

### GSE Science 4<sup>th</sup> Grade Pacing Guide

These are bundles of core ideas from the Georgia Standards of Excellence for Fourth Grade related to an anchoring phenomenon.

This document is part of a framework that includes lessons and resources.

Instructional Segment:	Weather and Moon Phases	Stars, Planets, and Moon	Forecasting the Weather	Role of Organisms and Flow of Energy	Light and Sound	Force and Motion
<b>Estimated Time</b>	4 week intro and then All Year	7 weeks	7 weeks	7 weeks	4 weeks	7 weeks
<b>Crosscutting Concepts</b>	<ul style="list-style-type: none"> <li>● Patterns</li> <li>● Cause and Effect</li> <li>● Systems and System Models</li> </ul>	<ul style="list-style-type: none"> <li>● Patterns</li> <li>● Systems and System Models</li> <li>● Scale, Proportion, and Quantity</li> </ul>	<ul style="list-style-type: none"> <li>● Patterns</li> <li>● Energy and Matter</li> <li>● System and System Models</li> </ul>	<ul style="list-style-type: none"> <li>● Energy and Matter</li> <li>● Structure and Function</li> </ul>	<ul style="list-style-type: none"> <li>● Energy and Matter</li> </ul>	<ul style="list-style-type: none"> <li>● Energy and Matter</li> <li>● Cause and Effect</li> </ul>
<b>Anchoring Phenomenon</b>	<ul style="list-style-type: none"> <li>● <a href="#">What is the International Space Station?</a></li> <li>● <a href="#">International Space Station</a></li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">Where is the edge of the Solar System?</a></li> <li>● <a href="#">SpaceX CRS-12 Launches to the ISS</a></li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">What is Weather like in Space?</a></li> <li>● <a href="#">NOAA's GOES-16 Satellite Sends 1st Images from Space</a></li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">Eating on the Space Station</a></li> <li>● <a href="#">Dessert in Space</a></li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">Gazing at Earth's Light Show</a></li> <li>● Light Language – look at picture of a reflection in water</li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">Small Rube Goldberg Machines</a></li> <li>● Dream of a world without machines - activity</li> </ul>
<b>Core Ideas</b>	<ul style="list-style-type: none"> <li>● Cloud formation</li> <li>● Weather Instruments</li> <li>● Moon phases</li> </ul>	<ul style="list-style-type: none"> <li>● Technological advances for space</li> <li>● Stars</li> <li>● Planets</li> <li>● Moon Phases</li> <li>● Earth's orbit and tilt</li> <li>● Light refraction</li> </ul>	<ul style="list-style-type: none"> <li>● States of water</li> <li>● Water cycle</li> <li>● Weather instruments</li> <li>● Weather maps</li> <li>● Cloud types</li> <li>● Weather and climate</li> </ul>	<ul style="list-style-type: none"> <li>● Ecosystems</li> <li>● Food chains/ webs</li> <li>● Changes impacting ecosystems</li> <li>● Scarcity, extinction, overabundance</li> </ul>	<ul style="list-style-type: none"> <li>● Opaque, transparent, translucent</li> <li>● Reflection</li> <li>● Refraction</li> <li>● Strength and speed of sound vibration</li> <li>● Communication device</li> </ul>	<ul style="list-style-type: none"> <li>● Balanced and unbalanced forces</li> <li>● Gravitational force</li> <li>● Simple machines</li> </ul>
<b>Science and Engineering Practices</b>	<ul style="list-style-type: none"> <li>● Asking questions</li> <li>● Analyzing and interpreting data</li> <li>● Constructing explanations</li> <li>● Obtaining, evaluating, and communicating</li> <li>● Developing and using models</li> </ul>	<ul style="list-style-type: none"> <li>● Asking questions</li> <li>● Developing and using models</li> <li>● Constructing explanations</li> <li>● Engaging in argument from evidence</li> <li>● Obtaining, evaluating, and communicating</li> </ul>	<ul style="list-style-type: none"> <li>● Ask questions</li> <li>● Analyzing and interpreting data</li> <li>● Constructing explanations</li> <li>● Obtaining, evaluating, and communicating</li> <li>● Developing and using models</li> <li>● Planning and carrying out investigations</li> </ul>	<ul style="list-style-type: none"> <li>● Asking questions and defining problems</li> <li>● Developing and using models</li> <li>● Constructing explanations and designing solutions</li> <li>● Obtaining, evaluating, and communicating</li> </ul>	<ul style="list-style-type: none"> <li>● Asking questions</li> <li>● Developing and using models</li> <li>● Planning and carrying out investigations</li> <li>● Designing solutions</li> <li>● Obtaining, evaluating, and communicating</li> </ul>	<ul style="list-style-type: none"> <li>● Asking questions and defining problems</li> <li>● Constructing an argument from evidence</li> <li>● Developing and using models</li> <li>● Analyzing and interpreting data</li> <li>● Obtaining, evaluating, and communicating</li> </ul>
<b>GSE</b>	S4E2b; S4E4a, c	S4E1a, b, c, d; S4E2a, b, c; S4P1c	S4E3a, b; S4E4a, b, c, d	S4L1a, b, c, d	S4P1a, b, c; S4P2a, b	S4P3a, b, c