Math Weekly Lesson Preparation Guide

Teacher Name: Martin Asare	Grade: 10
Week of: September 03-06, 2024	Unit: Chapter 2 Lesson Numbers: 2-3

Purpose: The Weekly Lesson Preparation Guide is to provide a structure that encourages teachers to think through and internalize the daily/weekly instructional expectations.

Planning Questions	Lesson 1-1 Monday 9/02	Lesson 1-1 Tuesday 9/03	Lesson 1-1 Wednesday 9/04	Lesson 1-2 Thursday 9/05	Lesson 1-2 Friday 9/06
1. Complete an initial read of the lesson plan to build an understanding of the "gist" of the lesson and the models and strategies students will use.	Using geometric theorems to justify relationships			Using geometric theorems to justify relationships	
2. What is the focus of this lesson? Which specific Tennessee standards are being addressed in this lesson?	**G.CO.C.8** Use definitions and theorems about lines and angles to solve problems and to justify relationships in geometric figures.			**G.CO.C.8** Use definitions and theorems about lines and angles to solve problems and to justify relationships in geometric figures.	
3. How will this learning prepare students for success on the unit assessment(s)?	This section focuses on using knowledge obtained from the previous unit to build up postulates about points, lines and planes.			This section focuses on using knowledge obtained from the previous unit to build up postulates about points, lines and planes.	
4. What is the purpose of this lesson? How does it coherently connect to previous lessons and build to future ones?	This section focuses on using knowledge obtained from the previous unit to build up postulates about points, lines and planes.			This section focuses on using knowledge obtained from the previous unit to build up postulates about points, lines and planes.	
5. How will this learning contribute to deep understanding of the essential ideas of the unit?	The unit helps students solidify their knowledge of perpendicular and parallel lines, as well as the properties of intersecting lines.			The unit helps students solidify their knowledge of perpendicular and parallel lines, as well as the properties of intersecting lines.	

Adapted from TDOE Unit and Lesson Preparation Guides

Click here to access 2023 Revised Math Standards Resources: https://bestforall.tnedu.gov/

6. Complete all tasks included in the lesson and review the sample/anticipated student responses. For each task consider: • What are the multiple solution paths students might take to solve this problem? • What is the purpose of this task? Specifically, which aspect(s) of rigor are being addressed (conceptual understanding, procedural fluency, and/or application)? How does this differ based on the solution path • Given this purpose, what key concepts and vocabulary might students need to understand to access the task? (Consider concepts and vocabulary from the prior grade that might need to be re- addressed)	Students will work together on activities displayed on the smart board from the Big Ideas Geometry lessons. Students will compare the diagrams shown on the board and come up with conjectures that they see. Students will classify various diagrams into the seven postulates as provided in the Big Ideas resource book. Students will reflect on their understanding of points, lines and planes and summarize the skills and strategies they use. Vocabulary • Line Perpendicular to a Plane	Students will work together on activities displayed on the smart board from the Big Ideas Geometry lessons. Students will compare the diagrams shown on the board and come up with conjectures that they see. Students will classify various diagrams into the seven postulates as provided in the Big Ideas resource book. Students will reflect on their understanding of points, lines and planes and summarize the skills and strategies they use. Vocabulary • Line Perpendicular to a Plane
7. What evidence of student learning will you look for to reveal understanding of the grade-level standard(s)? (refer to the Instructional Focus Document Evidence of Learning Statements)	Proper classification of diagrams based on the postulates State the postulate represented in the diagram below.	Proper classification of diagrams based on the postulates State the postulate represented in the diagram below.
8. What are the mathematical learning and performance goals of this lesson?	Learning goal is to be able to identify postulates represented by diagrams. Also, students will be able to sketch a diagram given a verbal description.	Learning goal is to be able to identify postulates

Adapted from TDOE Unit and Lesson Preparation Guides

Click here to access 2023 Revised Math Standards Resources: https://bestforall.tnedu.gov/

		represented by diagrams. Also, students will be able to sketch a diagram given a verbal description.
9. In what ways will students use the Standards for Mathematical Practice to develop mathematical understandings?	Completing the lessons students will be able to make sense of the problem after understanding the key features, in turn being able to look for and make use of structures. They should be able to compare postulates ad find real-world examples of them	Completing the lessons students will be able to make sense of the problem after understanding the key features, in turn being able to look for and make use of structures. They should be able to compare postulates ad find real-world examples of them
10. What supports will you build into the lesson to ensure all students have the opportunity to experience success in this grade level work? How can you ensure all students will have access to grade level opportunities in the lesson? (refer to the Instructional Focus Document's Instructional Focus Statements)	Lesson should build from student's previous knowledge in line and line segment postulate to determine which of the given postulate is being used in a context. Students will be provided with all seven postulates, probably on the board. Teacher will review all vocabulary prior to the lessons and teacher will demonstrate each step and the expected outcomes of the lesson for the students.	Lesson should build from student's previous knowledge in line and line segment postulate to determine which of the given postulate is being used in a context. Students will be provided with all seven postulates, probably on the board. Teacher will review all vocabulary prior to the lessons and teacher will demonstrate each step and the expected outcomes of the lesson for the students.
11. Where might your students struggle? What mathematical mistakes or misconceptions do you anticipate?	Students may struggle with understanding the vocabulary, students may still misunderstand the difference between a line perpendicular to a plane and a line perpendicular to another line.	Students may struggle with understanding the vocabulary, students may still misunderstand the difference between a line perpendicular to a plane and a line perpendicular to another line.
12. What skills/concepts and/or mathematical vocabulary may need reinforcement?	There will need to be reinforcement of perpendicular and parallel lines. Students will also need to have a good mental perception of planes.	There will need to be reinforcement of perpendicular and parallel lines. Students will also need to have a good mental perception of planes.

