

























An appreciation to  
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**Introduction**  
The purpose of this experiment is to demonstrate the effect of different materials on the conductivity of a solution. The experiment will be conducted in a laboratory setting. The results of the experiment will be compared to the theoretical values.

**Table**

| Material        | Conductivity (S/cm) |
|-----------------|---------------------|
| Distilled Water | 0.05                |
| Tap Water       | 0.1                 |
| Sea Water       | 5.0                 |
| Acetic Acid     | 0.1                 |
| Sulfuric Acid   | 1.0                 |

**PROTONICS**  
The purpose of this experiment is to demonstrate the effect of different materials on the conductivity of a solution. The experiment will be conducted in a laboratory setting. The results of the experiment will be compared to the theoretical values.

**My Experiment**  
In my experiment, I will demonstrate that the conductivity of a solution is affected by the concentration of the ions in the solution.

- Materials**
- Distilled Water
  - Tap Water
  - Sea Water
  - Acetic Acid
  - Sulfuric Acid
  - Beakers
  - Conductivity Meter
  - Wires
  - Battery



**Introduction**

- The Baghdad Battery is an object that's been known of for nearly One hundred years. The problem though, was that no one could figure out what they were used for. For thousands of years, they were just clay pots with no particular purpose. They were then named, and to the surprise of most archaeologists, it had more knowledge of the potential of the Ancient Egyptian "batteries" were used to light large light bulbs in the Pyramids of Egypt.

**Hypothesis**

- I believe that the Baghdad Battery will produce power, but only half as much power needed to power an LED. If the Baghdad Battery produces up to at least 4 volts, then half of that will be able to power an LED.

**Data**

| Time | Current (mA) | Voltage (Volts) |
|------|--------------|-----------------|
| 1:00 | 10           | 0.5             |
| 1:05 | 10           | 0.5             |
| 1:10 | 10           | 0.5             |
| 1:15 | 10           | 0.5             |
| 1:20 | 10           | 0.5             |
| 1:25 | 10           | 0.5             |
| 1:30 | 10           | 0.5             |
| 1:35 | 10           | 0.5             |
| 1:40 | 10           | 0.5             |
| 1:45 | 10           | 0.5             |

**History**

- The Baghdad Battery dates back to before the first Chinese Empire was created, around 8,000 B.C. According to historians in Egypt, it was used when they were used to power large lights. They were used to light up the pyramids, but they were not fully understood. It was not until the 19th century that the battery was rediscovered. It was used for illuminating and for the lighting of the pyramids. It was used for illuminating and for the lighting of the pyramids. It was used for illuminating and for the lighting of the pyramids.

**PROCEDURE**

- The steps to my experiment are done in this order:
- Connect the Multimeter to the battery positive-negative-ground.
- I will set the multimeter to read the energy in millivolts.
- Then I will test it's capabilities.

**My Experiment**

- In my experiment, I will demonstrate that the Baghdad Battery does produce electricity as well as demonstrate how much electricity it produces.

**Materials**

- One will need the following materials:
- 1. Glass Jar
- 2. Copper Sheet
- 3. Zinc Sheet
- 4. Multimeter
- 5. Plastic Spoon (to stir the solution)
- 6. Alligator Clips
- 7. Wire
- 8. Paper Clips
- 9. Something to plug!



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48 in / 121.9 cm

36 in / 91.4 cm

12 in / 30.3 cm

24 in / 60.9 cm

12 in / 30.3 cm

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- Observe your own work
- Labels and graphics
- Customizable and Adaptable
- Observe your own work

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**Results**

**Conclusions**

**Recommendations**

**Data and Graphics**

**Procedure**

**Hypothesis**

**Materials**



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# Fishing Line or Knot True

## PURPOSE

The purpose of the experiment was to investigate the best fishing line and hook to use when fishing. I have discovered in my project how to use a fishing line and hook to catch a fish. I have learned that a large fish will get away and take more of a line because of an unbalanced knot. The information given by this project will help others to gain more knowledge about the best line and hook to use to catch larger sized fish in their ponds.

## HYPOTHESIS

My hypothesis is that the catch knot would work best based on my personal experience and that it was the most dominant knot in my family. My hypothesis about the line is that the fly line would work the best because it is braided. Its lack of stretch would add to its strength.

## PROCEDURE

1. I used a fishing line that was made of braided material and a hook that was made of metal and was 1/4 inch long. I used a fishing line that was made of braided material and a hook that was made of metal and was 1/4 inch long. I used a fishing line that was made of braided material and a hook that was made of metal and was 1/4 inch long.

## MATERIALS

- 1. Fishing line
- 2. Hook
- 3. Fly line
- 4. Fly hook
- 5. Fly line
- 6. Fly hook
- 7. Fly line
- 8. Fly hook
- 9. Fly line
- 10. Fly hook

## GRAPH

Graph 1: Catch Rate by Fishing Line Type

| Fishing Line Type | Catch Rate |
|-------------------|------------|
| Fly Line          | 10         |
| Monofilament      | 5          |
| Braided           | 8          |

Graph 2: Catch Rate by Hook Type

| Hook Type         | Catch Rate |
|-------------------|------------|
| Fly Hook          | 10         |
| Monofilament Hook | 5          |
| Braided Hook      | 8          |













