

Teacher(s): *Mrs. Breazeale & Ms. DeBlanc*

Subject/Grade: 7th /Grade Math

Week of: Jan 15, 2024

Domain: **Geometry** ▾ **Expressions & Equations** ▾

Lesson Plan Title: Angle Relationships & Equations

MATHEMATICS - Mississippi College and Career Readiness Standards for 7 th Grade	
Numbers & Operations	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers. ▾
Ratios & Proportions	7.RP.1 Compute unit rates associated with ratios and fractions, including ratios or lengths, areas and other quantities measu... ▾ 7.RP.2 Recognize and represent proportional relationships between quantities. ▾ 7.RP.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or gr... ▾ 7.RP.2b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of ... ▾ 7.RP.2c. Represent proportional relationships by equations. ▾ 7.RP.2d . Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special a... ▾ 7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups ... ▾
Expressions & Equations	7.EE Solve real-life and mathematical problems using numerical and algebraic expressions and equations. ▾ 7.EE.1 Apply properties as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. ▾ 7.EE.3 Write an expression from a real world context possibly involving sales tax, tip, discount, gratuity, markup, selling pric... ▾ 7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and ine... ▾ 7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational ... ▾ 7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational n... ▾
Geometry	7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right re... ▾ 7.G.5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and sol... ▾
Statistics & Probability	7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measurin... ▾ 7.SP.4 Use measures of center and measures of variability (i.e. inter-quartile range) for numerical data from random samples... ▾

ACROSS CURRICULUM STANDARDS

ELA - Mississippi College and Career Readiness Standards for 7th Grade

Reading Informational Text

CCR.R.10 Read and comprehend complex literary and informational texts independently and proficiently.

RI.7.10 By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Writing

CCR.W.2: Write informative /explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

W.7.2b Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.

W.7.2c Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.

W.7.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.

W.7.2e Establish and maintain a formal style.

W.7.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Speaking & Listening

SL.7.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Language

CCRL.1: Demonstrate command of the conventions of standard English grammar and usage when writing (printing, cursive, or keyboarding) or speaking.

CCRL.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

L.7.2b Spell correctly.

CCRL.4: Determine or clarify the meaning of unknown or multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

L.7.4b Use common, grade appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., belligerent, bellicose, rebel).

L.7.4c 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.

L.7.4d 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).

CCRL.6: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

L.7.6 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.

ESSENTIAL QUESTION(S):

- 1) How do I use what I know about solving equations and angle relationships to determine the degrees of unknown angles? **[7.EE.4 & 7.G.3]**
- 2) How can analyzing the variety of ways cross sections are created help me become a conceptual learner? **[7.G.3]**
- 3) How do I solve real-life and mathematical problems using numerical and algebraic expressions, equations, & inequalities? **[7.EE.4]**

Date	Objective(s)	Focus Question	I will...
01/15 M	MLK	MLK	MLK
01/16 T	TSWBAT pass two iReady math lessons (one on their path and “Solve Inequalities”) by taking notes on key vocabulary and at least three example problems with 80% accuracy by the end of the lesson. [7.EE.4b & Student Needs]	1)How do mathematicians use iReady to enhance their mathematical skills? 2) How do I use properties of inequalities to calculate unknown solutions? [7.EE.4b]	1)Use iReady to enhance my mathematical skills. [Student Needs] 2) Understand properties of inequalities. [7.EE.4b] 3) Solve one & two-step inequalities algebraically. [7.EE.4b] ,
01/17 W	<u>CENTER 1: (Vocabulary & Writing):</u> <u>TSWBAT</u> analyze and plan the best route for completing a two-dimensional obstacle course before writing a process essay using 10 out of 19 given vocabulary words. [7.G.3] <u>CENTER 2 (Teacher’s Choice):</u> TSWBAT cogitate what they already know about angles and their measures in order to connect this knowledge to understanding the differences between complementary angles, supplementary angles, vertical angles, and adjacent angles. [7.G.5] <u>CENTER 3 (W.I.N):</u> TSWBAT examine, analyze, and correct their current mixed	<u>CENTER 1: (Vocabulary & Writing):</u> How can I use mathematical vocabulary to describe a process in writing? [7.G.3] <u>CENTER 2: (Teacher’s Choice):</u> 1) How will I differentiate between complementary angles, supplementary angles, vertical angles, and adjacent angles? 2)How do I use knowledge of angle relationships to find missing angles? [7.G.5] <u>CENTER 3 (W.I.N):</u> How do mathematicians analyze and correct their graded tests in order to reflect on knowledge needed to master 7th grade math standards? [Mixed Practical] <u>CENTER 4 (Fluency):</u> How will I use what I	<u>CENTER 1: (Vocabulary & Writing):</u> -Analyze an obstacle course before deciding the best route to the finish line. -Use mathematical vocabulary to describe the least dangerous path to complete the obstacle course safely. [7.G.3] & [ELA : ☺☺{CCR.R.10, RI.7.10,} ☺☺ {CCR.W.2, W.7.2b, W.7.2c, W.7.2d, W.7.2e, W.7.10,}☺☺ {CCR.L.1, CCR.L.2, L.7.2b, CCR.L.4, L.7.4b, L.7.4c, L.7.4d, CCR.L.6, L.7.6}☺☺ <u>CENTER 2: (Teacher’s Choice):</u> -Differentiate between complementary angles, supplementary angles, vertical angles, and adjacent angles. -Use knowledge of angle relationships to find missing angles. -Discuss angle relationships observed in

