 	
ACCELERATION <ul style="list-style-type: none"> • When instructional time provides for added opportunities for learning and enrichment in the content • For students who finish early or want more challenges 	
ALL <ul style="list-style-type: none"> • Overview of all components in one location 	

NGSS Elementary Scope List



Kindergarten	First Grade	Second Grade
<p>K: Storyline 1: Humans and The Needs of Organisms</p> <ul style="list-style-type: none"> • Animal Needs • Plant Needs • Reducing Human Impact <p>K: Storyline 2: Dealing with Weather</p> <ul style="list-style-type: none"> • Weather Conditions • Measurement of Weather • Weather Hazards <p>K: Storyline 3: Living Things and Their Habitats</p> <ul style="list-style-type: none"> • Habitats • Organisms' Impact on Environments • Uses of Natural Resources <p>K: Storyline 4: Using Force to Change Motion</p> <ul style="list-style-type: none"> • Pushes and Pull • Speed and Direction <p>K: Storyline 5: Using Sunlight</p> <ul style="list-style-type: none"> • Energy from the Sun 	<p>1: Storyline 1: Design From Nature</p> <ul style="list-style-type: none"> • Parts of Animals • Parts of Plants • Plant Survival • Animal Survival <p>1: Storyline 2: Parents and Their Offspring</p> <ul style="list-style-type: none"> • Protecting the Young • Animal Trait Inheritance and Variation • Plant Trait Inheritance and Variation <p>1: Storyline 3: Patterns in the Sky</p> <ul style="list-style-type: none"> • Seasonal Patterns • Patterns in Space <p>1: Storyline 4: Communicating with Waves</p> <ul style="list-style-type: none"> • Sound • Behavior of Light • Communication 	<p>2: Storyline 1: Organisms: Needs and Interactions</p> <ul style="list-style-type: none"> • What Plants Need • Animal and Plant Dependence • Diversity of Living Things <p>2: Storyline 2: Dealing With Changes to Earth</p> <ul style="list-style-type: none"> • Quick Changes to Land • Slow Changes to Land • Effects of Wind and Water <p>2: Storyline 3: Mapping Land and Water</p> <ul style="list-style-type: none"> • Mapping Our World • Forms of Water on Earth <p>2: Storyline 4: Selecting and Using Materials in the Design Process</p> <ul style="list-style-type: none"> • Properties and States of Matter • Properties of Materials • Building Blocks of Matter • Changes from Heat

Third Grade	Fourth Grade	Fifth Grade
<p>3: Storyline 1: Lifestyles of Animals</p> <ul style="list-style-type: none"> • Life Cycles • Social and Group Behavior <p>3: Storyline 2: Effects on Organisms of Changing Environments</p> <ul style="list-style-type: none"> • Inheritance and Variation of Traits • Environmental Traits • Adaptations • Environmental Changes and Effects <p>3: Storyline 3: Organisms Change Over Time</p> <ul style="list-style-type: none"> • Plant and Animal Extinction • Fossils • Survival of the Fittest <p>3: Storyline 4: Dealing With Hazardous Weather Worldwide</p> <ul style="list-style-type: none"> • Weather and Climate • Processes and Impacts of Natural Hazards <p>3: Storyline 5: Using Magnets to Move Objects</p> <ul style="list-style-type: none"> • Objects and Motion • Electric and Magnetic Forces 	<p>4: Storyline 1: Plants and Animals Sensing and Interacting</p> <ul style="list-style-type: none"> • Plant and Animal Parts • Sense Receptors <p>4: Storyline 2: Changes Over Time to The Earth's Surface</p> <ul style="list-style-type: none"> • Rock Patterns • Changing Land • Plants' Effect on Regions • Plate Tectonics <p>4: Storyline 3: Using Earth's Resources</p> <ul style="list-style-type: none"> • Renewable and Nonrenewable Resources • Natural Processes <p>4: Storyline 4: Using Energy Transformations</p> <ul style="list-style-type: none"> • Transfer of Energy in Collision • Energy and Collision • Energy and Speed • Chemical Processes • Energy and Electric Current <p>4: Storyline 5: Communicating Using Wave Energy</p> <ul style="list-style-type: none"> • Motion of Waves • Wavelength and Amplitude • Light Reflection • Information Technologies 	<p>5: Storyline 1: Organisms Use of Matter and Energy</p> <ul style="list-style-type: none"> • Matter and Energy in Plants • Food Webs • Matter Cycles • Ecosystems • Energy Transfer • Basic Needs <p>5: Storyline 2: Observations of Patterns in Objects in the Sky</p> <ul style="list-style-type: none"> • Observing the Stars • Objects in the Sky • Earth's Rotation <p>5: Storyline 3: Human Impact on the Earth's Systems</p> <ul style="list-style-type: none"> • Earth's Systems Interactions • Earth's Systems • Water Sources • Human Footprint • Reducing Human Footprint <p>5: Storyline 4: Interactions in Matter</p> <ul style="list-style-type: none"> • Matter Is Everywhere • Matter Changing States • Properties of Matter • Mixtures <p>5: Storyline 5: The Force of Gravity</p> <ul style="list-style-type: none"> • Gravity