Interact Middle School Library: ALGEBRA MYSTERY MAZE: Solving Algebra Chains within a Maze Competition
Summary: In cooperative groups, students take turns as Measurer, Designer, and Recorder to quickly and accurately solve series of algebraic equations and word problems, as well as navigate and design mazes to earn the most centimeter lengths for their team. (9781573363815-INT936)

Common Core State Standards

Language Arts

Grade: **5** - Adopted **2010**

STRAND / DOMAIN	CCSS.ELA-Literacy.RI.5	Reading Standards for Informational Text
CATEGORY / CLUSTER		Integration of Knowledge and Ideas
STANDARD	CCSS.ELA-Literacy.RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
STANDARD	CCSS.ELA-Literacy.RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
STANDARD	CCSS.ELA-Literacy.RI.5.9	Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
STRAND / DOMAIN	CCSS.ELA-Literacy.RI.5	Reading Standards for Informational Text
CATEGORY / CLUSTER		Range of Reading and Level of Text Complexity
STANDARD	CCSS.ELA-Literacy.RI.5.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently.
STRAND / DOMAIN	CCSS.ELA-Literacy.RF.5	Reading Standards: Foundational Skills
CATEGORY / CLUSTER		Fluency
STANDARD	CCSS.ELA-Literacy.RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
EXPECTATION	CCSS.ELA-Literacy.RF.5.4a	Read on-level text with purpose and understanding.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.5	Writing Standards
CATEGORY / CLUSTER		Text Types and Purposes
STANDARD	CCSS.ELA-Literacy.W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
EXPECTATION	CCSS.ELA-Literacy.W.5.2b	Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.5	Writing Standards

CATEGORY / CLUSTER		Production and Distribution of Writing
STANDARD	CCSS.ELA-Literacy.W.5.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
STRAND / DOMAIN	CCSS.ELA-Literacy.W.5	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	CCSS.ELA-Literacy.W.5.7	Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
STANDARD	CCSS.ELA-Literacy.W.5.8	Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.5	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	CCSS.ELA-Literacy.W.5.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
EXPECTATION	CCSS.ELA-Literacy.W.5.9b	Apply grade 5 reading standards to informational texts (e.g., ''Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]'').
STRAND / DOMAIN	CCSS.ELA-Literacy.W.5	Writing Standards
CATEGORY / CLUSTER		Range of Writing
STANDARD	CCSS.ELA-Literacy.W.5.10	Write routinely over extended time frames (time for research, 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.
STRAND / DOMAIN	CCSS.ELA-Literacy.SL.5	Speaking and Listening Standards
CATEGORY / CLUSTER		Comprehension and Collaboration
STANDARD	CCSS.ELA-Literacy.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
EXPECTATION	CCSS.ELA-Literacy.SL.5.1a	Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
EXPECTATION	CCSS.ELA-Literacy.SL.5.1b	Follow agreed-upon rules for discussions and carry out assigned roles.
EXPECTATION	CCSS.ELA-Literacy.SL.5.1c	Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

Grade: **6** - Adopted **2010**

STRAND / DOMAIN	CCSS.ELA-Literacy.RI.6	Reading Standards for Informational Text
CATEGORY / CLUSTER		Integration of Knowledge and Ideas
STANDARD	CCSS.ELA-Literacy.RI.6.7	Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.6	Writing Standards
CATEGORY / CLUSTER		Text Types and Purposes

STANDARD	CCSS.ELA-Literacy.W.6.2	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
EXPECTATION	CCSS.ELA-Literacy.W.6.2b	Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.6	Writing Standards
CATEGORY / CLUSTER		Production and Distribution of Writing
STANDARD	CCSS.ELA-Literacy.W.6.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
STRAND / DOMAIN	CCSS.ELA-Literacy.W.6	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	CCSS.ELA-Literacy.W.6.7	Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
STANDARD	CCSS.ELA-Literacy.W.6.8	Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.6	Writing Standards
CATEGORY / CLUSTER		Range of Writing
STANDARD	CCSS.ELA-Literacy.W.6.10	Write routinely over extended time frames (time for research, 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.
STRAND / DOMAIN	CCSS.ELA-Literacy.SL.6	Speaking and Listening Standards
CATEGORY / CLUSTER		Comprehension and Collaboration
STANDARD	CCSS.ELA-Literacy.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.
EXPECTATION	CCSS.ELA-Literacy.SL.6.1a	Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
EXPECTATION	CCSS.ELA-Literacy.SL.6.1b	Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
EXPECTATION	CCSS.ELA-Literacy.SL.6.1c	Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
STRAND / DOMAIN	CCSS.ELA-Literacy.SL.6	Speaking and Listening Standards
CATEGORY / CLUSTER		Presentation of Knowledge and Ideas
STANDARD	CCSS.ELA-Literacy.SL.6.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Grade: **7** - Adopted **2010**

STRAND / DOMAIN	CCSS.ELA-Literacy.RI.7	Reading Standards for Informational Text
CATEGORY / CLUSTER		Key Ideas and Details
STANDARD	CCSS.ELA-Literacy.RI.7.3	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

