# Draw Overlapping Fish-Scale Rows with Shading

Topic reference / ordinary illustration



Ordinary topic reference. Hypothetical dimensions in the four tasks are supplied in their own text; this illustration is not their measured answer.

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Worked example / complete source key

A scale row is 6 cm wide with 4 scales of equal width. The next row overlaps by one-third of the scale height and is offset by half a scale. If the scale height is 3 cm, how far below the first baseline is the second baseline, and how wide is each scale?

Answer: Each scale is 6 ÷ 4 = 1.5 cm wide. The overlap is one-third of 3 cm = 1 cm, so the second baseline is 3 − 1 = 2 cm below the first. The second row is offset by half a scale = 0.75 cm.

Reason: Divide row width by scale count for scale width. Multiply scale height by one-third for overlap, then subtract overlap from height for row spacing. Offset is half the scale width.

Check: Add the overlap back to the row spacing: 2 + 1 = 3 cm, matching the scale height. Multiply scale width by count: 1.5 × 4 = 6 cm, matching row width.