



Topic B:

Collections of Equivalent Ratios

6.RP.A.3a

Focus Standard:	6.RP.A.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
Instructional Days:	7	
	Lesson 9:	Tables of Equivalent Ratios (P) ¹
	Lesson 10:	The Structure of Ratio Tables—Additive and Multiplicative (E)
	Lesson 11:	Comparing Ratios Using Ratio Tables (P)
	Lesson 12:	From Ratios Tables to Double Number Line Diagrams (P)
	Lesson 13:	From Ratio Tables to Equations Using the Value of the Ratio (P)
	Lesson 14:	From Ratio Tables, Equations, and Double Number Line Diagrams to Plots on the Coordinate Plane (S)
	Lesson 15:	A Synthesis of Representations of Equivalent Ratio Collections (E)

With the concept of ratio equivalence formally defined, students explore collections of equivalent ratios in real-world contexts in Topic B. In Lessons 9 and 10, students build ratio tables and study and articulate their additive and multiplicative structure (**6.RP.A.3a**). In Lesson 11, students answer comparative questions about two distinct ratios using reasoning with ratio tables. Students continue to apply reasoning to solve ratio problems while they explore other representations of collections of equivalent ratios and relate those representations to their experience working with the ratio table (**6.RP.A.3**).

Building on their experience with number lines, students represent collections of equivalent ratios with a double number line model in Lesson 12. In Lesson 13, they relate ratio tables to equations using the value of a ratio defined in Topic A. Finally, students expand their experience with the coordinate plane (**5.G.A.1**, **5.G.A.2**) as they represent collections of equivalent ratios by plotting the pairs of values on the coordinate

¹ Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson

plane in Lesson 14. In the final Lesson of this topic, students begin to synthesize their experience of the various representations by working a variety of ratio problems and choosing the representation that best represents their thinking. They continue to apply their understanding of the representations as they apply them to rate and percent problems in Topics C and D.