



AUSIE
WORLD



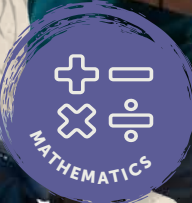
UNREAL EXCURSIONS

PROGRAM OVERVIEW FOR TEACHERS

FORCES IN ACTION THE PHYSICS OF RIDES



The
Science
of Fun!



MATHEMATICS



SCIENCE



TECHNOLOGY



AUSTRALIAN
CURRICULUM
ALIGNED



HANDS-ON
LEARNING



ENGAGING
AND FUN



SAFE AND
EDUCATIONAL



FORCES IN ACTION

THE PHYSICS OF RIDES

Program Overview:

Aussie World's 'Forces in Action' excursion brings science to life by using real theme park rides as hands-on learning stations! Students investigate how science and mathematics explain the motion of rides they know and love, helping them see physics in action beyond the classroom.

In this self-guided activity, teachers supervise groups of students as they rotate through a series of ride-based activity stations where they **observe, measure, record and explain key scientific concepts** such as gravity, motion, circular forces, contact forces and collisions all while having fun on Aussie World's fantastic attractions.

This learning experience is carefully designed to **support the Australian Curriculum**, providing engaging, curriculum-aligned learning that connects real-world contexts to classroom content.

What students will explore:

At four investigation stations, students will investigate:

- Roller Coaster Motion
- Understanding gravity's role in speed and motion
- Observe potential and kinetic energy on thrill rides
- Spinning Forces
- Explore circular motion and the forces that act on riders
- See how direction and motion interact
- Swinging Motion
- Examine push/pull and changing direction
- Describe motion through arcs and angles
- Collisions and Contact Forces
- Investigate contact forces and energy transfer
- Observe motion changes during bumper car interactions

Each station features **structured activities designed to suit Grades 3–6** with opportunities for prediction, observation, data collection, explanation and reflection.

Curriculum Alignment:

This program aligns with the Australian Curriculum Version 9.0 across Science, Technologies and Mathematics

Science

Students explore:

- Forces and motion, including how pushes and pulls affect movement
- Energy and how it influences speed and direction
- Scientific inquiry through observation, prediction, and explanation

Technologies

Students explore:

- Investigate how systems and components work together in real-world contexts
- Apply design thinking to analyse and improve ride designs
- Consider safety and functionality in engineered systems

Mathematics

Students explore:

- Measure and compare movement, speed and angles
- Collect and interpret data from real-world observations
- Use estimation and spatial reasoning

General Capabilities

This program supports:

- Critical and creative thinking
- Problem solving in real world contexts

This program is designed to support Science Understanding, Science Inquiry Skills and Design and Technologies across Grades 3 – 6 in the Australian Curriculum Version 9.0 through engaging real-world STEM learning experiences