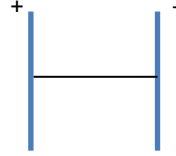
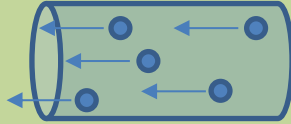


CONCEPT: INTRODUCTION TO CURRENT

- CURRENT is a flow of charges
 - *Conventional* current → direction of flow of [+ | -] charges
 - “Motivation” is provided by _____ (aka **ELECTROMOTIVE FORCE**)



- CURRENT is defined as:



$i =$ _____

- Units are **AMPS**: 1 _____ = 1 _____ / _____

EXAMPLE: If a capacitor initially charged to 5 nC has a wire connected between the positive and negative plates, what would the current in the wire be if it takes 10 ms to completely discharge?

EXAMPLE: 1 mA of current passes through a wire. How many electrons pass through the wire in 5 s?

PRACTICE: AMOUNT OF CHARGE IN A LIGHTNING STRIKE

A lightning bolt hits the ground carrying a current of 3×10^4 A. If the strike lasts 50 ms, how much charge enters the ground?