

Card Counting

Big Idea: Operate/Calculate

Suits: Year 2-6

Materials: Playing cards

Open the pack of cards with the students watching. From the pack, select the ace, 2, 3, 4 and 5 cards of one colour, eg hearts and diamonds.



Confirm with the students that the total value of the cards is 30 (aces have a value of 1).

Part A.

Shuffle the cards and remove one 'Mystery' card. Place this card face down on a desk or on the whiteboard, hiding the value.

Explain that the value of the remaining cards is now less than 30. The challenge for students is to determine the value of the mystery card.

Explain that:

- the teacher will reveal one card at a time
- students will keep a cumulative total.

When all of the cards have been added, challenge the students to find the value of the mystery cards.

Choose a new mystery card and play again

What is the value of the Mystery card?

Part B. Adding the '10' cards

- Add the two '10' cards of the same colour to the collection
- Confirm that the new total is 50. Reshuffle the cards and take one 'Mystery' card out and play once more.



Teacher Notes:

Choose numbers and properties that are consistent with the curriculum demands of your year level.

Discuss useful mental strategies for calculating in this warm up, particularly partitioning mentally to bridge tens.

Be aware that:

- students may use inefficient counting strategies including the use of fingers.

Extend the task by:

- playing the Card Counting warm up with the '6' cards included this is considerably more difficult.
- removing two mystery cards. When the cards in the pack have been counted, ask students to work with a partner to determine all the possible combinations for the two mystery cards.

Challenge students:

- to calculate the value of a full suit of cards, eg: diamonds and hearts. Discuss strategies that assist addition in this situation.

Guiding Questions:

- *When you are adding numbers across a ten, what strategy can you use?*

Note: If the cards have added to 18, and the next card is a 5, students can mentally partition the five into 2 and 3, and think $18 + 2 (20) + 3 = 23$

- *How do you keep track of the total?*