13. What probing questions might you ask to encourage perseverance or push students to new understanding?	How can you tell that two lines are perpendicular to each other? What evidence can you use?	How can you tell that two lines are perpendicular to each other? What evidence can you use?
14. What questions might you ask to elicit prior content knowledge, connect to students' experiences, and set up the task to ensure students understand the task without over-scaffolding or funneling?	What is the coordinate plane? How can you tell that two lines intersect? At how many points do two straight lines intersect? What is the difference between a line and a point?	What is the coordinate plane? How can you tell that two lines intersect? At how many points do two straight lines intersect? What is the difference between a line and a point?
15. How might you strategically group or partner students during discussion to support building understanding?	In most activities during the lesson students will be strategically grouped to include 2 low students, 1 middle student and 1 high student (this also depends on the dynamics of the class and how much prior knowledge each student has)	In most activities during the lesson students will be strategically grouped to include 2 low students, 1 middle student and 1 high student (this also depends on the dynamics of the class and how much prior knowledge each student has)
16. What questions might you ask to foster discussions around mathematical connections between anticipated student strategies?	How can you draw a line to be parallel to a given line? How can you draw a line to be perpendicular to a given line?	How can you draw a line to be parallel to a given line? How can you draw a line to be perpendicular to a given line?
17. How will you ensure that all students are responsible for this rigorous thinking?	Students will complete a lesson check after every few examples to determine their level of understanding of the concepts. It may be a thumbs up/thumbs down, fist to five after each example. Students will complete a final culminating problem at the end of the class to help assess their retention of the lesson's concepts.	Students will complete a lesson check after every few examples to determine their level of understanding of the concepts. It may be a thumbs up/thumbs down, fist to five after each example. Students will complete a final culminating problem at the end of the class to help assess their retention of the lesson's concepts.

Adapted from TDOE Unit and Lesson Preparation Guides

Click here to access 2023 Revised Math Standards Resources: https://bestforall.tnedu.gov/

18. What will you have in your hands as you are teaching? What will students have in their hands?	Teacher will have dry erase marker in hands with examples of graphs, pen and clipboard to check off what students are doing during the CFU's Students will have the student companion, pencil, practice work, graph paper	Teacher will have dry erase marker in hands with examples of graphs, pen and clipboard to check off what students are doing during the CFU's Students will have the student companion, pencil, practice work, graph paper
19. What mathematical tools and/or concrete manipulatives will the teacher and students need?	Rulers, pencils, highlighters, student companion, graph paper, rulers	Rulers, pencils, highlighters, student companion, graph paper, rulers
20. What technology tools will be necessary to support mathematical understanding?	No technology is necessary besides the interactive smartboard and online book to give demonstrations of the graphing of functions expected outcomes.	No technology is necessary besides the interactive smartboard and online book to give demonstrations of the graphing of functions expected outcomes.
Additional Considerations		
If your lesson contains homework, how will you utilize the work? Will you need to send scaffolding notes home? Is there a strategy you can use to maximize homework?	Student homework (if assigned) is in the student companion book. Students will have scaffolded examples from taking notes in the Big Ideas Geometry Student companion. If companions are not available students will be asked to sketch and example of each of the graph characteristics that were covered in the lessons. If students have access to the 1 to 1 device, problems will be assigned to students through the online book portal and problems will be scaffolded. Students should have Student companions/notes to use as examples as well as the online book (if assessable.)	Student homework (if assigned) is in the student companion book. Students will have scaffolded examples from taking notes in the Big Ideas Geometry Student companion. If companions are not available students will be asked to sketch and example of each of the graph characteristics that were covered in the lessons. If students have access to the 1 to 1 device, problems will be assigned to students through the online book portal and problems will be scaffolded. Students should have Student companions/notes to use as examples as well as the online book (if assessable.)
What additional materials do you need to prepare for this lesson?	N/A	N/A

Adapted from TDOE Unit and Lesson Preparation Guides

Click here to access 2023 Revised Math Standards Resources: https://bestforall.tnedu.gov/