

Pie charts and proportional representation

WHAT THIS LESSON TEACHES

The full circle stands for the whole set of data. Every slice is a part of that one whole, so all the slices together must fill the circle.

→ A class of 20 pupils fills the whole pie; a slice for 10 pupils fills exactly half of it.

→ 5 out of 20 is $5/20 = 1/4 = 0.25 = 25\%$.

MODEL THIS ON THE BOARD

BUILDING THE LUNCH SURVEY PIE CHART

- ① Start with the sandwich slice of 8 out of 20 pupils.
- ② Divide 8 by 20 to get the fraction $8/20$.
- ③ Multiply by 100 to turn the fraction into a percentage: $8/20 \times 100 = 40\%$.
- ④ Draw a slice that is 40% of the full circle for sandwiches.

ANSWER KEY

Scaffold: visual check on the page

Q1: $3/5$

Q2: $9/25$

Q3: $1/10$

a) **Always** — Every slice is a part of the one whole so they fill the circle.

b) **Never** — 8 out of 20 is two fifths not one half.

c) **Always** — $5/20$ equals 0.25 which is always 25%.

d) **Always** — $3+3+6=12$ so the parts make the whole.

EXTENSION SHEET · STRETCH ANSWERS

S1: 164°

S2: 136°

S3: 142°

S4: 216°

S5: 60°