Science 9 – Unit D Electrical Principles and Technologies

Outcome	Activity title / description	Notes	Non- Consumable materials	Consumable materials	School provided materials
1, 3	You've got the power - Forms of Energy and Energy Transfer	DEMO or Stations	Thermocouple, hand crank flashlight or radio, battery powered flashlight or radio, electrical hotplate, toaster or blowdryer, VanDegraaf Generator	Solar calculator	Candies / fruit (enough for each student)
1	Fruity Cells	See S.A., p. 290	zinc (Zn) metal strip, copper (Cu) metal strip, 2 wires with alligator clamps, Voltmeter		Various fruits and veggies
1	Building the Best Battery - Choosing Electrolytes	See S.A., p. 291	Metal strips (Zn, Cu, Ni, Al, Fe), paperclips, voltmeter, connecting wires, 2 x 250 mL beakers	Various liquids; distilled water, tap water, sugar solution, salt solution, lemon juice, vinegar, dilute HCl, dilute KOH, Dilute $CuSO_4$	
2	Current or Static Electricity	See S.A., p. 275 and 279 modified	Dry cell, 5 Wires 2 light bulbs, Van de Graaf Generator, Lab stand, Metal rod	Clear plastic container with lid Styrofoam, 'peanuts'	

			Fluorescent tube light bulb		
2	Insulators, Conductors and Resistors	See S.A. p. 299 and 309 modified	Battery pack, Conducting Wires, Multi-meter, 250 mL beaker, Ruler	Paper clip, Nail Copper wire, Ni-chrome wire, Rubber band, Plastic spoon, Popsicle Stick, Distilled water, Salt water, Vinegar	
2	What's the Resistance?	See S.A. p. 309	D cell battery, 10 cm copper wire, 10 cm nichrome wire, 10 cm graphite, 10 cm rubber tubing, 10 cm other materials, Connecting wires, Multi-meter	Ruler, Calculator	
2	Electrical Circuits – Interactive Computer Lab	** This initial investigation of circuits can be done with hands on materials, or be done online using the recommended links.			
3	Wiring your home – Drawing and Creating circuits.	See S.A., p. 314	Battery pack, Conducting Wires, Bulbs, Switches, Bell or buzzer, Motor		
3	Phantom Power - Quantifying and Evaluating Electrical Devices	NEW!!	*energy monitor,		variety of plug – in electrical devices, calculator