



# Common Core Standards

## CORRELATION WITH *PROJECT DISCOVERY*

A U.S. Department of Education Validated and Approved Program



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**COMMON CORE STANDARDS**  
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This document provides a correlation with the Common Core Standards to the *Project Discovery* career development curricula. *Project Discovery* integrates academic core content into hands-on career activities.

While the activities in the kits also address knowledge and skills standards in other areas, this document provides a correlation with Reading, Mathematics, and Science. This correlation is provided *per kit* as noted below.

**ANIMAL CARE**

<p><b>READING/WRITING/LISTENING &amp; SPEAKING/INFORMATION LITERACY</b></p>	<p><b>Writing Standards 8</b></p> <p>Text Types and Purposes</p> <p>1. Write arguments to support claims with clear reasons and relevant evidence.</p> <p>a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</p> <p>b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</p> <p>c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</p> <p>d. Establish and maintain a formal style.</p> <p>e. Provide a concluding statement or section that follows from and supports the argument presented.</p> <p>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.</p> <p>a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</p> <p>c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</p> <p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>e. Establish and maintain a formal style.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented.</p> <p>Production and Distribution of Writing</p> <p>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience</p> <p>Research to Build and Present Knowledge</p> <p>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.</p> <p>9. Draw evidence from informational texts to support analysis reflection, and research.</p>
	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p>

	<p>a. 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.</p> <p>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</p> <p>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</p> <p>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</p>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</p> <p>c. Spell correctly.</p> <p>Knowledge of Language</p> <p>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <p>a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</p>
	<p><b>Vocabulary Acquisition and Use 8</b></p> <p>4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on <i>grade 8 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</p> <p>b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>precede</i>, <i>recede</i>, <i>secede</i>).</p> <p>c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</p> <p>d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p> <p>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p>
	<p><b>Reading Standards for Literacy in Science and Technical Subjects 8</b></p> <p>Key Ideas and Details</p> <p>1. Cite specific textual evidence to support analysis of science and technical texts.</p> <p>2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</p> <p>3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</p> <p>Integration of Knowledge and Ideas</p> <p>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).</p> <p>8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</p> <p>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.</p>
<b>MATHEMATICS</b>	<p><b>Number and Operations—Fractions 5.NF</b></p> <p><b>Use equivalent fractions as a strategy to add and subtract fractions.</b></p> <p>1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions</p>

in such a way as to produce an equivalent sum or difference of fractions with like denominators.  
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

#### **Measurement and Data 5.MD**

##### **Convert like measurement units within a given measurement system.**

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

##### **Represent and interpret data.**

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots.

#### **The Number System 6.NS**

##### **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

##### **Apply and extend previous understandings of numbers to the system of rational numbers.**

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.

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate

#### **Statistics and Probability 6.SP**

##### **Develop understanding of statistical variability.**

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

##### **Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

5. Summarize numerical data sets in relation to their context, such as by:

a. Reporting the number of observations.

b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

#### **Ratios and Proportional Relationships 7.RP**

##### **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

2. Recognize and represent proportional relationships between quantities.

a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

a. Lines are taken to lines, and line segments to line segments of the same length.

b. Angles are taken to angles of the same measure.

c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

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**CAREGIVER**

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b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.



**Expressions and Equations 7.EE**

**Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

a. Lines are taken to lines, and line segments to line segments of the same length.

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**CHILD CARE**

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	<p><i>topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>a. 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.</li> <li>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
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## **MATHEMATICS**

### **Number and Operations—Fractions 5.NF**

#### **Use equivalent fractions as a strategy to add and subtract fractions.**

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
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#### **Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
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  - a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
  - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

### **Expressions and Equations 7.EE**

#### **Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

- a. Lines are taken to lines, and line segments to line segments of the same length.
- b. Angles are taken to angles of the same measure.
- c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

**COMMON CORE STANDARDS**  
**Correlation With *PROJECT DISCOVERY***

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**CLEANING MAINTENANCE**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.
  - a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
  - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
  - c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
  - d. Establish and maintain a formal style.
  - e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
- e. Establish and maintain a formal style.
- f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

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

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.
9. Draw evidence from informational texts to support analysis, reflection, and research.

