Integrating EbD™, The Common Core Standards, and The Standards for Technological Literacy

MIDDLE SCHOOL

KEY

4 = Benchmark must be covered in detail, lessons and assessments cover this content
3 = Benchmark is covered, but topics and lessons do not center on them
2 = Topics and lessons refer to previous knowledge and integrate content covered
1 = Topics and lessons refer to previous knowledge

		STL	Exploring Technology	Invention & Innovation	Technological Systems
English Language Arts Standards » Science & Technical Subjects					
RST 6-8	**Science & Technical Subjects » Grades 6-8**				
	Key Ideas and Details				
1	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	11.I	3	4	
2	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	11.I	3	4	
3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	9.F	4	3	
	Craft and Structure				
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.		4	4	4
5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.				
6	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	11.I	3	4	
	Integration of Knowledge and Ideas				
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).	11.L	4	3	3
8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	11.I		3	
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.	13.I	3		4
	Range of Reading and Level of Text Complexity				
10	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.				4
English Language Arts Standards » Writing					
WHST 6-8	**Writing » Grades 6-8**				
	Text Types and Purposes				
1	Write arguments focused on discipline-specific content. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. Establish and maintain a formal style. Provide a concluding statement or section that follows from and supports the argument presented.	11.L	4	3	3
2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. Use precise language and domain-specific vocabulary to inform about or explain the topic. Establish and maintain a formal style and objective tone. Provide a concluding statement or section that follows from and supports the information or explanation presented.	11.L	4	3	3
	Production and Distribution of Writing				
4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	11.L, 17.J	4	3	3
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.	11.L	4	3	3
6	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	13.F	3		3
	Research to Build and Present Knowledge□				
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.		3	4	4
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.	13.I	3		4
9	Draw evidence from informational texts to support analysis, reflection, and research.				
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9	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.	11.L	4	3	3

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Mathematics- Middle School

		Exploring Technology	Invention & Innovation	Technological Systems
6.RP	**Ratios and Proportional Relationships**			
6.RP.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."	**4**		
6.RP.2	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."	**3**		
6.RP.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations	**4**		
7. N.S.	**The Number System**			
7.NS.1.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.		**1**	
7.NS.2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.		**4**	
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.		**4**	
8.G	**Geometry**			
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*			**0**
8.G.6	Explain a proof of the Pythagorean Theorem and its converse.			**0**
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.			**2**
8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.			**2**
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.			**3**
8.SP	**Statistics & Probability**			
8.SP.1	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.			**1**