

Approved Facility Schools
Appendix 1
Science Connections to Common Core State Standards
Grade 6-8 Physical Science

ELA/Literacy:

- **RST.6-8.1** Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions (MS-PS1-2) (MS- PS1-3) (MS-PS2-1) (MS-PS2-3) (MS-PS3-1) (MS-PS3-5) (MS-PS4-3)
- **RST.6-8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (MS-PS4-3)
- **RST.6-8.3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. (MS-PS1-6) (MS-PS2-1) (MS-PS2-2) (MS-PS2- 5) (MS-PS3-3) (MS-PS3-4)
- **RST.6-8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). (MS-PS1-1) (MS-PS1-2) (MS-PS1-4) (MS-PS1-5) (MS-PS3-1) (MS-PS3-3) (MS-PS3-4)
- **RST.6-8.9** Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. (MS-PS4-3) (MS-PS4-3)
- **WHST.6-8.1** Write arguments focused on discipline-specific content. (MS-PS2-4) (MS-PS3-5)
- **WHST.6-8.7** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. (MS-PS1-6) (MS-PS2-1) (MS-PS2-2) (MS-PS2-5)
- **WHST.6-8.8** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. (MS-PS1-3)
- **SL.8.5** Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. (MS-PS3-2) (MS-PS4-1) (MS-PS4-2)

Mathematics:

- **MP.2** Reason abstractly and quantitatively. (MS-PS1-1) (MS-PS1-2) (MS-PS1-5) (MS-PS2-1) (MS-PS2-2) (MS-PS2-3) (MS-PS3-1) (MS-PS3-4) (MS-PS3-5) (MS-PS4-1)
- **MP.4** Model with mathematics. (MS-PS1-1) (MS-PS1-5) (MS-PS4-1)
- **6.RP.A.1** Understand the concept of ratio and use ratio language to describe a ratio relationship between two quantities. (MS-PS3-1) (MS-PS3-5) (MS-PS4-1)

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- **6.RP.A.2** Understand the concept of a unit rate a/b associated with a ratio $a:b$ with b not equal to 0, and use rate language in the context of a ratio relationship. (MS-PS3-1)
- **6.RP.A.3** Use ratio and rate reasoning to solve real-world and mathematical problems. (MS-PS1-1) (MS-PS1-2) (MS-PS1-5) (MS-PS4-1)
- **7.RP.A.2** Recognize and represent proportional relationships between quantities. (MS-PS3-1) (MS-PS3-5) (MS-PS4-1)
- **6.NS.C.5** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. (MS-PS1-4) (MS-PS2-1)
- **6.SP.B.4** Display numerical data in plots on a number line, including dot plots, histograms, and box plots. (MS-PS1-2)
- **6.SP.B.5** Summarize numerical data sets in relation to their context (MS-PS1-2) (MS-PS3-4)
- **6.EE.A.2** Write, read, and evaluate expressions in which letters stand for numbers. (MS-PS2-1) (MS-PS2-2)
- **7.EE.B.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. (MS-PS2-1) (MS-PS2-2)
- **7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. (MS-PS2-1) (MS-PS2-2)
- **8.EE.A.1** Know and apply the properties of integer exponents to generate equivalent numerical expressions. (MS-PS3-1)
- **8.EE.A.2** Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational. (MS-PS3-1)
- **8.EE.A.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. (MS-PS1-1)
- **8.F.A.3** Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. (MS-PS3-1) (MS-PS3-5) (MS-PS4-1)