Ordering Numbers - All Possibilities

Need: 0-9 digit cards

- Children choose four of the digit cards at random.
- The challenge is to find all the possible numbers that can be made by rearranging the digits.
- *NB – this is an opportunity to teach systematic working, starting with the greatest or least number and working through.*
  - For example:

2478	4278	7248	8247
2487	4287	7284	8274
2748	4728	7428	8427
2784	4782	7482	8472
2847	4827	7824	8724
2874	4872	7842	8742

- Follow up challenges could include questions such as:
  - Which numbers round to 5000 to the nearest 1000?
  - Which number is closest to 6000?
  - If there are 24 possible numbers from four digits, how many possibilities are there for three digits?
  - What about 2 digits?
  - Is there a relationship between the number of possible numbers from the number of digits available and if so, what is it?