

Comparing quarters

Teaching strategies for thinking about fractions

Best for

- Year level: 2
- Fraction construct: Part-whole



Overview

Description	This activity is designed to support students to develop understanding of the part-whole fraction construct which is foundational in students' development of thinking about fractions. Through the activity, students can be supported to understand: • what is the whole • the whole can change • fractional parts need to be equal • the whole can be made from the parts.
Learning focus	Australian Curriculum: Year 2 Mathematics Number • recognise and describe one-half as one of two equal parts of a whole and connect halves, quarters and eighths through repeated halving (AC9M2N03) Measurement • identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events (AC9M2M02) General capability: Numeracy learning progression Number sense and algebra: Interpreting fractions • repeated halving — makes quarters and eighths of objects and collections by repeated halving (P2) • repeated halving — represents known fractions using various fraction models (P2)
Teacher preparation	• Assemble different collections of materials that students can use to create and label quarters, namely – continuous models, including ▪ a paper strip ▪ playdough ▪ a circle ▪ a square ▪ more challenging shapes, e.g. triangle, pentagon. – discrete models, including ▪ collections that can be easily shared into four equal parts, e.g. buttons and counters

	▪ a collection which needs to be broken to share into four equal parts, i.e. matchsticks. (Note: For the discrete models, use collections whose members vary in colour and size, e.g. different sized buttons, different colour counters.) • Create paper or cardboard slips for labelling quarters. • Ensure students have sufficient pencils or pens.	
	Resources	
	Continuous models 	Discrete models 

Suggested implementation

1. Organise students into groups or pairs, depending on the number of collections available.
2. Distribute collections among groups — at least two or three per group.
3. Ask students to use the collection to create one quarter and, using the paper or cardboard slips provided, create a label, i.e. one quarter. As new quarters are created from other collections, these can be placed alongside each other.
4. As students work, walk around providing support as required. This can include asking students to explain their reasoning in creating the quarter.
5. Arrange for students to share and compare their collections, e.g. a gallery walk – students walking around the classroom and viewing the collections.
6. Lead the whole class in discussing the following questions:
 - a. Are all the one quarters the same or different? Why?
 - b. Which one quarters were challenging? Why?
 - c. Where do you see or hear about one quarters in your everyday life? Answers might include: in sport; when sharing food; phases of the moon.

Variations

1. Start with collections that represent continuous models of quarters and introduce discrete models later.
2. This activity could be adapted for later years by comparing:
 - a. a different unit fraction, e.g. one-third
 - b. a different fraction, e.g. two-fifths.



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