








# COUNTDOWN Challenge

## Fundamental Counting Principle

*License plates use digits (0-9) and letters of the alphabet (A-Z) to identify motor vehicles. You can find the **total number of unique plates** if you use the **fundamental counting principle** (multiply the number of ways each event can occur). Then, **design** a license plate that will match each criteria.*

### NUMBER OF POSSIBLE LICENSE PLATES

Fundamental Counting Principle	Total	Design an example
$\frac{10}{\text{any digit}} \times \frac{26}{\text{any letter}}$	260	
$\frac{36}{\text{any digit or letter}} \times \frac{\quad}{\text{any digit}}$	360	
$\frac{5}{\text{odd digit}} \times \frac{5}{\text{even digit}} \times \frac{\quad}{\text{any digit}}$	—	
$\frac{10}{\text{A-J}} \times \frac{5}{\text{K-O}} \times \frac{\quad}{\text{P-X}} \times \frac{\quad}{\text{Y-Z}}$	900	
$\frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{any digit}} \times \frac{\quad}{\text{K-T}} \times \frac{\quad}{\text{any digit}}$	—	
$\frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{A-J}}$	—	
$\frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{A-Z}} \times \frac{\quad}{\text{A-J}} \times \frac{\quad}{\text{any digit}}$	—	
$\frac{\quad}{\text{Square \#}} \times \frac{\quad}{\text{Multiple of 3}} \times \frac{\quad}{\text{Prime \#}} \times \frac{\quad}{\text{Fibonacci \#}} \times \frac{\quad}{\text{Powers of 2}} \times \frac{\quad}{\text{Composite \#}}$ <p style="font-size: small; margin-top: 5px;">             (1,4,9)    (3,6,9)    (2,3,5,7)    (1,2,3,5,8)    (1,2,4,8)    (4,6,8,9)         </p>	—	