

# “CIRCUITS” LAB – PRE-LAB

NAME: \_\_\_\_\_

BLOCK: \_\_\_\_\_



## #1. AMMETERS –

Ammeters are used to measure current (A).

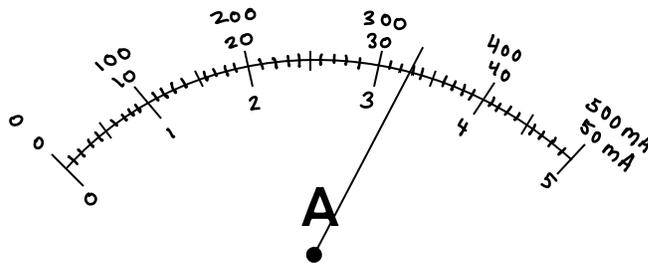
In a circuit, the negative (black) terminal of the ammeter is connected to the negative terminal of the battery.

The positive (red) terminal of the ammeter is connected to the positive terminal of the battery.

### Determine the current from the ammeters below.

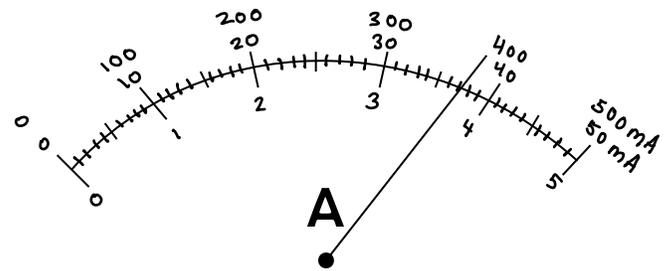
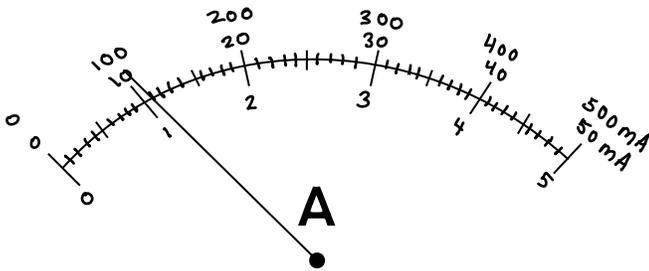
Example: Scale 50 mA

current = \_\_\_\_\_



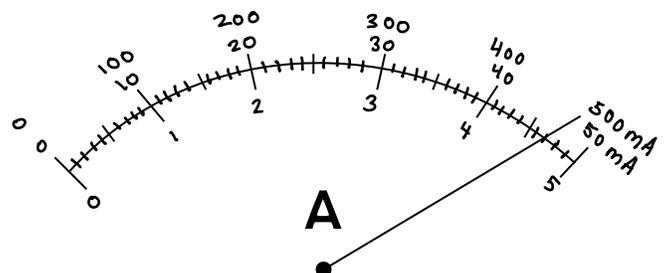
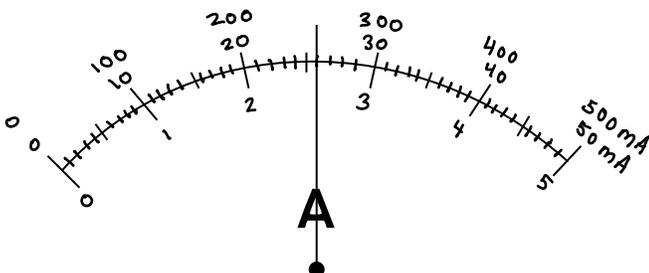
a) scale 500 mA current = \_\_\_\_\_

b) scale 50 mA current = \_\_\_\_\_



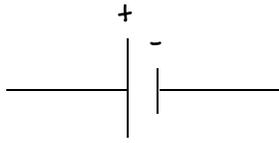
c) scale 500 mA current = \_\_\_\_\_

d) scale 5 A current = \_\_\_\_\_

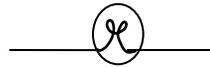


## #2. READING/DRAWING CIRCUIT DIAGRAMS-

SYMBOLS YOU NEED TO KNOW:



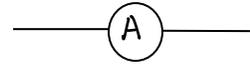
(Battery or Cell)



(Light)