STRAND / DOMAIN	CCSS.ELA-Literacy.W.7	Writing Standards
CATEGORY / CLUSTER		Text Types and Purposes
STANDARD	CCSS.ELA-Literacy.W.7.2	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
EXPECTATION	CCSS.ELA-Literacy.W.7.2b	Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.7	Writing Standards
CATEGORY / CLUSTER		Production and Distribution of Writing
STANDARD	CCSS.ELA-Literacy.W.7.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
STRAND / DOMAIN	CCSS.ELA-Literacy.W.7	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	CCSS.ELA-Literacy.W.7.7	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
STANDARD	CCSS.ELA-Literacy.W.7.8	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.
STRAND / DOMAIN	CCSS.ELA-Literacy.W.7	Writing Standards
CATEGORY / CLUSTER		Range of Writing
STANDARD	CCSS.ELA-Literacy.W.7.10	Write routinely over extended time frames (time for research, 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.
STRAND / DOMAIN	CCSS.ELA-Literacy.SL.7	Speaking and Listening Standards
CATEGORY / CLUSTER		Comprehension and Collaboration
STANDARD	CCSS.ELA-Literacy.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.
EXPECTATION	CCSS.ELA-Literacy.SL.7.1a	Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
EXPECTATION	CCSS.ELA-Literacy.SL.7.1b	Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
EXPECTATION	CCSS.ELA-Literacy.SL.7.1c	Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
EXPECTATION	CCSS.ELA-Literacy.SL.7.1d	Acknowledge new information expressed by others and, when warranted, modify their own views.

Mathematics

Grade: **5** - Adopted **2010**

STRAND / DOMAIN	CCSS.Math.Practice	Mathematical Practices
CATEGORY / CLUSTER	CCSS.Math.Practice.MP1	Make sense of problems and persevere in solving them.

CATEGORY / CLUSTER	**CCSS.Math.Practice.MP2**	Reason abstractly and quantitatively.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP3**	Construct viable arguments and critique the reasoning of others.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP5**	Use appropriate tools strategically.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP6**	Attend to precision.
STRAND / DOMAIN	**CCSS.Math.Content.5.OA**	Operations and Algebraic Thinking
CATEGORY / CLUSTER	**CCSS.Math.Content.5.OA.A**	Write and interpret numerical expressions.
STANDARD	**CCSS.Math.Content.5.OA.A.1**	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

Grade: **6** - Adopted **2010**

STRAND / DOMAIN	**CCSS.Math.Practice**	Mathematical Practices
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP1**	Make sense of problems and persevere in solving them.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP2**	Reason abstractly and quantitatively.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP3**	Construct viable arguments and critique the reasoning of others.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP5**	Use appropriate tools strategically.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP6**	Attend to precision.
STRAND / DOMAIN	**CCSS.Math.Content.6.RP**	Ratios and Proportional Relationships
CATEGORY / CLUSTER	**CCSS.Math.Content.6.RP.A**	Understand ratio concepts and use ratio reasoning to solve problems.
STANDARD	**CCSS.Math.Content.6.RP.A.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.''
STRAND / DOMAIN	**CCSS.Math.Content.6.RP**	Ratios and Proportional Relationships
CATEGORY / CLUSTER	**CCSS.Math.Content.6.RP.A**	Understand ratio concepts and use ratio reasoning to solve problems.
STANDARD	**CCSS.Math.Content.6.RP.A.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.
EXPECTATION	**CCSS.Math.Content.6.RP.A.3b**	Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?
STRAND / DOMAIN	**CCSS.Math.Content.6.EE**	Expressions and Equations
CATEGORY / CLUSTER	**CCSS.Math.Content.6.EE.A**	Apply and extend previous understandings of arithmetic to algebraic expressions.
STANDARD	**CCSS.Math.Content.6.EE.A.2**	Write, read, and evaluate expressions in which letters stand for numbers.
EXPECTATION	**CCSS.Math.Content.6.EE.A.2c**	Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.
STRAND /	**CCSS.Math.Content.6.EE**	Expressions and Equations

DOMAIN		
CATEGORY / CLUSTER	**CCSS.Math.Content.6.EE.B**	Reason about and solve one-variable equations and inequalities.
STANDARD	**CCSS.Math.Content.6.EE.B.5**	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
STANDARD	**CCSS.Math.Content.6.EE.B.6**	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
STANDARD	**CCSS.Math.Content.6.EE.B.7**	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.
STRAND / DOMAIN	**CCSS.Math.Content.6.EE**	Expressions and Equations
CATEGORY / CLUSTER	**CCSS.Math.Content.6.EE.C**	Represent and analyze quantitative relationships between dependent and independent variables.
STANDARD	**CCSS.Math.Content.6.EE.C.9**	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.

Grade: **7** - Adopted **2010**

STRAND / DOMAIN	**CCSS.Math.Practice**	Mathematical Practices
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP1**	Make sense of problems and persevere in solving them.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP2**	Reason abstractly and quantitatively.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP3**	Construct viable arguments and critique the reasoning of others.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP5**	Use appropriate tools strategically.
CATEGORY / CLUSTER	**CCSS.Math.Practice.MP6**	Attend to precision.
STRAND / DOMAIN	**CCSS.Math.Content.7.RP**	Ratios and Proportional Relationships
CATEGORY / CLUSTER	**CCSS.Math.Content.7.RP.A**	Analyze proportional relationships and use them to solve real-world and mathematical problems.
STANDARD	**CCSS.Math.Content.7.RP.A.1**	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour.
STRAND / DOMAIN	**CCSS.Math.Content.7.EE**	Expressions and Equations
CATEGORY / CLUSTER	**CCSS.Math.Content.7.EE.A**	Use properties of operations to generate equivalent expressions.
STANDARD	**CCSS.Math.Content.7.EE.A.2**	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that ''increase by 5%'' is the same as ''multiply by 1.05.''
STRAND / DOMAIN	**CCSS.Math.Content.7.EE**	Expressions and Equations
CATEGORY /	**CCSS.Math.Content.7.EE.B**	Solve real-life and mathematical problems using numerical

CLUSTER		and algebraic expressions and equations.
STANDARD	CCSS.Math.Content.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.
EXPECTATION	CCSS.Math.Content.7.EE.B.4a	Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?