	<p>practice test (MPT) by reviewing resources provided by the teacher, consulting with peers, and/or asking the teacher for help with 100% accuracy by the end of the lesson. IMixed Practico</p> <p>CENTER 4 (Fluency): TSWBAT use what they know about angle relationships to complete a maze with 70% accuracy. 7.6.5</p>	<p>know about angle relationships and simple equations to determine the value of unknown angle measures? 7.6.5</p>	<p>real-world scenarios within a small group. 7.6.5 & [ELA : {CCR.R.10, RI.7.10,} {W.7.2d, W.7.10,} {SL.7.6,} {CCR.L.1, CCR.L.2, L.7.2b, CCR.L.4, L.7.4b, L.7.4c, L.7.4d, CCR.L.6, L.7.6}]</p> <p>CENTER 3 (W.I.N):</p> <ul style="list-style-type: none"> -Differentiate between silly mistakes and lack of knowledge. -In writing, explain the silly mistake and rework the problems that contain silly mistakes. -Use resources to help correct mistakes where mastery is not yet obtained. <p>IMixed Practico & [ELA : {W.7.10,} {SL.7.6,} {CCR.L.1, CCR.L.2, L.7.2b}]</p> <p>CENTER 4 (Fluency):</p> <ul style="list-style-type: none"> -Use an arithmetic or algebraic approach to calculate the value of unknown angles. 7.6.5
01/18 R	TBA based on MPT data and student needs. IMixed Practico	TBA	TBA
01/19 F	TSWBAT accurately describe the cross sections that result from slicing three-dimensional figures by completing the Prodigy practice problems with 80%. 7.6.3	How do I conceptualize the cross sections that result from slicing right rectangular prisms and right rectangular pyramids? 7.6.3	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections (AKA cross sections) of right rectangular prisms and right rectangular pyramids. 7.6.3

REMEDATION & ENRICHMENT

	Skill(s) & Activity
P25	<p>Tuesday - Complete iReady math Lesson on grade level and on their path.</p> <p>Wednesday - Grouped based on ability and will work in a small group with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>.</p> <p>Thursday - Grouped based on ability and will work in a small group with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. This group will receive more direct and guided instruction with the focus being the quality of their work in lieu of the quantity of problems complete.</p> <p>Friday - Pulled for 5-10 minutes data chat and to clear up any misconceptions by <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. The teacher lapping the room will stay close to these students for assistance with the assignment.</p>
Bubbles	<p>Tuesday - Complete iReady math Lesson on grade level and on their path.</p> <p>Wednesday - Grouped based on ability and will work in a small group with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. Certain students will serve as a peer tutor to any group members that are P25.</p> <p>Thursday - Grouped based on ability and will work in a small group with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. This group will receive more guided instruction and guided practice with the focus being the quality of their work in lieu of the quantity of problems complete depending on students' needs.</p> <p>Friday - <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. Will lap the room and provide check-ins with these students. TTW ask students questions about choices made on the current assignment.</p>
T25	<p>Tuesday - Complete iReady math teacher assigned grade level. Serve as a peer-tutor to students performing below grade level on iReady.</p> <p>Wednesday - Grouped based on ability and will work in a small group for enrichment with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. Certain students will serve as a peer tutor to any group members that are BUBBLES.</p> <p>Thursday - Grouped based on ability and will work in a small group with <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. This group will receive more guided practice and independent with the focus being precision, accuracy, and pacing oneself to complete all assigned problems.</p> <p>Friday - <i>Ms. DeBlanc</i> or <i>Mrs. Breazeale</i>. Will lap the room and provide check-ins with these students. Students complete with all weekly assignments will design an obstacle course like the one from Wednesday's vocabulary/writing center.</p>

