Rocket Unit Scope and Sequence by Week
Concept: Relationships
Essential Question: How do you get from here to there?

Week	Algebra Topics	Algebra Activities	IPC Topics	IPC Activities
1-2	Using graphing calculator to find roots. Introducing effects of a and c on the parent function.	Blue graphs-sorting activity Quad power point with calculators	Energy transformation/ Conservations Kinetic-potential energy calc	Notes Index card rockets Airplane lab Practice problems
2-3	Solving simple quadratics and review foiling Temperature Conversions	Quad power point Solving equations and evaluation expressions	Heat/temperature/ Heat transfer Temp conversions Specific heat	Notes Heat transfer lab Calculations Heat lab analysis
4-5	Solving by factoring Leading coefficient is "1" Compare and contrast parabola to wave	Power point notes Tie to launch/land points-straw rocket lab W/calcu find high/low pts and zeroes on trig funct	Waves Relation to energy Causes/types/parts Frequency, wavelength, amplitude Electro spectrum light vs sound	Notes Slinky lab Calculations Similarities/ Differences demonstrations
6-7	Big Boy Factoring Leading coefficient is not "1"	Power pt notes Tie to $^1/_2at^2 + v_0t + s$	Light vs sound Doppler effect Freq/pitch Amplitude/loudness Reflect/refract	Discussion related to space: red/blue shift, sonic booms Demonstrate with swinging tuning fork Lens demonstrations
8-9	Quadratic Formula	Tie to $^1/_2at^2 + v_0t + s$ Ejection seat activity Space day rocket launch	Electricity How produced Circuits Applications	Notes Electricity lab (related to rocket circuits)