

Adding and interchanging silver coins

introduction

1 The same value, made from different coins

Show a 10 cent coin. Ask what smaller coins add up to the same value.

"This is 10 cents. What smaller coins could I swap it for?"

Show the swap: two 5 cent coins.

"Five cents and five cents — that is also ten cents. Same value, different coins."

Show a 20 cent coin, then find more than one way to make it: two 10 cent coins, or a 10 cent and two 5 cent coins.

"Twenty cents. What could I swap it for? Two ten cent coins works. So does one ten cent coin and two five cent coins."

Show a 50 cent coin and find a combination using five 10 cent coins.

"Fifty cents. Five ten cent coins — let's check: ten, twenty, thirty, forty, fifty. That works."

Introduce the idea of fewest coins versus most coins for the same value.

"The coin itself is the fewest coins possible — just one. Swapping it all the way down to five cent coins gives the most coins for the same value."

Show a common mistake: a combination that does not actually add to the target value. Check it: does this really add up to twenty cents?

"I said ten cents, ten cents and five cents makes twenty cents. Let's check: ten, twenty, twenty-five. That is twenty-five cents, not twenty. The combination has to add up exactly."