

Chapter 3: RATIO and PROPORTION

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The chapter, Ratio and Proportion was setup very differently than all the other lessons. The two lessons in this unit, Investigation of Ratios and Investigation of Proportions include pre-made sketches. Through the use of the sketch, students investigate what a ratio/proportion is, the key differences between them, the similarities, and how to calculate a ratio and a proportion.

Both lessons are best taught through student-directed learning. Teachers should focus on student understanding of the transition from a visual to the concrete and vice versa for each lesson.

LESSON ONE - Investigation of Ratios ONTARIO CURRICULUM Covered:

- Covered in grade six Number Sense and Numeration Expectations but very closely related to the grade seven expectations on fractions.

In this lesson students manipulate a ratio line to formulate a ratio. By using a line that goes up to ten, students have a clear understanding of 2 out of 10. Many students understand the ratio line as a ruler where 10 represent 1 cm and each point in between represents a millimeter.

By the end of this investigation students have a clear understanding of a ratios, how to write a ratio, and can visualize a ratio. This lesson gives students the necessary explanation and visuals that students require too understand ratios at the grade seven and eight level.

LESSON TWO - Investigation of Proportions ONTARIO CURRICULUM Covered:

- Grade 7: Not directly related to grade seven and eight expectations. The lesson covers ideas of grade 7 Number Sense and Numeration Strand.

For this lesson to be successful it should follow either an in class lesson on ratios or lesson one of this unit. Students need to have a clear understanding of ratios. If some students are weak in ratios they should be paired with a student who has a good understanding of ratios.

This lesson uses a right angle triangle to investigate proportions. Students compare angles and sides to understand what a proportion is. This lesson is best is setup as student-directed learning with minimal aid from the teacher.