TUESDAY_ Jan 16, 2024

WARM-UP/HOOK: *The student will* login to iReady and choose “Solve Inequalities” (7.EE.4). Take notes on lesson vocabulary and lesson goals. (5 minutes)

TEACHER INPUT: (5 minutes)

The teacher will ...

- Present the lesson objectives.
- Review the requirements to receive help on the lesson quiz - all vocabulary with definitions must be written down, at least 3 examples recorded from the lesson, and I need to see evidence that the students attempted to work out the current problem on paper.

INDEPENDENT PRACTICE: (30 minutes)

The student will ...

- Listen and complete the assigned lesson to the best of their ability.
- Complete the lesson quiz with 80% or higher accuracy.
- Complete a second lesson on their path (if they are not currently on 7th grade level for iReady Math.)

EARLY FINISHERS:

The student will ...

- Login to math prodigy and complete practice problems on cross sections.

STUDENT REFLECTION/EXIT TICKET: *The student will* complete the reflection section of their iReady guided notes. (5 minutes)

MATERIALS: notebook paper or “iReady Notes template,” computers, projector, exit tickets

ASSESSMENT(S): Teacher observation, exit tickets, iReady lesson quiz results

MPT 3.1 Results

Class	0% - 49% (Critical)	50% - 69% (Emerging)	70% - 100% (Proficient)
1st			
3rd			
4th			
5th			
7th			

WEDNESDAY_ Jan 17, 2024

PRE-CLASS: *The student will collect the center work packet, sit, and write their name on their paper. Review the work ahead of them. The teacher will explain the expectations of each station. (5 minutes)*

CENTER 1: Vocabulary/Writing [7.6.5] (10 minutes)

[ELA : {CCR.R.10, RI.7.10,} {CCR.W.2, W.7.2b, W.7.2c, W.7.2d, W.7.2e, W.7.10,} {CCR.L.1, CCR.L.2, L.7.2b, CCR.L.4, L.7.4b, L.7.4c, L.7.4d, CCR.L.6, L.7.6}]

Focus Question: How can I use mathematical vocabulary to describe a process in writing?

The student will ...

- Choose a champion (paper doll) and slide it across a 2D obstacle course (Similar to Early Mario Brothers Games - Side Scroller)
- Describe in writing using 60% of the given vocabulary words how to get through the obstacle course safely.
- **EARLY FINISHERS:** Design their own obstacle course and challenge group members to describe in words using 50% of the given vocabulary words.

CENTER 2: Teacher's Choice [7.6.5] (10 minutes)

[ELA : {CCR.R.10, RI.7.10,} {W.7.2d, W.7.10,} {SL.7.6,} {CCR.L.1, CCR.L.2, L.7.2b, CCR.L.4, L.7.4b, L.7.4c, L.7.4d, CCR.L.6, L.7.6}]

Focus Questions:

- 1) How will I differentiate between complementary angles, supplementary angles, vertical angles, and adjacent angles?
- 2) How do I use knowledge of angle relationships to find missing angles?

The student will ...

- Read and annotate the family letter on page 607.
- Complete the activity on page 608 with their group members and recording answers to where we see the angle relationships in everyday life.

- Complete pages 611 & 612.
- Use the glossary in the back of the book to look up unknown words.

CENTER 3: W.I.N. [Mixed Practice] (10 minutes)

[ELA : {W.7.10,} {SL.7.6,} {CCR.L.1, CCR.L.2, L.7.2b}]

Focus Question: How do mathematicians analyze and correct their graded tests in order to reflect on knowledge needed to master 7th grade math standards?

The student will ...

