

Bubble sort

1. Start with the first value – the 9.
2. Compare it with the number next to it (the 5).
3. If it's bigger, swap the numbers round (it is, so swap them)
4. Now stick with the 9, compare it to the 4 – bigger so swap them
5. Stick with the 9, compare to the 15 – smaller so don't swap
6. Now move to the 15 – you're working your way along the row number by number

| | | | | | | | | |
|-----------------|---|---|---|----|---|---|----|---|
| Original array: | 9 | 5 | 4 | 15 | 3 | 8 | 11 | 2 |
| Pass 1 (part) | 5 | 4 | 9 | 15 | 3 | 8 | 11 | 2 |

7. 15 is bigger than 3, so swap them
8. Stick with the 15 and keep going... - it ends up at the end

| | | | | | | | | |
|-----------------|---|---|---|----|---|----|----|----|
| Original array: | 9 | 5 | 4 | 15 | 3 | 8 | 11 | 2 |
| Pass 1 (part) | 5 | 4 | 9 | 3 | 8 | 11 | 2 | 15 |

9. For pass 2, start with the 5 and repeat the process... Keep moving along the row, swapping numbers.

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|-----------------|---|---|---|----|---|----|----|----|
| Original array: | 9 | 5 | 4 | 15 | 3 | 8 | 11 | 2 |
| Pass 1 (part) | 5 | 4 | 9 | 3 | 8 | 11 | 2 | 15 |
| Pass 2: | 4 | 5 | | | | | | |

10. Now, keep going, starting with the first value each time. You should find numbers start falling into place at the end of the row – and that the smaller numbers start ending up at the start of the row

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|-----------------|---|---|---|----|---|----|----|----|
| Original array: | 9 | 5 | 4 | 15 | 3 | 8 | 11 | 2 |
| Pass 1: | 5 | 4 | 9 | 3 | 8 | 11 | 2 | 15 |
| Pass 2: | 4 | 5 | 3 | 8 | 9 | 2 | 11 | 15 |
| Pass 3: | | | | | | | | |
| Pass 4: | | | | | | | | |
| Pass 5: | | | | | | | | |
| Pass 6: | | | | | | | | |
| Pass 7: | | | | | | | | |

And at the end, the row should all be sorted...