

NUMERACY STRATEGIES

Addition/Subtraction

- **Stage 1-** Count all

- Strategy- one to one counting

- **Stage 2-** Counting from one on materials



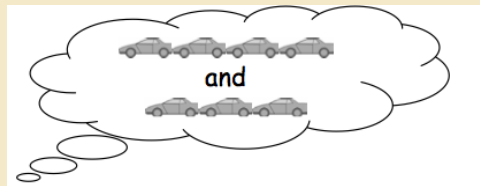
- Strategy- join groups together and find the total up to 10



- - split groups of objects and find how many are left



- **Stage 3-** Counting from One by Imaging- solve add/sub problems up to 10 by counting all the objects in my head



- **Stage 4-** Advanced Counting
- Strategy - Counting on in my head
- Examples of "counting on" or "counting down" methods are
 - The students work out $16 - 13$ by starting at 13 and count 14, 15, 16; they know the answer is 3.
 - The students work out $29 + 4$ by counting 30, 31, 32, 33; they know the answer is 33.

Stage 5 - Strategies to move students from counting on to part-whole

Part-whole thinking- numbers can be treated as wholes, partitioned and recombined to solve simple add/sub problems

- Compensation from known facts:
- For example, to solve $7 + 6$;
- Use known double fact:
- $6 + 6 = 12$, so $7 + 6 = 13$.

$26 + 25$ by adding $25 + 25$ to give 50 and adding 1 to give 51.

- rounding and compensating
- $39 + 56 = 40 + 55 = 95$

Part-whole partitioning: For example, to solve $23 + 13$; $(20 + 10) + (3 + 3) = 30 + 6 = 36$

Grandma bakes 61 cakes and 39 loaves of bread. How many cakes and loaves does she bake in total?

Dad cooks 35 sausages and 65 chops. How many pieces of meat does he cook in total?

The queen has 100 pairs of shoes. She has 28 red pairs, 32 blue pairs and the rest are black. How many pairs of black shoes does the queen have?

- **Stage 6-** broad range of mental strategies to solve add/sub problems
- Strategy: rounding and compensating
- for example, to solve
- $63 - 39 = 63 - 40 = 23 + 1 = 24$
- $834 - 479 = 834 - 500 = 334 + 21 = 355$

To get a "Good Service" award Mitchell needs to shine 94 shoes. If he shines 69 shoes, how many more shoes will he need to shine to get his award?

It takes Andrew 107 steps to walk from one end of the corridor to the other. If he takes 59 steps, how many more steps does he still need to take to reach the other end?

Ben had \$364 dollars in his bank. After buying a video game he has \$289 left. How much did the video game cost?

- **Stage 7** -use compensation to solve decimal add/sub problems

- $3.2 + 1.95 = 3.2 + 2 = 5.2 - 0.05 = 5.15$

- **Stage 8**- use equivalent fractions to solve add/sub of fractions

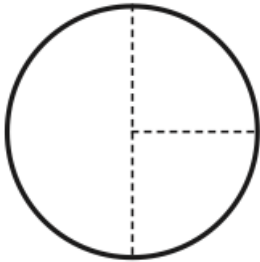
- $2\frac{3}{4} - 1\frac{2}{3} = 1 + (3/4 - 2/3) = 1 + (3/12 - 2/12) =$

- $1\frac{1}{12}$

Solana, Edward and Camryn made a bead necklace each during their ACE time with Mrs. Gows. Solana's necklace was 20.13 inches long, Edwards was 9.29 inches and Camryn's was 24.76 long.

- A. If you join all three necklaces up, how long would they be?
- B. By how many inches was Camryn's necklace longer than Edward's and Solana's|
- C. If you join up Edward's and Solana's necklaces. How much longer would they be than Camryn's?

Sarah's gran gave her some money for her birthday. Sarah saved $\frac{1}{2}$ of the money and spent $\frac{1}{4}$ of the money on a book. That left her with \$15 in her purse. How much money did her Gran give her?



Ali went to the show. He spent $\frac{1}{2}$ of his money on rides and $\frac{1}{3}$ of what was left on a dagwood dog, some chips and some fairy floss. That left him with \$28 to spend on show bags. How much money did he have to begin with?

