Fraction wheels

Foundational concepts in fractions: Unit 2 — Resource

Unit 2 highlights the importance of providing a range of contexts for students to practise making and/or describing fractions.

Purpose

The purpose of a fraction wheel is to estimate and model fractions using an area model. Fraction wheels can be used to build students' conceptual understanding of the size of fractional parts, while developing students' visualisation skills

Creating a fraction wheel

Materials

- Two paper plates of different colours for each wheel. One plain-coloured and one patterned plate works well for this purpose.
- Scissors

Procedure

1. Make a slit from the edge to the centre of each plate.
2. Slot together the two plates as demonstrated in the picture.
3. Rotate one plate in relation to the other to create a specific fraction of the circular area.

Adapted from How to Make a Fraction Wheel.

Activity suggestions

Materials

- A fraction wheel for each student and the teacher

Activity sequence

- The teacher makes a fraction with the fraction wheel and shows it to students so they can create fractions using their own fraction wheel. Use think-alouds* to demonstrate how you created and then named the fraction represented.
- Make a fraction and hold it up for only a short period before asking students to make and name the same fraction.
- Ask students to create a specific fraction, e.g. one-quarter, and hold it up. Invite students to discuss how they know they have created the correct fraction.

- Ask students to create a fraction that lies between two other fractions. For example, make a fraction that is between one-third and one-half. Facilitate discussion on how particular fractions meet the specified criteria.

* **Think-alouds:** Think-alouds involve teachers voicing their thinking processes aloud during the teaching of a concept or process. In mathematics, teachers use think-alouds to unpack a question, model a strategy or as part of the process to solve a mathematical problem. The intention is to make the implicit thinking underlying the mathematics visible to students.

References

Top Drawer Teachers n.d., *How to Make a Fraction Wheel*, The Australian Association of Mathematics Teachers (AAMT) Inc., https://topdrawer.aamt.edu.au/Fractions/Good-teaching/Fraction-sense/Visualisation/Fraction-wheel.

More information

If you would like more information, please visit the QCAA website www.qcaa.qld.edu.au and search for 'Foundational concepts in fractions'.