Name: Date: TA:

Comparing Ionic and Molecular Compounds Lab

Question: How do ionic compounds compare with covalent compounds in terms of appearance, solubility, and conductivity?

Safety:

Pre-lab terminology/theory:

Ionic Compound:

Covalent Compound:

Solubility:

Conductivity:

Hypothesis (If... Then...):

Materials:

- **Ammeter**
- **Stir stick/scoop**
- **PPE**
- **Electrode beaker**
- **Calcium chloride**
- **Sodium chloride**
- **6 beakers**
- **Olive Oil**
- **Unknown 1 and 2**
- **Parafin wax paper**
- **Wires**
- **9V battery**
- **Lightbulb**

Procedure: See instructions on website page or provide procedure page.

Results and Observations: Record your results and observations on the back of the page.

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Data Table Title: _____

Substance	Formula Enter Ionic or Covalent	Appearance (Physical Description)	Solubility (Does it dissolve in water?)	Conductivity	
				Did the bulb light up?	Current of electricity (Amps)
Sodium Chloride	NaCl _____				
Calcium Chloride	$CaCl_2$ _____				
Paraffin (wax paper)	$C_{20}H_{40}$ _____				
Olive oil	$C_{18}H_{34}O_2$ _____				
Unknown #1	_____				
Unknown #2	_____				

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Questions:

1) Based on your results, can you conclude if all ionic compounds or if all covalent compounds dissolve in water? Explain your answer.

2) a) Which compounds are better conductors? How do your results support this?

   b) What about these types of compounds gives them the ability to conduct electricity? (Hint: What is a major difference between ionic and covalent chemical formulas?)

3) What was the best indication that the unknown was ionic or covalent and why?

Conclusion: