

Calculations-Addition**Bronze Level Teachers Notes p 47****Learning intentions**

- *To know by heart all pairs of numbers that total 20*
- *To understand that addition can be done in any order*

Resources

HTU board (Resource sheet 10)
 2 Dienes rods and 9 unit cubes per pupil
 2 x 10p pieces and 9 x 1p pieces per pupil
 Multilink cubes
 Set of cards 0–20 (Resource sheet 5—Numbers 0—99)

Vocabulary

*add
 addition
 total
 altogether
 tens
 units
 more
 equals
 makes*

Lesson outline

- * Revise pairs of numbers that make 10, recording them in order starting from $0 + 10 = 10$, $1 + 9 = 10$.
- * Tell pupils you are going to use these to help you remember the pairs that make 20.
- * Give each pupil 20 multilink. Start with $0 + 20 = 20$, recording next to $0 + 10 = 10$
- * Break 1 cube off and ask $1 + ? = 20$. Demonstrate $1 + 19 = 20$ and record next to the $1 + 9 = 10$. Ask what sum will come next. Continue the sequence asking pupils to break the stick and record the answers. .
- * Stop at $10 + 10$ and discuss what sum will come next and where to write it. Continue to $20 + 0 = 20$. (Pupils to continue independently if appropriate)
- * Discuss the pattern and the relationship with the pairs that make 10.
- * Give each pupil a HTU board and the Dienes rods and cubes (or 10p and 1p pieces). Start with 0. What must they put on the HTU board to make 20? Check that they put 2 ten rod in the Tens section. Record $0 + 20 = 20$.
- * Clear the HTU board and put one unit cube in the Unit section. What must they put with this to make 20. Check they put 1 ten rod in the Tens section and 9 unit cubes in the Unit section to show 19. Record $1 + 19 = 20$.
- * Continue making the sums, asking the questions and recording. Make the link between $19 + 1 = 20$ and $9 + 1 = 10$ etc.
- * Play games to help memorise the pairs e.g.
- * **Fish.** Take the cards 0–20 from the set of 0—99 cards. Shuffle and arrange face down on the table. Take turns to turn over 2 cards. If the two cards are a pair that total 20, the pupil keeps them and has another go. Winner has the most pairs. More than one set of 0-20 cards can be used if appropriate.
- * **Catch.** Throw/ bounce a small ball or bean bag at one pupil at a time giving a number from 0—20. Pupil returns ball saying the pair that totals 20. How long can they keep the ball going with no mistakes?

KEY QUESTION

How does knowing the pairs of numbers that total 10 help you know the pairs that total 20?

Pupils complete page 47