	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>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.</li> <li>Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <ol style="list-style-type: none"> <li>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. <ol style="list-style-type: none"> <li>Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>Spell correctly.</li> </ol> </li> </ol> <p>Knowledge of Language</p> <ol style="list-style-type: none"> <li>Use knowledge of language and its conventions when writing, speaking, reading, or listening. <ol style="list-style-type: none"> <li>Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol> </li> </ol>
	<p><b>Vocabulary Acquisition and Use 8</b></p> <ol style="list-style-type: none"> <li>Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on <i>grade 8 reading and content</i>, choosing flexibly from a range of strategies. <ol style="list-style-type: none"> <li>Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>precede</i>, <i>recede</i>, <i>secede</i>).</li> <li>Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> </li> <li>Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</li> </ol>
	<p><b>Reading Standards for Literacy in Science and Technical Subjects 8</b></p> <p>Key Ideas and Details</p> <ol style="list-style-type: none"> <li>Cite specific textual evidence to support analysis of science and technical texts.</li> <li>Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</li> <li>Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</li> </ol> <p>Integration of Knowledge and Ideas</p> <ol style="list-style-type: none"> <li>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).</li> <li>Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</li> <li>Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from</li> </ol>

	reading a text on the same topic.
<b>MATHEMATICS</b>	<p><b>Number and Operations—Fractions 5.NF</b>  <b>Use equivalent fractions as a strategy to add and subtract fractions.</b>  1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.  2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</p> <p><b>Measurement and Data 5.MD</b>  <b>Convert like measurement units within a given measurement system.</b>  1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.  <b>Represent and interpret data.</b>  2. Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Use operations on fractions for this grade to solve problems involving information presented in line plots.</p> <p><b>The Number System 6.NS</b>  <b>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</b>  1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p><b>Apply and extend previous understandings of numbers to the system of rational numbers.</b>  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.  6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.  a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.  8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate</p> <p><b>Statistics and Probability 6.SP</b>  <b>Develop understanding of statistical variability.</b>  1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.  2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.  3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.  <b>Summarize and describe distributions.</b>  4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.  5. Summarize numerical data sets in relation to their context, such as by:  a. Reporting the number of observations.  b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</p> <p><b>Ratios and Proportional Relationships 7.RP</b>  <b>Analyze proportional relationships and use them to solve real-world and mathematical problems.</b>  1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.</p>



2. Recognize and represent proportional relationships between quantities.
  - a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
  - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

**Expressions and Equations 7.EE**

**Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:
  - a. Lines are taken to lines, and line segments to line segments of the same length.
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2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

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**FILING**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.

c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.

d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.

d. Use precise language and domain-specific vocabulary to inform about or explain the topic.

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4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience

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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.

9. Draw evidence from informational texts to support analysis, reflection, and research.

	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>a. 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.</li> <li>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <ol style="list-style-type: none"> <li>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.       <ol style="list-style-type: none"> <li>a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>c. Spell correctly.</li> </ol> </li> </ol> <p>Knowledge of Language</p> <ol style="list-style-type: none"> <li>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.       <ol style="list-style-type: none"> <li>a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol> </li> </ol>
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**Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
  - a. Reporting the number of observations.
  - b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

**Ratios and Proportional Relationships 7.RP**

**Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
2. Recognize and represent proportional relationships between quantities.
  - a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
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**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:
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**FOOD SERVICE**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.
  - a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
  - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
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  - d. Establish and maintain a formal style.
  - e. Provide a concluding statement or section that follows from and supports the argument presented.

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- a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
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- e. Establish and maintain a formal style.
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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

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.
9. Draw evidence from informational texts to support analysis, reflection, and research.

	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>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.</li> <li>Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <ol style="list-style-type: none"> <li>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.       <ol style="list-style-type: none"> <li>Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>Spell correctly.</li> </ol> </li> </ol> <p>Knowledge of Language</p> <ol style="list-style-type: none"> <li>Use knowledge of language and its conventions when writing, speaking, reading, or listening.       <ol style="list-style-type: none"> <li>Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol> </li> </ol>
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## **MATHEMATICS**

### **Number and Operations—Fractions 5.NF**

#### **Use equivalent fractions as a strategy to add and subtract fractions.**

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

### **Measurement and Data 5.MD**

#### **Convert like measurement units within a given measurement system.**

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

#### **Represent and interpret data.**

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots.

### **The Number System 6.NS**

#### **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

### **Statistics and Probability 6.SP**

#### **Develop understanding of statistical variability.**

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

#### **Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
  - a. Reporting the number of observations.
  - b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

### **Ratios and Proportional Relationships 7.RP**

#### **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
2. Recognize and represent proportional relationships between quantities.
  - a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
  - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

### **Expressions and Equations 7.EE**

#### **Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

- a. Lines are taken to lines, and line segments to line segments of the same length.
- b. Angles are taken to angles of the same measure.
- c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.



