**Challenge cards**

**Challenge card 1**

**Bubble sort**

1. Compare the first two cards.

2. If the card on the right is lower than the card on the left, swap both cards.

3. Compare the next two cards and repeat step 2.

4. Repeat steps 2 and 3 until you reach the end of the pack.

5. Repeat steps 1 to 4 until all the cards are in order.

**Challenge card 2**

**Merge sort**

1. Split the cards into two piles of six.

2. Split the two piles in half again (so you have four piles of three).

3. Sort each pile into numerical order and place each pile in a stack face up.

4. Compare the top cards in the first two piles.

5. Put the lowest-value card face down in a new pile.

6. Repeat steps 4 and 5 until both piles are in one stack.

7. Repeat steps 4 to 6 for the other two piles.

8. You should now have two piles. Repeat steps 4 and 5.

**Challenge card 3**

**Insertion sort**

1. Place a marker (e.g. pencil) between the first two cards.

2. If the card to the right of the marker is lower than the card on the left, swap both cards.

3. Move the marker one place to the right.

4. If the card to the right of the marker is lower than the card on the left, swap both cards.

5. If the cards to the left of the marker are not in order, keep swapping the cards on the left (moving from right to left) until they are all in order.

6. Repeat steps 3 to 5 until all the cards are in order.