

Using collections to show addition and subtraction together introduction

1 Two colours, two parts — concrete before paper

Show a small pile of two-colour counters, all one colour up. Flip some over to the other colour, so the whole splits into two parts you can see by colour.

"Here are five counters, all red. I flip two over to yellow. Now there are two parts — three red and two yellow."

Pull the two parts apart so they sit as two separate groups, then push them back together to show they still make the same whole.

"I can pull the parts apart to see them clearly, or push them back together to make the whole again."

Instead of writing the equation straight away, search the demonstration cards for the addition that matches, and hold it up.

"Three red and two yellow make five altogether. Can you find the card that says three plus two equals five?"

Take the yellow part away completely, leaving only the red part, then search the cards again for the matching subtraction.

"Now I take the yellow part away. What is left? Find the card for five take away two."

Name what makes counters different from a story or a picture — right now they can be moved, split and rejoined. Soon this same idea will be drawn on paper, where it stays still.

"Right now I can move these counters around and change my mind. Soon we will draw this on paper, where it stays put."

Equation cards — demonstration

$$4 - 2 = 2$$

$$3 - 2 = 1$$

$$2 + 2 = 4$$

$$2 - 1 = 1$$

$$1 + 2 = 3$$

$$3 + 2 = 5$$

$$5 - 2 = 3$$

$$1 + 1 = 2$$