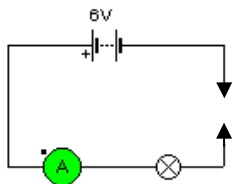


**Conductors and Insulators** Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Aim:** To discover which materials are conductors and which materials are insulators.

**Equipment:** battery, ammeter, light globe, wires, materials to be tested.

Set up the equipment as shown, leaving two crocodile clips unattached (represented by the arrows)



Place each material in between the unattached clips to determine how well it conducts. Fill in the table.

| Material                 | Light globe (on/off?) | Electric Current (Amps) | Conductivity (good conductor, poor conductor, insulator) |
|--------------------------|-----------------------|-------------------------|--|
| Nickel (Ni)              |                       |                         |  |
| Zinc (Zn)                |                       |                         |  |
| Glass                    |                       |                         |  |
| Wood                     |                       |                         |  |
| Copper (Cu)              |                       |                         |  |
| Water (H <sub>2</sub> O) |                       |                         |  |
| Salt (NaCl)              |                       |                         |  |
| Salt water               |                       |                         |  |
| Plastic                  |                       |                         |  |
| Graphite (C)             |                       |                         |  |
| steel (99% iron, Fe)     |                       |                         |  |
|                          |                       |                         |  |
|                          |                       |                         |  |

Questions:

1. What is a conductor? \_\_\_\_\_

2. What is an insulator? \_\_\_\_\_

3. How can you tell from this prac whether a material is a conductor or not? \_\_\_\_\_

4. Are all conductors the same? Can you rank them? Which is/are the best conductor(s)?

5. Which of the materials are insulators? How can you tell? \_\_\_\_\_

6. How does this experiment show that air is an insulator? \_\_\_\_\_