

Creating and naming ratios

Teaching strategies for thinking about fractions

Best for

- Year level: 7
- Fraction construct: Ratios

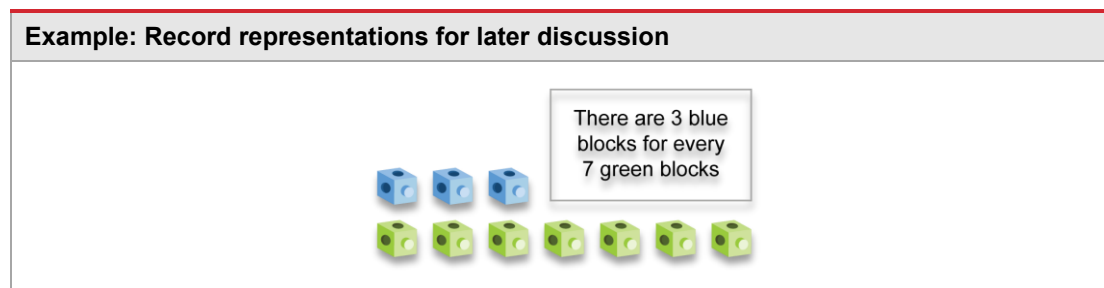


Overview

Description	This activity is designed to support students to develop understanding of the fractions as ratios fractional construct which is foundational in students' development of thinking about fractions. Through the activity, students can be supported to understand: • the relationship between physical and written representations of ratios • that ratios, like fractions, can be simplified and there are many equivalent representations of ratios.
Learning focus	Australian Curriculum: Year 7 Mathematics • recognise, represent and solve problems involving ratios (AC9M7N08) General capability: Numeracy learning progression Number sense and algebra: Interpreting fractions • operating with fractions proportionally — demonstrates that a fraction can also be used as a ratio to compare the size of 2 sets (P9) Number sense and algebra: Proportional thinking • identifies ratios as a part-to-part comparison — represents ratios using diagrams, physical or virtual materials (P3)
Teacher preparation	• Choose the relevant set (or sets) of ratio scenario cards from the Creating and naming ratio cards resource and cut into individual cards. • Assemble the coloured blocks or counters identified in the Creating and naming ratio cards resource. • Organise students into pairs based on the learning focus for those students. • Provide each pair of students with a set of ratio scenario cards and the corresponding coloured blocks or counters. Resources  Creating and naming ratios cards Print and cut out selected ratio scenario cards.

Suggested implementation

1. Ask students, working in pairs, to select a ratio scenario card and use the coloured blocks or counters to represent the scenario. Students may either work together or take turns depending on the learning focus.
2. Direct students to record their representations for later discussion, either by taking photos or drawing them, as shown in the example.



3. After sufficient time for pairs to work through several scenarios, bring the class together to share a sample of scenarios and representations (from across the different sets, where relevant).
4. Reflect on the activity as a class or individually. Consider the following questions to lead a discussion:
 - a. How did you decide how many blocks to use?
 - b. What was challenging about representing some scenarios compared to others?
 - c. How did working with physical blocks help you understand the ratio?
 - d. How does changing the total number of blocks affect the ratio?
 - e. Can two different scenarios describe the same ratio? Did you see any examples of this?

Variation

1. As students gain confidence in naming and representing ratios, they could write their own scenario cards for a partner.
2. The set of ratio cards you choose will determine the level of difficulty. Sets A and B may be suitable for lower year levels.



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