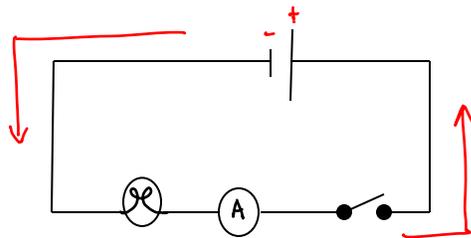
(Switch)



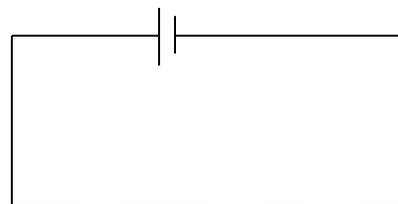
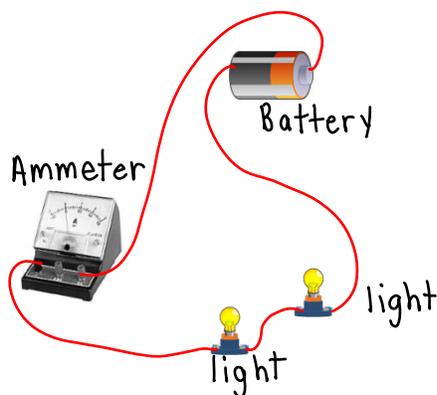
(Ammeter)

### DRAWING CIRCUITS:

In order to connect these symbols into a circuit diagram, you must know the direction the current will flow through the circuit. So, remembering **that current always flows from negative to positive**, you'll need to situate the battery in the proper direction on your drawing (remember we want the current to flow from the negative end of the battery, through the light(s), through the ammeter, through the switch and then back into the positive end of the battery). A basic circuit with only one light will look like this. I've drawn an arrow around the circuit to indicate the direction of current flow.



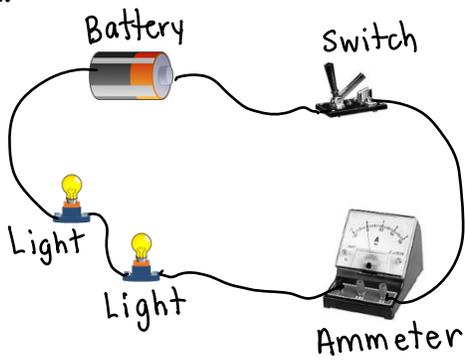
Now finish drawing a diagram of the circuit below and label the direction of current flow.



**PRACTICE DIAGRAMS:**

Convert the following circuits into the proper circuit diagrams.

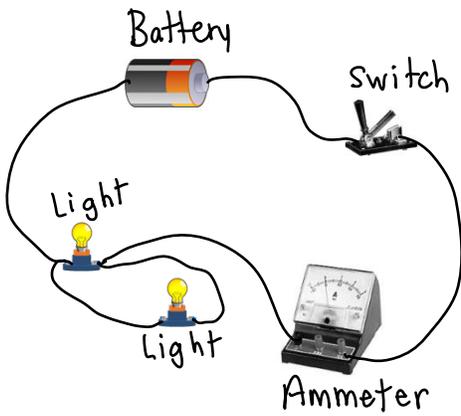
1.



(Drawing)

(Schematic Diagram)

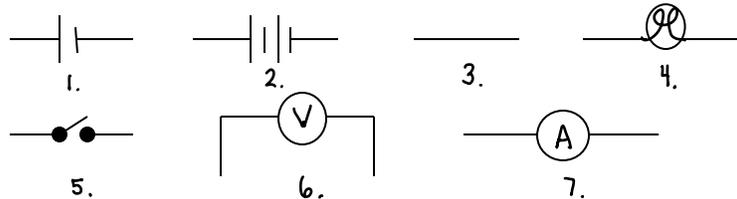
2.



(Drawing)

(Schematic Diagram)

# SCHEMATIC DIAGRAMS – EXTRA PRACTICE



1. Identify the above symbols:

1.	2.	3.	4.	5.	6.	7.

2. Make a **complete** circuit that has the following parts:

1.5 volt cell	
light bulb	
switch	

3. Make a **series** circuit that has the following parts:

3.0 volt battery	
2 light bulbs	
switch	

4. Make a **parallel** circuit that has the following parts:

1.5 volt cell	
2 light bulbs	
switch that turns off both bulbs	