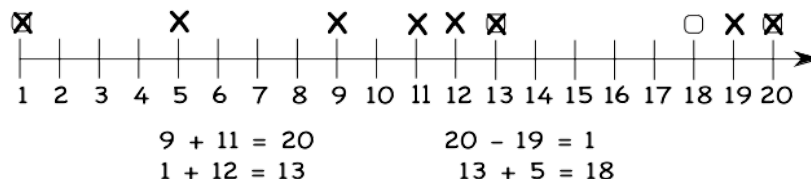# Pairing Down

Math Concepts: add / subtract numbers to 20
Materials: Paper, pencil
Players: 2

Set up: Start with a number line that goes from 1 to 20.

$$9 + 11 = 20 \qquad 20 - 19 = 1$$
$$1 + 12 = 13 \qquad 13 + 5 = 18$$

Play: During a turn, choose two numbers and a result, none of which have been crossed out, and write down an addition or subtraction equation that involves those numbers. The two numbers in the equation are crossed off, and the result is circled.

In the example above, the third equation's result is 13. In the fourth equation, 13 is used to produce the equation 13 + 5 = 18. 13 and 5 are crossed out, and 18 is circled.

The next player must use the result, 18 in this case, as one of their two numbers producing a new result (that is not already crossed out).

Goal: The winner is the last player with a legal move.

– DISCUSSION AND TIPS –

Discuss strategies players are using to win the two-player game.

Discuss strategies players are using in the cooperative version of the game. Is it better to use up the small numbers early or late in the game? - same question for the large numbers.

– VARIATIONS –

Use a shorter number line for younger players.

This can be played cooperatively to see how few numbers are left untouched after the last legal move.