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| **Name:** Lauren Milne **Teaching Date:** 13 October 2011**Lesson Topic:** Parallel, Perpendicular, and Line Segments |
| **Preplanning Tasks:**1. **National & State Standards:**

National Standards: State Standards:Grade Level: 3 Core Content: 3.4. Geometry (Geometry/Measurement)Description: Students learn about lines and use lines, line segments, and right angles as they work with quadrilaterals. Students connect this geometric work to numbers, operations, and measurement as they determine simple perimeters in ways they will use when calculating perimeters of more complex figures in later grades.Performance Expectation: **3.4.A** Identify and sketch parallel, intersecting, and perpendicular lines and line segments.

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1. **Content Analysis**: Concept Analysis
2. **Objectives (lesson & academic):** When given a set of # line segments, students will identify which lines are parallel and perpendicular with 100% accuracy.
3. **Pre-requisite knowledge/skills:** Knowledge of what square corners are and the idea that there are different kinds of lines (squiggly, jagged, straight)

**Key Pre-requisite Vocabulary:** Square Corners: the corners of squares (90° angle) 1. **Materials:** White Boards, Markers, Erasers
2. **Resources (if applicable)**
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|  | **AABs, ASRs, CFUs** | **TIME** |
| **Lesson Opening:**1. **Signal for Attention:**

*“Boys and Girls”**“Like you do in computer lab, there will be times when I need your attention. If I want your attention I am going to have you put your hands on your head. Show me what your hand on your head looks like.”*1. **Behavior Expectations:** 1. Eyes and Ears on Teacher 2. Raise Hand to Speak 3. Remain Seated 4. Stay on Task 5. Materials Ready
2. **Review:** “*Last week we learned about measuring with centimeters on quadrilaterals...”*
3. **Have students show whether you measure at the edge of ruler or at the 0.**
4. **Redefine, perimeter, centimeter, vertical, and horizontal, quadrilaterals and triangles**
5. **Quadrilaterals and Triangles will lead into “square corners”**
6. **Statement of Target: *“****Today we are going to learn about the different types and parts of lines.”*
7. **Key Vocabulary:**

Lines: a straight path that goes forever in both directionsLine Segments: part of a lineEnd Point: the dot (or mark) that shows the beginning and end of a line segmentAdjacent: lines that connect at some pointOpposite: lines that are across from each other and do not connect at any pointParallel: two lines that are the same distance apart on every part of the lines and never cross each otherPerpendicular: lines that cross each other to form square corners1. **Activate Background Knowledge:** *“Last year, you learned about square corners. On your white board, draw a square corner and when I ask, hold it up for me to see.”*
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| **Lesson Body:**1. **Presentation/Demonstration of Information:**
2. Look @ examples of different types of lines

 -Talk about lines going on forever -Why we use arrowsb. Line Segments (revisit and define) -Part of a line -Has two ends/endpointc. Have two different examples of lines and ask which one is longer (they are the same length!) -Hint: *“Lines go on forever…”* -What examples of **lines** can we find around the classroom? -What examples of **line segments** can we find around the classroom?d. Look @ examples of parallel lines -What do you think it means for two lines to be parallel? (Goal answer: two lines are parallel if they are the same distance apart at every part of the line AND two lines are parallel if they never cross each other)e. Line Segments Part II -Line segments are part of lines so they can also be parallel! -What examples of parallel line segments can we find in the classroom?f. Look @ examples of perpendicular lines -What do you think it means for two lines to be perpendicular? (Possible answer: perpendicular lines cross each other to form square corners) -What examples of perpendicular line segments do you see in the classroom?g. *“A good trick to remembering the difference between parallel and perpendicular is to think about how the two “l’s” in parallel look like two parallel lines themselves”*h. Look @ worksheet on Opposite and Adjacent Sides of Figures -Which ones are Opposite? What does it mean to be Opposite? -Which ones are Adjacent? What does it mean to be Adjacent? -Let them complete the rest of the page on their owni. How do you check if two lines are parallel, perpendicular, or neither? -Let them complete exercises1. **Additional Examples**
2. Lines that are parallel and drawn connected/disconnected
3. Lines that are perpendicular and drawn connected/disconnected
4. Lines that are neither but look like they could be perpendicular
5. **Supervised Practice:**
6. Walk around while they are working on the class worksheet

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| **Lesson Closing:**1. **Statement of review:** Ask the students one more time what perpendicular, parallel, and lines and line segments are with examples/called answers
2. **Evaluation:** Pass outHomework
3. **Transition statement:** *“The lesson is over. Please put your white boards and materials away and your papers in your work folder. Once everything is off your desk, Mr. DeMann will direct you on what to do next.”*
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