

1. There are 3 cases for the different combinations for the 4 letters.

1) There is no 'A' in the 4 letters.

$$\text{Combinations} = 6 * 5 * 4 * 3 = 360 \text{ combinations}$$

2) There is only 1 'A' in the 4 letters.

$$\text{Combinations} = C\binom{4}{1} * 6 * 5 * 4 = 480 \text{ combinations}$$

3) There are 2 'A's in the 4 letters.

$$\text{Combinations} = C\binom{4}{2} * 6 * 5 = 180 \text{ combinations}$$

Adding the possible combinations for all 3 cases, $360 + 480 + 180 = 1020$ Combinations

There are 1020 different strings of 4 letters using only the letters from the box.