Topic A

Lines and Angles

4.G.1

Focus Standard:		4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Instructional Days:		4	
Coherence	**-Links from:**	G2–M8	Time, Shapes, and Fractions as Equal Parts of Shapes
		G3–M7	Geometry and Measurement Word Problems
	-Links to:	G5–M5	Addition and Multiplication with Volume and Area

Topic A begins with students drawing points, lines, line segments, and rays and identifying these in various contexts and familiar figures. As they continue, students recognize that two rays sharing a common endpoint form an angle. In Lesson 2, students create right angles through a paper-folding activity and identify right angles in their environment by comparison with the right angles they have made. They also draw acute, right, and obtuse angles. This represents students' first experience with angle comparison and the idea that one angle's measure can be greater (obtuse) or less (acute) than that of a right angle.

Next, students use their understanding of angles to explore relationships between pairs of lines, defining and recognizing intersecting, perpendicular, and parallel lines. In Lesson 3, students' knowledge of right angles leads them to identify, define, and construct perpendicular lines. In Lesson 4, students learn lines that never intersect are also called parallel and have a special relationship. Students use, in conjunction with a straightedge, the right-angle templates that they created in Lesson 2 to construct parallel lines (**4.G.1**). Activities using different grids provide students with the opportunity to explore the concepts of perpendicularity and parallelism.

A Teaching Sequence Toward Mastery of Lines and Angles	
Objective 1:	**Identify and draw points, lines, line segments, rays, and angles. Recognize them in various contexts and familiar figures. (Lesson 1)**
Objective 2:	**Use right angles to determine whether angles are equal to, greater than, or less than right angles. Draw right, obtuse, and acute angles. (Lesson 2)**
Objective 3:	**Identify, define, and draw perpendicular lines. (Lesson 3)**
Objective 4:	**Identify, define, and draw parallel lines. (Lesson 4)**