

**Bullet Point Key**

⇒ = In Progress

✓ = Complete

☒ = Not Completed

**Physical Science 2019-20 Instructional Calendar**This chart lists the VA SOL for 8<sup>th</sup> Grade Physical Science and the units into which they are integrated by GVMS.

<b>Unit:</b> 1  <b>Dates:</b> 8/26-9/27	<b>PS.1 Scientific Investigation</b> ✓ a) chemicals & equipment are used safely; (Tested 8/29) ✓ b) length, mass, volume, density, temperature, weight, and force are accurately measured; (Tested 9/27) ✓ c) conversions are made among metric units, applying appropriate prefixes; (Tested 9/27) ✓ d) triple beam and electronic balances, thermometers, metric rulers, graduated cylinders, probe ware, spring scales are used to gather data; (Tested 9/27) <b>PS.2 The Nature of Matter</b> ✓ a) the particle theory of matter; (Tested 9/27) ✓ b) elements, compounds, mixtures, acids, bases, and salts; (Tested 9/27) ✓ c) solids, liquids, and gases; (Tested 9/27) ✓ d) physical properties; (Tested 9/27) ✓ e) chemical properties; (Tested 9/27) ✓ f) characteristics of types of matter based on physical and chemical properties (Tested 9/27)
<b>Unit:</b> 2  <b>Dates:</b> 9/30-10/8	<b>PS.1 Scientific Investigation</b> ✓ m) models and simulations are constructed and used to illustrate and explain phenomena; (Tested 10/8) <b>PS.3 Atoms &amp; Atomic Theory</b> ✓ a) the contributions of Dalton, Thomson, Rutherford, and Bohr in understanding the atom; (Tested 10/8) ✓ b) modern model of atomic structure (Tested 10/8)
<b>Unit:</b> 2  <b>Dates:</b> 10/9-11/15	<b>PS.4 The Periodic Table</b> ✓ a) symbols, atomic number, atomic mass, chemical families (groups), and periods; (Tested 10/22 and 11/15) ✓ b) classification of elements as metals, metalloids, and nonmetals; (Tested 10/22) ✓ c) formation of compounds through ionic and covalent bonding (Tested 11/15)
<b>Unit:</b> 3  <b>Dates:</b> 11/18-12/12	<b>PS.5 Changes in Matter &amp; Energy</b> ✓ a) physical changes; (Tested 12/12) ✓ b) chemical changes; (Tested 12/12) ✓ c) nuclear reactions (Tested 12/12)
<b>Unit:</b> 4  <b>Dates:</b> 12/13-1/17	<b>PS.6 States &amp; Forms of Energy</b> ✓ a) potential and kinetic energy; (Tested 1/10) ✓ b) mechanical, chemical, electrical, thermal, radiant and nuclear energy (Tested 1/27)
<b>Unit:</b> 4  <b>Dates:</b> 1/22-2/12	<b>PS.1 Scientific Investigation</b> ✓ n) current applications of physical science concepts are used (Tested 2/12) <b>PS.7 Transfer of Thermal Energy</b> ✓ a) Celsius and Kelvin temperature scales and absolute zero; (Tested 2/12) ✓ b) phase change, freezing point, melting point, boiling point, vaporization, and condensation; (Tested 2/12) ✓ c) conduction, convection, and radiation; (Tested 2/12) ✓ d) applications of thermal energy transfer (Tested 2/12)
<b>Unit:</b> 5  <b>Dates:</b> 2/13-TBD	<b>PS.1 Scientific Investigation</b> ✓ n) current applications of physical science concepts are used (Tested 2/21) <b>PS.10 Principles of Work, Force &amp; Motion</b> ✓ a) speed, velocity, and acceleration; (Tested 2/21) ✓ b) Newton's laws of motion; (Tested 3/5) ⇒ c) work, force, and power ** (Tested 3/13) mechanical advantage, efficiency; ☒ d) technological applications of work, force, and motion

The assessment for Work, Force and Power (PS.10 c) took place on Friday, March 13. Grades have been posted for students who took the assessment. Students who were absent will complete the assessment on a date to be determined.

<p><b>Unit:</b> 6</p> <p><b>Dates:</b> TBD</p>	<p><b>PS.1 Scientific Investigation</b>  <input checked="" type="checkbox"/> n) current applications of physical science concepts are used.</p> <p><b>PS.8 The Nature of Sound</b>  <input checked="" type="checkbox"/> a) wavelength, frequency, speed, amplitude, rarefaction, and compression;  <input checked="" type="checkbox"/> b) resonance;  <input checked="" type="checkbox"/> c) the nature of compression waves; and  <input checked="" type="checkbox"/> d) technological applications of sound</p>
<p><b>Unit:</b> 6</p> <p><b>Dates:</b> TBD</p>	<p><b>PS.1 Scientific Investigation</b>  <input checked="" type="checkbox"/> e) numbers are expressed in scientific notation where appropriate;  <input checked="" type="checkbox"/> n) current applications of physical science concepts are used.</p> <p><b>PS.9 The Nature of Light</b>  <input checked="" type="checkbox"/> a) wavelength, frequency, speed, amplitude, crest, and trough;  <input checked="" type="checkbox"/> b) the wave behavior of light;  <input checked="" type="checkbox"/> c) images formed by lenses and mirrors;  <input checked="" type="checkbox"/> d) the electromagnetic spectrum; and  <input checked="" type="checkbox"/> e) technological applications of light.</p>
<p><b>Unit:</b> 7</p> <p><b>Dates:</b> TBD</p>	<p><b>PS.11 Electricity and Magnetism</b>  <input checked="" type="checkbox"/> a) static electricity, current electricity, and circuits;  <input checked="" type="checkbox"/> b) relationship between a magnetic field and an electric current;  <input checked="" type="checkbox"/> c) electromagnets, motors, and generators and their uses.; and  <input checked="" type="checkbox"/> d) conductors, semiconductors, and insulators.</p>
<p><b>Unit:</b> <b>All Lab Activities</b></p> <p><b>Dates:</b> Year-long</p>	<p><b>PS.1 Scientific Investigation</b>      ⇒ f) independent and dependent variables, constants, controls, and repeated trials are identified;      ⇒ g) data tables showing the independent and dependent variables, derived quantities, and the number of trials are constructed and interpreted;      ⇒ h) data tables for descriptive statistics showing specific measures of central tendency, the range of the data set, and the number of repeated trials are constructed and interpreted;      ⇒ frequency distributions, scatter plots, line plots, and histograms are constructed and interpreted;      ⇒ j) valid conclusions are made after analyzing data;      ⇒ k) research methods are used to investigate practical problems and questions;      ⇒ l) experimental results are presented in appropriate written form;</p>