

Property of zero introduction



1 Add or take zero — nothing changes

Put out six counters. Say you will add zero more — reach to the pile, pick up nothing, add nothing. Count: still six.

"I add zero more counters — I pick up nothing and add nothing. How many now? Six. Nothing changed."

Take away zero — with eight counters, remove nothing. Count: still eight. Adding or taking zero leaves the number the same.

"I take away zero — I remove nothing. How many left? Eight. Adding or taking zero leaves the number unchanged."

Show the zero-first form — zero plus five: start with none, add five, you have five. The five is unchanged.

"Zero plus five — start with none, add five. Five. What stayed the same? The five."

Correct the trap — zero does not swallow the number. Zero plus five is five, not zero (that would be times, later). And five plus zero is five, not fifty (that is just writing a zero after).

"Zero plus five is five, not zero — zero does not gobble it up. And five plus zero is five, not fifty."

Show a number take itself — eight take away eight leaves nothing, zero. Name the payoff: one rule for adding and taking zero covers about twenty facts, with nothing to memorise.

"Eight take away eight — nothing left, zero. One rule covers about twenty facts — a good deal."

Property of zero — true / false cards (demo)

Print on A4 (enlarge to A3). Hold up a card — students call true or false and explain. The false cards each target a common error: zero swallows the number, or a zero written after the digit.



$$8 + 0 = 8$$

$$0 + 4 = 0$$

$$7 - 0 = 7$$

$$0 - 3 = 3$$

$$5 + 0 = 50$$

$$0 + 0 = 0$$

$$6 - 6 = 0$$

$$9 + 0 = 9$$