Adding and subtracting within 20 from memory

Know every small sum by heart, and the take-aways that undo them.

WORDS TO KNOW

Turnaround: like 3 + 5 and 5 + 3.

Double: a number added to itself.

KEY IDEAS

1. All the sums fit in one table

Pick a number on the left and one on the top. The box where they meet holds the sum. A turnaround pair sits on two sides of the shaded line. Both hold the same sum.

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

You can add two numbers in either order. The sum stays the same.

2. Pick a short way, not counting by ones

Adding 1, 2 or 3? Count on from the bigger number.

The same number twice? That is a double. Know it by heart.

Numbers one apart? Double the smaller one, then add one more.

An 8 or a 9, and the sum is over 10? Fill a 10 first, then add the rest.

Taking away? Think of adding. What do I add to the part to make the whole?

WATCH OUT

- **Swap only when you add.** A take-away must start with the whole.
- **Check the "one more" step.** A double plus one works only for numbers one apart.

WORKED EXAMPLES

Example 1. Find 13 − 6.

1. Think: what do I add to 6 to make 13?
2. Use a double. 6 + 6 = 12. 13 is one more, so add 6 + 1 = 7.

Answer: 13 − 6 = 7. **Check:** make a ten. 7 + 3 + 3 = 13.

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