Oberlin High School

Teacher: Mr. S. Edwards

Grade 11 Physics- Term 1

Date	Section	Topics	Objectives
October	**Electricity and Magnetism: Electrostatics**	Introduction & Assessment	• Discuss Expectations, Assessments, Labs
		Electric Charge	• Explain the charging of objects • Describe the forces that electric charges exert on each other • Explain charging by induction
		Electric Field	• Define an electric field • Describe one hazard and one useful application of static charge
	Electricity and Magnetism: Electrostatics	Current Electricity	• Distinguish between conductors and insulators • State that an electric current in a metal consist of the flow of electrons. • Differentiate between electron flow and convectional flow • State the unit of electrical current • Apply the relationship Q=IT •
		Alternating Current	• Differentiate between direct and alternating currents • Analyze current time and or voltage time graphs
	Electricity and Magnetism: Electrical Quantities	Power and Energy	• Cite examples of the conversion of electrical energy to other forms and vice versa. • Apply the relationship, V=E/Q • Apply the relationship, P=IV • Discuss the importance of conserving electrical energy and the means of doing so.

November-December	**Electricity and Magnetism: Circuit Components**	Circuit diagrams and Cells	• Use symbols to construct circuit diagrams • Differentiate between series and parallel circuits. • Explain the functions of the various parts of a zinc-carbon cell • Distinguish between primary and secondary cells • Draw a circuit diagram to show how a secondary cell can be recharged.
	Electricity and Magnetism: IV Relationships & Resistance	IV Relationships and Resistance	• Investigate the relationship between current and potential difference. • Explain the concept of resistance. • Apply the relationship R=V/I • Explain why it is necessary for an ammeter to how low resistance and the voltmeter high resistance • Solve problems including series and parallel resistance. • Solve problems involving series, parallel and series parallel circuits.
	Electricity and Magnetism: Electricity in the Home.	Electricity in the home	• Discuss reasons for using parallel connections of domestic appliances • Explain the purpose of a fuse or circuit breaker and the earth wire • Select a fuse or circuit breaker of suitable current rating for a given appliance • State the adverse effects of connecting electrical appliances to incorrector fluctuating voltage supplies
	Electricity and Magnetism: Electronics	Wave rectification and Logic Gates	• Describe how a semi-conductor diode can be used in half wave rectification • Differentiate between direct current from batteries and rectified alternating current by a

November-December Con't			consideration of the V-t graphs for both. • Recall the symbols for AND, OR, NOT, NAND, NOR logic gates • State the function of each with the aid of truth tables • Analyze circuits involving the combinations of not more than three logic gates. • Discuss the impact of electronics and technological advances on society.