Activity description

These activities will give learners practice in simplifying ratios. They consist of a worksheet, a set of bingo cards and a set of matching cards.

Suitability

Levels 1 and 2 (Foundation and Intermediate/Higher)

Time

1–2 hours

Resources

Student information sheet, bingo cards, matching cards

Notes on cards:
Paper copies could be used for each bingo game, so that the caller and players can cross off values as they are called, or the cards could be laminated for repeated use. If possible, use coloured paper for the cards.

Print each set of ratio cards, then laminate and cut out. It would be useful to use different colours for the larger cards and smaller cards.

Optional: slideshow

Equipment

Optional: calculator for less able students

Key mathematical language

Ratio, simplify, units

Notes on the activities

The first three slides can be used to introduce the topic of ratios.

If necessary you can use slides 4 to 6 (or the student sheets) to go over the main points, and to give students practice in simplifying ratios before they play the two games.

The final slide can be used to help learners reflect on their work at the end of the session.

Ratio bingo game

The resources include a caller's sheet with instructions and 15 bingo cards. See notes on cards under 'Resources' above.

For a quicker game or more than one winner, ask learners to call 'Bingo' when they have a row or diagonal line.

Matching ratio card game

See notes on cards under 'Resources' above.

You need two sets of ratio cards (the set of larger cards and the set of smaller cards containing the simplified forms) for each person or pair of learners.

Ask learners to match pairs of cards – each large card with one small card – giving the simplified ratio.

During the activity

You could allow less able students to use a calculator to help them simplify ratios, or to convert quantities into the same units before simplifying.

The matching cards game could be used as a starter, with learners working in pairs or alone.

The bingo card game is intended for use with larger groups.

Points for discussion

Discuss different ways of simplifying ratios like 30 : 24, and how they all give the same simplest form. Emphasise the need for units to be the same before ratios are simplified.

Ask students if they know of any other contexts in which ratios are used; discuss these.

You could include the use of ratios on maps in this discussion.

Extension

Students could be asked to investigate ratios on the internet.

In particular, they could be asked to find out about the Golden Ratio – possibly using http://www.mathsisfun.com/numbers/golden-ratio.html

Answers

a 4:5	**b** 5:6	**c** 1:3	**d** 5:2	**e** 3:5	**f** 3:8
g 4:3	**h** 8:3	**i** 6:5	**j** 4:3	**k** 1:4	**l** 1:12
m 1:5	**n** 1:2	**o** 1:4	**p** 4:1	**q** 9:2	**r** 5:8

Acknowledgement

The cards for the games were generated from an Excel sheet provided by the Standards Unit.