STOP AT 4
Investigation Guide A

This guide assumes you have first worked on the Task Card.
Now use the materials to help you investigate these questions.

With larger packs investigate the same 'trick' using the changes described. The aim is to explain how the trick works for any size pack.

1. Put in the 5s. There will now be 20 cards. Try the 'trick' again using these changes. When you...
   - Count on from the value of the 'starter' cards, continue until you get to 'five'.
   - Add the values of top cards in two of the piles moved aside then add 2 (not 1).

2. Put in the 6s. There will now be 24 cards. Try the 'trick' again using these changes. When you...
   - Count on from the value of the 'starter' cards, continue until you get to 'six'.
   - Add the values of top cards in two of the piles moved aside then add 3 (not 1 or 2).

3. Put in the 7s, 8s, 9s and 10s. There will now be 40 cards. Try the 'trick' again using these changes. When you...
   - Count on from the value of the 'starter' cards, continue until you get to 'ten'.
   - Add the values of top cards in two of the piles moved aside then add 7 (not 1, 2 or 3).

4. Put in the picture cards. There will now be 52 cards. Jacks will have the value 11, Queens 12 and Kings 13. Try the 'trick' again using these changes. When you...
   - Count on from the value of the 'starter' cards, continue until you get to 'thirteen'.
   - Add the values of top cards in two of the piles moved aside then add 10.

5. Now you have tried variations on the 'trick', explain how and why it works.

6. Another way to change the trick is to choose four piles, instead of three. (You then turn over three of them, and predict the fourth number.) What must you do to the total of the three values, to get the trick to work? Does this change depending on how many cards you use in the pack?
   Explain.