



**Cherokee County School District
Science Georgia Standards of Excellence
Physical Science Pacing Guide**

Instructional Segment	Introduction	Properties of Matter	Reactions	Energy	Force and Motion	Waves	Energy Capstone
GSE Standards	ALL	SPS1a,b,c; SPS2a,b,c; SPS7a	SPS5a,b; SPS3a,b; SPS6a,b,c,d,e; SPS7a	SPS4a,b,c; SPS10a,b,c; SPS7a,b,c,d	SPS7a; SPS8a,b,c,d	SPS7a; SPS9a,b,c,d,e	ALL
Est Time	1st Semester			2nd Semester			
Core Ideas	ALL	<ul style="list-style-type: none"> • Structure of atoms and elements • Trends in the Periodic Table • Compounds: properties, bonds and naming 	<ul style="list-style-type: none"> • Atomic and molecular motion • Conservation of matter • Solutions • Acids and bases 	<ul style="list-style-type: none"> • Heat energy • Electricity and magnetism • Nuclear energy • Fission and fusion • Radioactive decay • Energy transformations 	<ul style="list-style-type: none"> • Forces and motion • Newton's laws • Simple machines • Gravitational force • Energy 	<ul style="list-style-type: none"> • Electromagnetic and mechanical waves • Reflection, refraction, interference, and diffraction • Doppler effect • Energy 	ALL
Year-Long Phenomenon	Operation of a car or rocket.						
Anchoring Phenomenon	Operation of a car or rocket	Elements and compounds to make a car or rocket operate Standard Heat of Formation	Changes in altitude affect gases, resulting in surprising effects Universal Gas Law	Turning on your classroom lights requires many transformations of energy Energy Conversion	Car stop - seatbelts and airbags Momentum and Impulse	Doppler Effect Doppler Effect	Model and explain the operation of a car or rocket
Obtain, Evaluate, & Communicate							

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Science and Engineering Practices	<ul style="list-style-type: none"> Plan and carry out investigations Ask questions Develop and use models 	<ul style="list-style-type: none"> Develop and use models Analyze and interpret data Construct explanations 	Plan and carry out investigations Develop and use models <ul style="list-style-type: none"> Ask questions and design problems Analyze and interpret data Construct explanations 	<ul style="list-style-type: none"> Develop and use models Use mathematical and computational thinking Engage in argument from evidence Construct explanations Analyze and interpret data Plan and carry out investigations 	<ul style="list-style-type: none"> Plan and carry out investigations Construct explanations Analyze and interpret data Use mathematical and computational thinking 	<ul style="list-style-type: none"> Analyze and interpret data Ask questions Develop and use models Construct explanations 	ALL
Crosscutting Concepts	ALL	<ul style="list-style-type: none"> Structure and function Patterns Scale, proportion and change Energy and matter 	<ul style="list-style-type: none"> Energy and matter Stability and change Energy and matter 	<ul style="list-style-type: none"> Energy and matter Systems and system models Stability and change Energy and matter 	<ul style="list-style-type: none"> Cause and effect Systems and system models Stability and change Energy and matter 	<ul style="list-style-type: none"> Patterns Energy and matter 	<ul style="list-style-type: none"> Systems and system models Cause and effect Energy and matter