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**GREENHOUSE**

<p><b>READING/WRITING/LISTENING &amp; SPEAKING/INFORMATION LITERACY</b></p>	<p><b>Writing Standards 8</b></p> <p>Text Types and Purposes</p> <p>1. Write arguments to support claims with clear reasons and relevant evidence.</p> <p>a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</p> <p>b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</p> <p>c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</p> <p>d. Establish and maintain a formal style.</p> <p>e. Provide a concluding statement or section that follows from and supports the argument presented.</p> <p>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.</p> <p>a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</p> <p>c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</p> <p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>e. Establish and maintain a formal style.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented.</p> <p>Production and Distribution of Writing</p> <p>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience</p> <p>Research to Build and Present Knowledge</p> <p>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.</p> <p>9. Draw evidence from informational texts to support analysis, reflection, and research.</p>
	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8</i></p>

	<p><i>topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>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.</li> <li>Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <ol style="list-style-type: none"> <li>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.       <ol style="list-style-type: none"> <li>Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>Use an ellipsis to indicate an omission.</li> <li>Spell correctly.</li> </ol> </li> </ol> <p>Knowledge of Language</p> <ol style="list-style-type: none"> <li>Use knowledge of language and its conventions when writing, speaking, reading, or listening.       <ol style="list-style-type: none"> <li>Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol> </li> </ol>
	<p><b>Vocabulary Acquisition and Use 8</b></p> <ol style="list-style-type: none"> <li>Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on <i>grade 8 reading and content</i>, choosing flexibly from a range of strategies.       <ol style="list-style-type: none"> <li>Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>precede</i>, <i>recede</i>, <i>secede</i>).</li> <li>Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> </li> <li>Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</li> </ol>
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## **MATHEMATICS**

### **Number and Operations—Fractions 5.NF**

#### **Use equivalent fractions as a strategy to add and subtract fractions.**

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

### **Measurement and Data 5.MD**

#### **Convert like measurement units within a given measurement system.**

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

#### **Represent and interpret data.**

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots.

### **The Number System 6.NS**

#### **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

#### **Apply and extend previous understandings of numbers to the system of rational numbers.**

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.
6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
  - a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.
8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate

### **Statistics and Probability 6.SP**

#### **Develop understanding of statistical variability.**

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

#### **Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
  - a. Reporting the number of observations.
  - b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

### **Ratios and Proportional Relationships 7.RP**

#### **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

2. Recognize and represent proportional relationships between quantities.
- a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
  - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

**Expressions and Equations 7.EE**

**Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**COMMON CORE STANDARDS**  
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**GROCERY CLERKING**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.
  - a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
  - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
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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

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.
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	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>a. 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.</li> <li>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
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**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

- a. Lines are taken to lines, and line segments to line segments of the same length.
- b. Angles are taken to angles of the same measure.
- c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.



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**HAIR CARE AND STYLING**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

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	<p><b>Reading Standards for Literacy in Science and Technical Subjects 8</b></p> <p>Key Ideas and Details</p> <ol style="list-style-type: none"> <li>1. Cite specific textual evidence to support analysis of science and technical texts.</li> <li>2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</li> <li>3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</li> </ol> <p>Integration of Knowledge and Ideas</p> <ol style="list-style-type: none"> <li>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).</li> <li>8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</li> <li>9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from</li> </ol>

	reading a text on the same topic.
<b>MATHEMATICS</b>	<p><b>Number and Operations—Fractions 5.NF</b>  <b>Use equivalent fractions as a strategy to add and subtract fractions.</b>  1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.  2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</p> <p><b>Measurement and Data 5.MD</b>  <b>Convert like measurement units within a given measurement system.</b>  1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.  <b>Represent and interpret data.</b>  2. Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Use operations on fractions for this grade to solve problems involving information presented in line plots.</p> <p><b>The Number System 6.NS</b>  <b>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</b>  1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p><b>Statistics and Probability 6.SP</b>  <b>Develop understanding of statistical variability.</b>  1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.  2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.  3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.  <b>Summarize and describe distributions.</b>  4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.  5. Summarize numerical data sets in relation to their context, such as by:  a. Reporting the number of observations.  b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</p> <p><b>Ratios and Proportional Relationships 7.RP</b>  <b>Analyze proportional relationships and use them to solve real-world and mathematical problems.</b>  1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.  2. Recognize and represent proportional relationships between quantities.  a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.  b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p><b>Expressions and Equations 7.EE</b>  <b>Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</b>  3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.</p>

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

- a. Lines are taken to lines, and line segments to line segments of the same length.
- b. Angles are taken to angles of the same measure.
- c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

**COMMON CORE STANDARDS**  
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**MAIL HANDLING**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.

c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.

d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.

d. Use precise language and domain-specific vocabulary to inform about or explain the topic.

e. Establish and maintain a formal style.

f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

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

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.

