

Five phases of *It's a Wild Ride*

Phase 1: Accessing prior knowledge about roller coasters. The unit begins with a short team assembly in the school auditorium to inform students about the project and get them excited about what's ahead. Following the assembly, students begin project-related work in each subject area class that draws upon what they already know or have experienced related to roller coasters.

Phase 2: Investigating to build foundation knowledge about roller coasters. Students develop research skills in social studies, learn about technical reading and writing in language arts, and conduct experiments in math and science that build understanding about force and the laws of motion.

Phase 3: Expanding knowledge of roller coaster design from investigations. Students engage in mini architect (math), engineer (science), public relations (language arts), and researcher (social studies) tasks that prepare them for the group design challenge in Phase Five.

Phase 4: Applying knowledge to the design and construction of a roller coaster model using their mini architect and engineer experience. Students experience and connect their new understanding about roller coaster design during a field trip to a local amusement park.

Phase 5: Contributing knowledge to a group roller coaster design. Student teams prepare a roller coaster design proposal to save the Canyon Amusement Park from bankruptcy. Regular schedules and classes are abandoned as students take on one of four jobs on the design team: engineering, architecture, research, or public relations.

It's a Wild Ride At-a-Glance

Project Phase	Science	Math	Language Arts	Social Studies
1. Accessing Prior Knowledge <i>Team Assembly</i>	Roller coaster videos, discussion	Roller coaster statistics, graph matching	Sensory writing with video clips	Internet scavenger hunt for roller coaster sites
2. Investigating to Build Foundation Knowledge	Newton's Law experiments	Formulas, slope, linear equations	Technical reading, descriptive writing	3D history timeline of recreation and leisure in America
3. Expanding Knowledge	Mini-engineer experience Roller coaster experiments	Mini-architect experience Probeware labs	Mini-public relations manager experience Business letter and career jigsaw	Mini-researcher experience Roller coaster database
4. Applying Knowledge <i>Amusement Park Field Trip</i>	At-home roller coaster project	At-home roller coaster project	Continue with Phase Three	Continue with Phase Three
5. Contributing Knowledge <i>Group design task</i>	Engineer formulas, safety report, car design	Architect blue print and artistic rendition	Public relations multimedia presentation, Group planning time	Magazine cover and stories, thesis statement for presentations