- Differentiate between silly mistakes and lack of knowledge.
- In writing, explain the silly mistake and rework the problems that contain silly mistakes.
- Use resources to help correct mistakes where mastery is not yet obtained.

The teacher will ...

- Observe students as they correct their tests.
- Ask questions about students' thought process.
- Clear up any misconceptions students might have.

CENTER 4: Fluency [7.6.3] (10 minutes)

Focus Question: How will I use what I know about angle relationships and simple equations to determine the value of unknown angle measures?

The student will ...

- Quickly review notes on angle relationships.
- Work out problems on white board on the north wall of the classroom and record answers on the activity sheet.
- Write down any questions they might have on their paper for the teachers' further review.

STUDENT REFLECTION/EXIT TICKET: TTW briefly summarize each center. Ask students from different groups questions about each center. (**Question 1:** How are complementary and supplementary angles alike? Different? **Question 2:** How are vertical angles different from complementary and supplementary angles? **Question 3:** Tell me about a silly mistake you made on MPT 3.1 that you will not make again? **Question 4:** Summarize, using the mathematical vocabulary, how to complete the obstacle course? (5 minutes)

MATERIALS: exit tickets, seating chart for centers, materials for each center, graded MPTs, dry erase markers, pencils, calculators

ASSESSMENT(S): Teacher observation, exit tickets

THURSDAY_ Jan 18, 2024

To Be Announced based on the most recent MPT Math data.

Most Missed Standard(s)	Objective(s)	Activity
	TSWBAT	
	TSWBAT	
	TSWBAT	

Meanwhile...

TEACHER CONFERENCES: TTW will finish inviting individual students to her desk to discuss their most recent MPT and clear up any misconceptions and offer support. (30 minutes)

STUDENT REFLECTION/EXIT TICKET: *The student will* complete an exit ticket based on the most missed question(s). The teacher will use this data to determine which students need extra support. (5 minutes)

MATERIALS: returned Tuesday tests, exit tickets

ASSESSMENT(S): Teacher observation, exit tickets

FRIDAY_ Jan 19, 2024

WARM-UP/HOOK: *The student will* turn in homework and login to Prodigy. **(5 minutes)**

TEACHER INPUT: **(5 minutes)**

The teacher will ...

- Present the lesson objectives.
- Review the requirements to receive help on a problem: the student must show an attempt to work out the problem on paper.

INDEPENDENT PRACTICE: **(30 minutes)**

The student will ...

- Complete 20 problems on cross sections. **(7.6.3)**
- Finish any incomplete assignments from this week.

STUDENT REFLECTION/EXIT TICKET: *The student will* complete an exit ticket reflecting on what went well this week, what they learned, and what they still need help with. **(5 minutes)**

MATERIALS: notebook paper or “iReady Notes template,” computers, projector, exit tickets

ASSESSMENT(S): Teacher observation, completed questions.

MISSISSIPPI STATE STANDARDS ACROSS CURRICULUM

Math Standards

Numbers & Operations:

7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

Ratios & Proportions:

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

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

7.RP.2 Recognize and represent proportional relationships between quantities.

7.RP.2a 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.

7.RP.2b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

7.RP.2c. Represent proportional relationships by equations.

7.RP.2d . Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Expressions & Equations:

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

7.EE.1 Apply properties as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

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

7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.

Geometry:

7.G Draw, construct, and describe geometrical figures and describe the relationships between them.

7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

7.G.5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

Statistics & Probability:

7.SP.4 Use measures of center and measures of variability (i.e. inter-quartile range) for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.

7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely or likely, and a probability near 1 indicates a likely event.

ELA Standards

Reading Informational Text

CCR.R.10 Read and comprehend complex literary and informational texts independently and proficiently.

RI.7.10 By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Writing

CCR.W.2: Write informative /explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

W.7.2b Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.

W.7.2c Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.

W.7.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.

W.7.2e Establish and maintain a formal style.

W.7.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Speaking & Listening

SL.7.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Language

CCR.L.1: Demonstrate command of the conventions of standard English grammar and usage when writing (printing, cursive, or keyboarding) or speaking.

CCR.L.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

L.7.2b Spell correctly.

CCR.L.4: Determine or clarify the meaning of unknown or multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

L.7.4b Use common, grade appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., belligerent, bellicose, rebel).

L.7.4c 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.

L.7.4d 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).

CCR.L.6: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

L.7.6 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.