9. Draw evidence from informational texts to support analysis, reflection, and research.

	<p><b>Speaking and Listening Standards 8</b></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>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.</li> <li>Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> <li>Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>Use an ellipsis to indicate an omission.</li> <li>Spell correctly.</li> </ol> <p>Knowledge of Language</p> <p>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <ol style="list-style-type: none"> <li>Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol>
	<p><b>Vocabulary Acquisition and Use 8</b></p> <p>4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on <i>grade 8 reading and content</i>, choosing flexibly from a range of strategies.</p> <ol style="list-style-type: none"> <li>Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>precede</i>, <i>recede</i>, <i>secede</i>).</li> <li>Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> <p>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p>
<p><b>MATHEMATICS</b></p>	<p><b>Number and Operations—Fractions 5.NF</b>  <b>Use equivalent fractions as a strategy to add and subtract fractions.</b></p> <ol style="list-style-type: none"> <li>Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.</li> <li>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</li> </ol> <p><b>Measurement and Data 5.MD</b>  <b>Convert like measurement units within a given measurement system.</b></p> <ol style="list-style-type: none"> <li>Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.</li> </ol>

**Represent and interpret data.**

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots.

**The Number System 6.NS**

**Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

**Apply and extend previous understandings of numbers to the system of rational numbers.**

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.

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate

**Statistics and Probability 6.SP**

**Develop understanding of statistical variability.**

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

**Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

5. Summarize numerical data sets in relation to their context, such as by:

a. Reporting the number of observations.

b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

**Ratios and Proportional Relationships 7.RP**

**Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

2. Recognize and represent proportional relationships between quantities.

a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

**Expressions and Equations 7.EE**

**Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), 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.

**Geometry 8.G**

**Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:

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**RETAILING**

**READING/WRITING/LISTENING &  
SPEAKING/INFORMATION LITERACY**

**Writing Standards 8**

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.
  - a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
  - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
  - c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
  - d. Establish and maintain a formal style.
  - e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
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**TABLE SERVICE**

<b>READING/WRITING/LISTENING &amp; SPEAKING/INFORMATION LITERACY</b>	<p><b>Writing Standards 8</b></p> <p>Text Types and Purposes</p> <p>1. Write arguments to support claims with clear reasons and relevant evidence.</p> <p>a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</p> <p>b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</p> <p>c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</p> <p>d. Establish and maintain a formal style.</p> <p>e. Provide a concluding statement or section that follows from and supports the argument presented.</p> <p>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.</p> <p>a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</p> <p>c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</p> <p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>e. Establish and maintain a formal style.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented.</p> <p>Production and Distribution of Writing</p> <p>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience</p> <p>Research to Build and Present Knowledge</p> <p>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.</p> <p>9. Draw evidence from informational texts to support analysis reflection, and research.</p>
	<b>Speaking and Listening Standards 8</b>

	<p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <ol style="list-style-type: none"> <li>a. 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.</li> <li>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</li> <li>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</li> <li>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</li> </ol>
	<p><b>Language Standards 8</b></p> <p>Conventions of Standard English</p> <ol style="list-style-type: none"> <li>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.       <ol style="list-style-type: none"> <li>a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>c. Spell correctly.</li> </ol> </li> </ol> <p>Knowledge of Language</p> <ol style="list-style-type: none"> <li>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.       <ol style="list-style-type: none"> <li>a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).</li> </ol> </li> </ol>
	<p><b>Vocabulary Acquisition and Use 8</b></p> <ol style="list-style-type: none"> <li>4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on <i>grade 8 reading and content</i>, choosing flexibly from a range of strategies.       <ol style="list-style-type: none"> <li>a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>precede</i>, <i>recede</i>, <i>secede</i>).</li> <li>c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> </li> <li>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</li> </ol>
	<p><b>Reading Standards for Literacy in Science and Technical Subjects 8</b></p> <p>Key Ideas and Details</p> <ol style="list-style-type: none"> <li>1. Cite specific textual evidence to support analysis of science and technical texts.</li> <li>2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</li> <li>3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</li> </ol> <p>Integration of Knowledge and Ideas</p> <ol style="list-style-type: none"> <li>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).</li> <li>8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</li> <li>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.</li> </ol>

## **MATHEMATICS**

### **Number and Operations—Fractions 5.NF**

#### **Use equivalent fractions as a strategy to add and subtract fractions.**

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

### **Measurement and Data 5.MD**

#### **Convert like measurement units within a given measurement system.**

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

#### **Represent and interpret data.**

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots.

### **The Number System 6.NS**

#### **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

### **Statistics and Probability 6.SP**

#### **Develop understanding of statistical variability.**

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

#### **Summarize and describe distributions.**

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
  - a. Reporting the number of observations.
  - b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

### **Ratios and Proportional Relationships 7.RP**

#### **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
2. Recognize and represent proportional relationships between quantities.
  - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

### **Geometry 8.G**

#### **Understand congruence and similarity using physical models, transparencies, or geometry software.**

1. Verify experimentally the properties of rotations, reflections, and translations:
  - a. Lines are taken to lines, and line segments to line segments of the same length.
  - b. Angles are taken to angles of the same measure.
  - c. Parallel lines are taken to parallel lines.
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.