

Name: \_\_\_\_\_

Partner: \_\_\_\_\_

Science 9 Fruit Lab

Read through pages 276 to 277 in BC SCIENCE 9 before attempting this experiment

**Objective:**

1. To create a battery using 2 different fruits as the **electrolyte source** and pairs of different metals as the **electrodes**

**Pre-lab Questions:**

\*\*\*\*Define the term **electrolyte**:

\*\*\*\*Define the term **electrode**:

\*\*\*\*Which **fruit** (of the two you and your partner have selected) do you think will work best as an **electrolyte source**?

\*\*\*\*Which **pair of metals** (from the list provided) do you think will be the best **electrodes**?

**Procedure:** As seen on pages 276-277 in BC SCIENCE 9. You will perform **PART 1** using two different fruit before proceeding to part 2.

**Data and Observations:**

Metal 1	FRUIT #1 : _____	Metal 2			
		Aluminum	Zinc	Iron	Copper
	Aluminum		X	X	X
	Zinc			X	X
	Iron				X
	Copper				

Metal 1	FRUIT #2 : _____	Metal 2			
		Aluminum	Zinc	Iron	Copper
	Aluminum		X	X	X
	Zinc			X	X
	Iron				X
	Copper				

**Analysis:**

**1. In Part 1:**

- a. Which fruit produced the best voltage results?
- b. For the fruit selected in a, which combination of metals produced the lowest voltage?
- c. For the fruit selected in a, which combination of metals produced the highest voltage?

**2. In general, how did the voltage produced by two similar metals compare to the voltages produced when two different metals were used?**

**3. In Part 2, how did the voltage produced by the two metals in **pure water** compare to the results you gathered for when the metals were placed in the fruit? Give a possible explanation for this.**

**Conclude and Apply:**

**1. a. Now that the experiment is concluded, list the components necessary for the highest voltage battery:**

b. Were the answers to your pre-lab questions supported or rejected?

**2. a. How is the fruit battery that you made in this experiment similar to a store-bought battery?**

b. How is the fruit battery that you made in this experiment different to a store-bought battery?