





Curriculum Grid

Objective Number	NGSS Grade 6-8  = Fully covered  = Partially covered	Activities													Problem-Solving Activities					
		Sweeper	Fishing Rod	Freewheeling	The Hammer	Trundle Wheel	Letter Balance	Click-Clock	Windmill	Land Yacht	Flywheeler	Power Car	Dragster	The Walker	Dogbot	Uphill Struggle	The Magic Lock	Stamping Letters	Beaten	The Lifter
Disciplinary Core Ideas: Physical Science																				
1	MS-PS2 Motion and Stability: Forces and Interactions																			
2	MS-PS3 Energy																			
Crosscutting Concepts																				
1	Patterns																			
2	Cause and effect																			
3	Scale, proportion, and quantity																			
4	Systems and system models																			
5	Energy and matter																			
6	Structure and Function																			
7	Stability and change																			
Science and Engineering Practices																				
1	Asking questions and Defining Problems																			
2	Developing and using models																			
3	Planning and carrying out investigations																			
4	Analyzing and interpreting data																			
5	Using mathematics, Informational and Computer Technology, and computational thinking																			
6	Constructing explanations and designing solutions																			
7	Engaging in argument from evidence																			
8	Obtaining, evaluating, and communicating information																			

Objective Number	Common Core Mathematics Standards Grade 6-8 ● = Fully covered ◐ = Partially covered	Activities												Problem-Solving Activities							
		Sweeper	Fishing Rod	Freewheeling	The Hammer	Trundle Wheel	Letter Balance	Click-Clock	Windmill	Land Yacht	Flywheeler	Power Car	Dragster	The Walker	Dogbot	Uphill Struggle	The Magic Lock	Stamping Letters	Beaten	The Lifter	The Bat
Mathematical Practice																					
MP1	Make sense of problems and persevere in solving them	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP2	Reason abstractly and quantitatively	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP3	Construct viable arguments and critique the reasoning of others	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP4	Model with mathematics	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP5	Use appropriate tools strategically	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP6	Attend to precision	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP7	Look for and make use of structure	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
MP8	Look for and express regularity in repeated reasoning	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Ratios & Proportional Relationships																					
6.RPA	Understand ratio concepts and use ratio reasoning to solve problems	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
7.RPA	Analyze proportional relationships and use them to solve real-world and mathematical problems	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
The Number System																					
6.NS.B	Compute fluently with multi-digit numbers and find common factors and multiples	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6.NS.C	Apply and extend previous understandings of numbers to the system of rational numbers	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
7.NS.A	Apply and extend previous understandings of operations with fractions	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Expressions & Equations																					
6.EE.A	Apply and extend previous understandings of arithmetic to algebraic expressions	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
6.EE.B	Reason about and solve one-variable equations and inequalities	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
6.EE.C	Represent and analyze quantitative relationships between dependent and independent variables	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
7.EE.A	Use properties of operations to generate equivalent expressions	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
7.EE.B	Solve real-life and mathematical problems using numerical and algebraic expressions and equations	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8.EE.B	Understand the connections between proportional relationships, lines, and linear equations	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8.EE.C	Analyze and solve linear equations and pairs of simultaneous linear equations	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Geometry																					
6.G.A	Solve real-world and mathematical problems involving area, surface area, and volume			◐						◐	◐	◐	◐								
7.G.A	Draw, construct, and describe geometrical figures and describe the relationships between them	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
7.G.B	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Function																					
8.FA	Define, evaluate, and compare functions	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
8.FB	Use functions to model relationships between quantities	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Statistics & Probability																					
6.SPA	Develop understanding of statistical variability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6.SPB	Summarize and describe distributions	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
8.SPA	Investigate patterns of association in bivariate data	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐

Objective Number	Common Core English Language Arts Grade 6-8  = Fully covered  = Partially covered	Activities													Problem-Solving Activities					
		Sweeper	Fishing Rod	Freewheeling	The Hammer	Trundle Wheel	Letter Balance	Click-Clock	Windmill	Land Yacht	Flywheeler	Power Car	Dragster	The Walker	Dogbot	Uphill Struggle	The Magic Lock	Stamping Letters	Beaten	The Lifter
Speaking and Listening																				
SL 6.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly																			
SL 6.2	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study																			
SL 6.3	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not																			
SL 6.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation																			
SL 6.5	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information																			
SL 6.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 for specific expectations.)																			
SL 7.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly																			
SL 7.2	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study																			
SL 7.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence																			
SL 7.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation																			
SL 7.5	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points																			
SL 7.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 here for specific expectations.)																			
SL 8.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly																			
SL 8.2	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation																			
SL 8.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced																			
SL 8.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation																			
SL 8.5	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest																			
SL 8.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 here for specific expectations.)																			

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Reading Standards for Literacy in Science and Technical																				
RST 6-8.1	Cite specific textual evidence to support analysis of science and technical texts	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
RST 6-8.3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RST 6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RST 6-8.8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
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	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Writing Standards for Literacy in History/Social Studies, Science, & Technical Subjects																				
WHST 6-8.1	Write arguments focused on discipline-specific content	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WHST 6-8.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
WHST 6-8.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
WHST 6-8.5	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
WHST 6-8.6	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
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	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WHST 6-8.9	Draw evidence from informational texts to support analysis, reflection, and research	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WHST 6-8.10	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