Rockwall ISD Physics Year-at-a-Glance

	Term 1	Term 2	Term 3	Term 4
Focus TEKS ESSENTIAL	Unit 1 1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2I, 3A, 3D, 3E Unit 2 1A, 1B, 2I, 2J, 3A, 3C, 3D, 3E, 4A, 4B Unit 3 1A, 1B, 2I, 2J, 3A, 3D, 3E, 4C, 4D, 5A, 5B	Unit 4 1A, 1B, 2I, 2J, 3A, 3E, 4A, 4B, 4C Unit 5 1A, 1B, 2I, 2J, 3A, 3E, 4B, 6C, 6D	Unit 6 1A, 1B, 2I, 2J, 3A, 3D, 3E, 6A, 6B, 6C, 6D Unit 7 1A, 1B, 2I, 2J, 3A, 3E, 7A, 7B, 7C, 7D Unit 8 1A, 1B, 2I, 2J, 3A, 3E, 7A, 7B, 7C, 7D, 7E, 8B Unit 9 1A, 1B, 2I, 3A, 3E, 5A, 5C, 5D, 5E	Unit 10 1A, 1B, 2I, 3A, 3D, 3E, 5E, 5F Unit 11 2I, 6E Unit 12 2I, 3A, 3C, 3D, 5A, 5D Unit 13 2I, 2J, 3A, 3D, 3E, 5A, 8A, 8B, 8C, 8D
Topic Focus	Unit 1 Science Skills & Processes Unit 2 One Dimensional Kinematics Unit 3 Forces	Unit 4 Two Dimensional Kinematics Unit 5 Momentum	Unit 6 Energy Unit 7 Mechanical Waves Unit 8 Electromagnetic Waves Unit 9 Electrostatics	Unit 10 Circuits Unit 11 Thermodynamics Unit 12 Magnetism Unit 13 Modern
Resources	Unit 1 Teacher selected options from **Chapters 1 and 2** Unit 2 **Chapter 6:** pgs 168-172, 177, 183, 186-191, 192-195 **Chapter 7:** 7.1 Unit 3 **Chapter 5:** 5.1, 5.2, 5.4, 5.5 **Chapter 7:** 7.2	Unit 4 **Chapter 8:** 8.1 Unit 5 **Chapter 11** (less pg 323)	Unit 6 **Chapter 9** pgs 254-265 **Chapter 10** pgs 278-292, 294, 298 Unit 7 **Chapter 14** pgs 386-398, 401-407 **Chapter 15** pgs 408-437 **Chapter 16** pgs 438-448, 463-469 Unit 8 **Chapter 20** pgs 572-591, 596-599 **Chapter 21** pgs 600-603, 606-615, 623-25 **Chapter 22** pgs 626-644 (less pg 635) Unit 9 **Chapter 18** pgs 506-507, 517-530, 538-543	Unit 10 **Chapter 2:** 2.3 **Chapter 10** ALL **Chapter 11**: 11.1 **Chapter 12**: 12.1 Unit 11 **Chapter 23** pgs 660, 663,677 **Chapter 24** pgs 692-694, 696-701, 708-709 **Chapter 25** pgs 722-733,741 Unit 12 **Chapter 18** pgs 506-516, 567-571 **Chapter 19** pg 544 Unit 13 **Chapter 22** pgs 642-643, 645-650, 655-657 **Chapter 26** pgs 746-764, 768-770, 772-783 **Chapter 27** pgs 784-817
Key Concepts	Unit 1 • Students will make measurements, perform conversions, read and construct graphs, and perform algebraic manipulation.	Unit 4 • Students will perform calculations with horizontally fired projectiles. • Students will conceptually describe the position, velocity and	Unit 6 • Students should conceptually describe energy transfer through the Law of Conservation of Energy. • Students should calculate work, power, kinetic energy,	Unit 10 • Students will design, construct and analyze circuits in series and parallel. • Students will apply the law of conservation of charge (electric

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	Unit 2 • Students will understand the vector nature of position and velocity. • Students will perform calculations with the equation for constant velocity. • Students will generate and interpret graphs describing the relationship between position, velocity, and time. Unit 3 • Students will conceptually describe Newton's Laws of Motion • Students will use free body diagrams and Newton's 2nd Law to solve for an unknown variable. • Students will conceptually describe and perform calculations with Newton's Law of Universal Gravitation.	acceleration of projectiles moving in two dimensions. • Students will recognize circular motion as an example two dimensional motion. Unit 5 • Students should relate momentum, impulse, and conservation of momentum to Newton's Laws of Motion. • Students should recognize momentum as a universal conservation law.	gravitational energy, and elastic energy is optional. Unit 7 • Students will perform calculations with the wave equation. • Students will identify and describe the implications of wave properties (e.g. more energy = greater amplitude). • Students will describe the interaction of waves with a boundary and with other waves Unit 8 • Students will perform calculations with the wave equation. • Students will identify and describe the implications of wave properties (e.g. more energy = greater amplitude). • Students will describe the interaction of waves with a boundary and with other waves Unit 9 • Students will describe the transfer of charge using Law of Conservation of Charge. • Students will conceptually and mathematically describe the attraction between charged particles. • Students will also conceptually describe electric fields and electrical energy.	current) and law of conservation of energy (voltage) to circuits. • Students will describe the advantages and disadvantages to series and parallel circuits. Unit 11 • Students will conceptually describe the laws of laws of thermodynamics and their application to real world scenarios. • Students will describe the methods of heat transfer. • Students will describe heat and work as an application of the law of conservation of energy. Unit 12 • Electromagnetism is responsible for a number of inventions critical to modern life. • Students will understand the interaction between work and that magnets can create electrical current Unit 13 • Students will apply modern physics concepts to modern life. • Students will calculate using mass energy equivalence. • Students will classify reactions as fission (decay) or fusion • Students will describe the photoelectric effect and the dual nature of light. • Students will compare and explain the emissions spectra produced in atoms

				• Applications include: imaging, standard model, solar cells, semi and superconductors, radiation therapy, and nuclear power.