

# SORTING ALGORITHMS



## **Selection Sort**

1. Look through every slip and find the one that should be first
2. Put that slip to one side, face down
3. Repeat steps 1 - 2

## **Bubble Sort**

1. Compare the first two slips for alphabetical order and swap if needed
2. Compare 2 and 3 for alphabetical order and swap if needed
3. Repeat all the way through one run. Put the LAST slip to one side
4. Repeat steps 1 - 3

## **Merge Sort**

1. Split the reply slips in half (2 piles of 12)
2. Split them in half again (4 piles of 6)
3. And again (8 piles of 3)
4. Sort each pile into alphabetical order and place it in a stack, face up
5. Look at the first two piles & compare the two top slips
6. Put the first on face down in front of you
7. Repeat steps 5 & 6 until those two piles are now in one stack
8. Repeat steps 5 - 7 for the next two stacks (3 & 4)
9. Repeat steps 5 - 7 twice more (stacks 5 & 6, stacks 7 & 8)
10. You should now have 4 piles, face down. Repeat steps 5 - 8
11. You should now have 2 piles. Repeat steps 5 - 6

## **Insertion Sort**

1. Lay out all the slips face up
2. Compare the slip with the slip to the left
3. If it is less than the left slip, swap
4. If not move to the next slip
5. Repeat steps 2, 3, 4,