



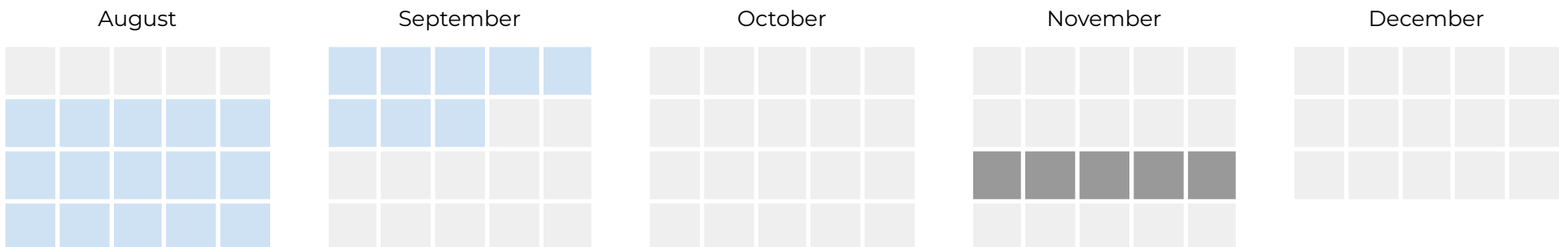
Mathematical Mosaics

How did people create these designs using only a compass & straightedge?

ESSENTIAL CONCEPTS and PRACTICES

7	Proving Features of Shape	- Can I explain how proof is different from providing several numerical examples? - Can I reason from the definition of a full turn (360°) to draw new conclusions about angles and shapes?
8	Reasoning About Constructions	- Can I create basic constructions (triangles, bisectors, etc) using only a compass and straightedge? - Can I explain how proof is different from visual appearance? - Can I explain how constructions guarantee, rather than approximate, geometric properties?
9	Reasoning About Congruence	- Can I explain what it means for two figures to be congruent? - Can I explain why certain conditions guarantee congruence, while others do not? - Can I use these conditions to prove new features of shapes?
	Justify Why Things Must be True	- Can I create a convincing logical argument? - Can I communicate these arguments clearly?

PACING (~23 days, including assessment)



UNIT GUIDE	TEACHER GUIDE	STUDENT ACTIVITY	SLIDES
UNIT PROBLEM			
1 Unit Problem (1 day)		 Mathematical Mosaics	 Mathematical Mosaics
SECTION 1 - Putting the Pieces Together (<i>Proving Features of Shape</i>)			
2 ROUGH DRAFT and P.O.W. (<i>Self-Aware</i>)		 RD and POW 1.1	 RD and POW 1.1
3 Master Builder (1 day)		 Master Builder	 Master Builder
4 Angle Observations (1 day)		 Angle Observations	 Angle Observations
5 The Sum of It All (1 day)		 The Sum of it All	 The Sum of it All
6 Timmy the Turtle (1 day)		 Timmy the Turtle	 Timmy the Turtle
7 Angle Application (1 day)		 Angle Application	 Angle Application
8 CHECK YOUR UNDERSTANDING ($\frac{1}{2}$ day)	 CYU 1.1 (Proving Features of Shape)		
SECTION 2 - Simple Tools (<i>Reasoning about Constructions</i>)			
9 ROUGH DRAFT and P.O.W. (<i>Star Polygons</i>)		 RD and POW 1.2	 RD and POW 1.2
10 Bi's and Tri's (1 day)		 Bi's and Tri's	 Bi's and Tri's
11 Construct It! (1 day)		 Construct It!	 Construct It!
12 What's Possible? (1 day)		 What's Possible?	 What's Possible?
13 Style Your Tile (1 day)		 Style Your Tile	 Style Your Tile
14 CHECK YOUR UNDERSTANDING ($\frac{1}{2}$ day)	 CYU 1.2 (Reasoning About Constructions)		
SECTION 3 - Prove It! (<i>Reasoning About Congruence</i>) CYU 1.1 (Reasoning and Proof)			

15 ROUGH DRAFT and P.O.W. (<i>Square Cake</i>)		 RD and POW 1.3	 RD and POW 1.3
16 Construct It! Part 2 (1 day)		 Construct It!, Part 2	 Construct It!, Part 2
17 The Right Conditions (1-2 days)		 The Right Conditions	 The Right Conditions
18 The Right Conditions		 The Right Conditions ...	 The Right Conditions,...
19 A New Angle on Proof (1 day)		 A New Angle on Proof	 A New Angle on Proof
20 Factual Reasoning (1 day, optional)			
21 CHECK YOUR UNDERSTANDING ($\frac{1}{2}$ day)	 CYU 1.3 (Reasoning About Congruence)		
22-23 End of Unit Assessments (1-2 days)	PROJECT  Unit 1 Project (IM2)	PORTFOLIO  Unit 1 Portfolio (IM2)	TEST  Unit 1 Test (IM2)