UBD Unit Design Template

Time Frame: 3- 5 wks	Unit Title: Ions	Course Name: Physical Science		
Stage 1: Desired Results				
Established Goal(s)	Transferable Skills			
Enduring Understandings Students will understand that electrons moving creates energy and joins molecules Students will be able to engineer a device to produce a desired result.	Students will be able to independently use their learning to Understand how electrons are transferred to produce energy in batteries and be able to create a battery out of common household items. Create a graph on Google Sheets Justify a scientific claim with data they collected Use judgment to analyze a science experiment and interpret the result Understand how electricity is generated and measure it with a volt meter Work collaboratively to achieve an engineering objective			
with scientific evidence.	Evaluate the design of a device			
Students will understand science builds off itself to serve humanity.	Meaning			
	Understandings Students will understand that lons are forms of atoms with more or less electrons. Atoms can gain or lose electrons in chemical bonding, the compounds formed can have distinct properties and uses. The naming of chemical compounds is based on their chemical formula and is systematic and predictable. The transfer of electrons between a cathode, anode and electrolyte can create an electric current, such as in a battery. Electrolytes found in sports drinks are biologically important.	 Essential Questions What are ions How can we predict if an atom will lose or gain an electron? How do atoms form compounds How can the knowledge of bonded atoms be used to predict the physical properties of a compound? How are chemical compounds named? How can ions be used to generate 		

	electricity?
Acquisition	

UBD Unit Design Template

Stud	ents will know Anions and cations	Students will be able to
	Ionic compounds Properties Uses How to balance Covalent Compounds Properties Uses How to balance How to balance How to determine valence electrons • Naming of binary ionic compounds • What batteries are and how to make one. Biological importance of electrolytes for muscle function	 Determine if an element is a cation or anion Balance ionic and covalent compounds Analyses compounds in the lab to determine if they are ionic or covalent Create a battery and measure its voltage Describe how muscles use electrolytes