Physics: The Characteristics of Electricity (SNC1D) **Content Based Assessment** (page 1 of 2)

Knowledge/ Understanding	Student Coaching Rubric	Level				
		1	2	3	4	
Static Electricity	I explain the properties of static electricity using scientific atomic models.	▪states the laws of electrostatic charge	▪explains the laws of electrostatic charge and contact charging using atomic models	▪explains the laws of electrostatic charge, contact charging and induction charging using atomic models	▪explains in detail the laws of electrostatic charge, contact charging and induction charging using atomic models	
Current Electricity	I describe the meaning and how to measure electric current, potential difference, resistance, energy and power.	▪defines and states the S.I. units for current, potential difference and resistance	▪uses the water analogy to describe current, potential difference and resistance and describes their units and measurement	▪uses the water analogy to describe current, potential difference, resistance, energy and power and describes their units and measurement	▪evaluates the water analogy in its ability to describe current, potential difference, resistance, energy and power and describes their units and measurement	
Quantitative Problem Solving	I solve simple circuit problems involving current, potential difference, resistance, energy, efficiency and power.	▪determines the unknown, given two of V, I or R using Ohm's Law (V=IR)	▪determines the unknown given two of V, I or R using Ohm's Law (V=IR) ▪predicts in most cases potential difference and current in series and parallel circuits	▪determines the unknown, given two of V, I or R using Ohm's Law (V=IR) ▪predicts correctly in most cases potential difference and current in series and parallel circuits ▪predicts correctly in most cases total resistance of a number of identical resistors connected in series and parallel ▪uses E=PΔt and determines efficiency correctly in most cases	▪determines the unknown, given two of V, I or R using Ohm's Law (V=IR) ▪predicts correctly in all or almost all cases potential difference and current in series and parallel circuits ▪predicts correctly in all or almost all cases total resistance of a number of identical resistors connected in series and parallel ▪uses E=PΔt and determines efficiency correctly in all or almost all cases	Level
Electrical Energy Production	I describe and compare several means of producing electrical energy.	▪names some methods of producing electrical energy (e.g., wet cell, wind, photoelectric cells, tidal, hydro, fossil-fuelled)	▪describes some methods of producing electrical energy (e.g., wet cell, wind, photoelectric cells, tidal, hydro, fossil-fuelled)	▪describes and compares several methods of producing electrical energy (e.g., wet cell, primary and secondary cells, wind, photoelectric cells, tidal, hydro, fossil-fuelled, thermocouples, fuel cells)	▪describes and evaluates many methods of producing electrical energy (e.g., wet cell, primary and secondary cells, wind, photoelectric cells, tidal, hydro, fossil-fuelled, thermocouples, fuel cells)	
Inquiry	Student Coaching Rubric	1	2	3	4	
Investigate and Analyze	I design and conduct a detailed investigation(s) into properties such as current, potential difference and resistance.	▪produces results that marginally satisfy the purpose of the investigation	▪produces results that somewhat satisfy the purpose of the investigation	▪produces results that fully satisfy the purpose of the investigation into properties such as current, potential difference and resistance	▪produces results that satisfy and extend the purpose of the investigation	Level
Use of Equipment	I use all instruments and equipment safely and correctly.	▪requires a great deal of correction in the use of instruments and equipment	▪requires some correction in the use of instruments and equipment	▪requires no correction in the use of instruments and equipment	▪requires no correction in the use of instruments and equipment and promotes correct use and safety to others	

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Communication	Student Coaching Rubric	1	2	3	4	Level
Clarity and Precision	I communicate most information using appropriate language and formats (e.g., organization, correct spelling, grammar, units and use of S.I. system).	▪presents little information using appropriate language and formats ▪uses spelling, grammar and S.I. correctly in few cases	▪presents some information using appropriate language and formats ▪uses spelling, grammar and S.I. correctly in some cases	▪presents most information using appropriate language and formats ▪uses spelling, grammar and S.I. correctly in most cases	▪presents all or almost all information using appropriate language and formats ▪uses spelling, grammar and S.I. correctly in all or almost all cases	
Making Connections	Student Coaching Rubric	1	2	3	4	Level
Electrical Applications	I explain several practical applications of static and current electricity and assess related economic benefits and risks.	▪lists a few applications (e.g., air cleaner, painting, motor, photocopier, lightning rod)	▪explains the scientific basis for a few applications and lists some everyday static electricity problems	▪explains the scientific basis, economic benefit and risks involved for several varied applications	▪details the scientific basis for many varied applications and evaluates benefits and risks involved for many applications	