Interact Middle School Library
Grades: 9, 10
States: Common Core State Standards

Interact Middle School Library: GEOMETRY CHALLENGE
Summary: Working alone, with partners, or in teams, students work on projects that focus on two-and three-dimensional diagrams and models and incorporate visualization, spatial reasoning, and geometric modeling. (9781573363778-INT935)

Common Core State Standards

Language Arts

Grade: **9** - Adopted **2010**

STRAND / DOMAIN	**CCSS.ELA-Literacy.RI.9-10**	Reading Standards for Informational Text
CATEGORY / CLUSTER		Integration of Knowledge and Ideas
STANDARD	**CCSS.ELA-Literacy.RI.9-10.9**	Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's ''Letter from Birmingham Jail''), including how they address related themes and concepts
STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Text Types and Purposes
STANDARD	**CCSS.ELA-Literacy.W.9-10.2**	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
EXPECTATION	**CCSS.ELA-Literacy.W.9-10.2b**	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Production and Distribution of Writing
STANDARD	**CCSS.ELA-Literacy.W.9-10.4**	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.9-10**	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	**CCSS.ELA-Literacy.W.9-10.7**	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
STANDARD	**CCSS.ELA-Literacy.W.9-10.8**	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of

		ideas, avoiding plagiarism and following a standard format for citation.
STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Range of Writing
STANDARD	**CCSS.ELA-Literacy.W.9-10.10**	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 tasks, purposes, and audiences.
STRAND / DOMAIN	**CCSS.ELA-Literacy.SL.9-10**	Speaking and Listening Standards
CATEGORY / CLUSTER		Comprehension and Collaboration
STANDARD	**CCSS.ELA-Literacy.SL.9-10.1**	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1a**	Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1b**	Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1c**	Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1d**	Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Grade: **10** - Adopted **2010**

STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Text Types and Purposes
STANDARD	**CCSS.ELA-Literacy.W.9-10.2**	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
EXPECTATION	**CCSS.ELA-Literacy.W.9-10.2b**	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Production and Distribution of Writing
STANDARD	**CCSS.ELA-Literacy.W.9-10.4**	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.9-10**	Writing Standards
CATEGORY / CLUSTER		Research to Build and Present Knowledge
STANDARD	**CCSS.ELA-Literacy.W.9-10.7**	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
STANDARD	**CCSS.ELA-Literacy.W.9-10.8**	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question;

		integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
STRAND / DOMAIN	**CCSS.ELA-Literacy.W.9-10**	Writing Standards
CATEGORY / CLUSTER		Range of Writing
STANDARD	**CCSS.ELA-Literacy.W.9-10.10**	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 tasks, purposes, and audiences.
STRAND / DOMAIN	**CCSS.ELA-Literacy.SL.9-10**	Speaking and Listening Standards
CATEGORY / CLUSTER		Comprehension and Collaboration
STANDARD	**CCSS.ELA-Literacy.SL.9-10.1**	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1a**	Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1b**	Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1c**	Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
EXPECTATION	**CCSS.ELA-Literacy.SL.9-10.1d**	Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Mathematics

Grade: **9** - 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.HSG**	Geometry
CATEGORY / CLUSTER	**CCSS.Math.Content.HSG-CO**	Congruence
STANDARD	**CCSS.Math.Content.HSG-CO.A**	Experiment with transformations in the plane
EXPECTATION	**CCSS.Math.Content.HSG-CO.A.1**	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
EXPECTATION	**CCSS.Math.Content.HSG-CO.A.2**	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
EXPECTATION	**CCSS.Math.Content.HSG-CO.A.3**	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.

EXPECTATION	CCSS.Math.Content.HSG-CO.A.4	Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.
EXPECTATION	CCSS.Math.Content.HSG-CO.A.5	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
STRAND / DOMAIN	CCSS.Math.Content.HSG	Geometry
CATEGORY / CLUSTER	CCSS.Math.Content.HSG-CO	Congruence
STANDARD	CCSS.Math.Content.HSG-CO.B	Understand congruence in terms of rigid motions
EXPECTATION	CCSS.Math.Content.HSG-CO.B.6	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a rigid motion on a figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
STRAND / DOMAIN	CCSS.Math.Content.HSG	Geometry
CATEGORY / CLUSTER	CCSS.Math.Content.HSG-CO	Congruence
STANDARD	CCSS.Math.Content.HSG-CO.C	Prove geometric theorems
EXPECTATION	CCSS.Math.Content.HSG-CO.C.10	Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
STRAND / DOMAIN	CCSS.Math.Content.HSG	Geometry
CATEGORY / CLUSTER	CCSS.Math.Content.HSG-CO	Congruence
STANDARD	CCSS.Math.Content.HSG-CO.D	Make geometric constructions
EXPECTATION	CCSS.Math.Content.HSG-CO.D.12	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.
EXPECTATION	CCSS.Math.Content.HSG-CO.D.13	Construct an equilateral triangle, a square and a regular hexagon inscribed in a circle.
STRAND / DOMAIN	CCSS.Math.Content.HSG	Geometry
CATEGORY / CLUSTER	CCSS.Math.Content.HSG-GPE	Expressing Geometric Properties with Equations
STANDARD	CCSS.Math.Content.HSG-GPE.B	Use coordinates to prove simple geometric theorems algebraically
EXPECTATION	CCSS.Math.Content.HSG-GPE.B.6	Find the point on a directed line segment between two given points that divide the segment in a given ratio.

Grade: **10** - 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 /	CCSS.Math.Practice.MP6	Attend to precision.

CLUSTER		
STRAND / DOMAIN	CCSS.Math.Content.HSG	Geometry
CATEGORY / CLUSTER	CCSS.Math.Content.HSG-CO	Congruence
STANDARD	CCSS.Math.Content.HSG-CO.A	Experiment with transformations in the plane
EXPECTATION	CCSS.Math.Content.HSG-CO.A.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
EXPECTATION	CCSS.Math.Content.HSG-CO.A.2	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
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