

What is a fraction? halves, quarters and thirds

CURRICULUM ALIGNMENT

NUM.FRC.3a compare and express in equivalent terms; and order fractions.

INTERACTIVES Pizza Slicer · challenge, display, explore

WHAT THIS LESSON TEACHES

A fraction names equal parts of one whole. The whole is shared into parts that are all exactly the same size.

→ A pizza cut into two equal pieces gives two halves; one piece is one half.

→ In a quarter the bottom number 4 means the whole was cut into four equal pieces.

MODEL THIS ON THE BOARD

FAIR SHARES OF ONE PIZZA

- 1 Begin with one whole pizza to share.
- 2 Cut the pizza into 2 pieces that match exactly in size.
- 3 Shade 1 of those pieces.
- 4 The shaded piece is called one half because the parts are equal.

DISCUSSION STARTER

REFLECT Where in real life do you share things into equal parts?

LESSON ARC

Open with a fairness question — how to cut one pizza so two people get the same. Then run the pizza-slicer interactive on the IWB: cut into halves, then quarters, then thirds, each time pointing at the bottom number and the matching slice count. Pupils draw and shade three circles in their copy. The Class Challenge adds three-quarters — the first time the top number tops one. Student Activity Book follows for solo practice.

TEACHING MOVES

1. **Getting Started.** Give five seconds of quiet think-time, then take three hands-up answers — not open call-outs. Listen for 'same' or 'equal' and re-voice it: 'so the two pieces have to match exactly.'
2. **Watch and Notice.** Cut each pizza on the interactive one at a time, pointing at the bottom number AND the slices so pupils see they match. At the quarter, ask 'which is bigger — the quarter or the half?' Before naming the third, pause and ask 'how many equal pieces can you count?' so pupils derive the name from the count.
3. **Try It Together.** Call one pupil to the board at a time; before each cut ask the whole class to predict the number of equal pieces. After the shade, do a thumbs check — 'thumbs up if all the pieces match, thumbs sideways if you'd change something' — then re-voice the pupil's answer for the room. Watch for unequal cuts.
4. **Draw and Name in Your Copy.** Walk the room glancing for two things: do the pieces in each circle look roughly the same size, and are the names spelt and matched right? No individual marking — this is whole-class copybook practice.

5. **Class Challenge.** Keep the board work brisk — pupils take turns, the class confirms each with the on-screen ✓ before moving on. The one beat to slow down: three-quarters, the first target where the top number is more than one. Point at the board — 'one quarter shaded one piece; three quarters means we shade three of the four.' Add 'are all your pieces really the same size?' each time.
6. **What Did We Notice?.** Pose 'if we cut into four pieces instead of two, why does each get smaller?' Listen for 'the whole pizza stays the same but is shared between more.' Re-voice a strong answer and head off the idea that four is bigger so a quarter must be bigger than a half.

COMMON MISCONCEPTIONS

⚠ Pupils say a quarter is bigger than a half because 'four is bigger than two' — they're reading the bottom number as a size, not a count of shares.

On the interactive, lay the shaded quarter directly beside the shaded half so the class sees the quarter is the smaller piece. Say 'the same pizza shared between more people gives everyone less.' Bank this for the What Did We Notice? talk too.

⚠ Pupils cut the pizza into the right number of pieces but the pieces are wildly different sizes, then still call it a quarter.

Stop and ask the watching class: 'do all the pieces match?' If not, re-voice the rule — 'fraction pieces must always be the same size, or they aren't true quarters.' Recut on the interactive into equal pieces so the contrast is visible.

DIFFERENTIATION

EMERGING

- Stay on halves and quarters only at the board while the class moves to thirds; the third is teacher-supported when this pupil reaches it.
- In the copy, give the pupil a pre-drawn circle already cut into halves so they only shade and name, not divide.

DEVELOPING

- After the copy circles, ask: if you cut a fourth circle into eighths, would each piece be bigger or smaller than a quarter? Predict before you draw.
- Pose a missing-piece question — show three of four pieces shaded and ask how many quarters are shaded and how many are left.

PROFICIENT

- During the Class Challenge, narrate a harder variant for fast finishers: 'show two thirds — how many of the three pieces do we shade, and how do you know from the top number?' Then pull them ahead into the Student Activity Book page.

✂ **Cross-curricular:** Tie to lunchtime — pupils fold a paper circle to share a real snack like a brack or scone fairly into halves and quarters.

ANSWER KEY

Scaffold: visual check on the page

Q1: $\frac{1}{2}$

Q2: $\frac{1}{4}$

Q3: $\frac{1}{3}$

Q4: $\frac{3}{4}$

Q5: No

a) **Always** : Halves are always two matching equal parts of the whole.

b) **Never** : Cutting into 4 equal parts makes each quarter smaller than a half.

c) **Always** : The bottom number 3 always shows three equal parts.

d) **Sometimes** : True when the two pieces are the same size; false when one piece is bigger.

EXTENSION SHEET · STRETCH ANSWERS

S1: 12 parts ($\frac{4}{5} = \frac{12}{15}$)

S2: $\frac{5}{7}$

S3: $\frac{3}{11}$

Investigation: Fraction hunt around school — open-ended; scan pupils' working for valid solution paths rather than a single answer.