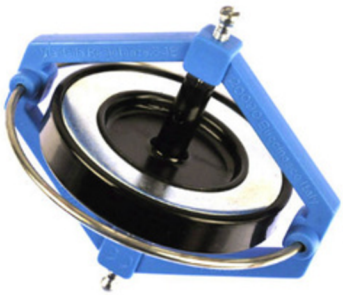
CURRICULUM RESOURCE FORCES & MOTION

EDUCATION LEAD: BEN NEWSOME CF
UTS CHANCELLOR'S AWARD FOR EXCELLENCE
& CHURCHILL FELLOW

OVERVIEW

This resource provides a robust framework for teaching Physical Sciences (Forces & Motion). Designed to demystify the invisible physics of the world, the unit bridges the gap between everyday movement and Newton's Laws, focusing on inertia, friction, gravity, and the mechanics of balanced and unbalanced forces for Grades 3–6.



PEDAGOGICAL FRAMEWORK: VARIABLE-LED INQUIRY

While the content is highly engaging,
the underlying pedagogy is rooted in the Scientific Method.

- **Variable Isolation**
  Designed to teach students how to identify, change, and measure variables.
- **Newtonian Forces**
  Students engage with hands-on simulations of push, pull, inertia and friction,
- **Resistance Analysis**
  Students investigate the variables that increase or decrease friction.
- **Everyday forces**
  Students learn how objects move and stop in everyday life

REGULATORY COMPLIANCE & DOCUMENTATION

- Comprehensive alignment with Australian Curriculum v9.0, NSW 2024 Syllabus, Victorian F–10 v2.0, IB PYP & MYP, Cambridge International, US NGSS, The Ontario Curriculum & The New Zealand Curriculum
- Assessment Tools with formative knowledge quizzes and summative marking rubrics for student projects.

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CORE INVESTIGATIONS

- **Inertia & Mass**

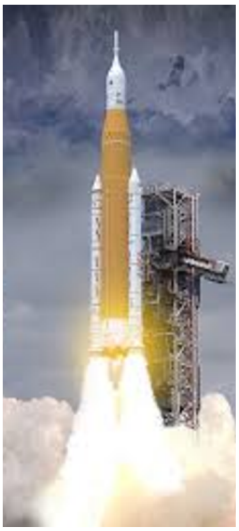
  Students prove that objects remain stationary or continue to move in a straight line unless an external force acts on them,

- **Friction & Resistance**

  Students analyse how surface contact creates drag and explore engineering solutions to eliminate resistance

- **Action & Reaction**

  Students demonstrate that every force has an equal and opposite reaction



IMPLEMENTATION & DATA PRIVACY

- **Resource Neutral**

  Evidence-based experiments are designed around safe, accessible, everyday materials to minimise departmental overhead & reduce risk.

- **Privacy Compliance**

  100% student data security. The platform requires zero student accounts, ensuring no PII (Personally Identifiable Information) is collected or stored.

RESOURCE ACCESS SUMMARY

- **Instructional Access**

  On-demand expert video guest-teaching (30-day or 12-month access).

- **Permanent Library** with all technical documentation, safety frameworks, and student worksheets retained by the school as permanent teaching assets on download

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ABOUT FIZZICS EDUCATION

Founded in 2004, Fizzics Education is a global leader in the design and delivery of high-impact science education. Our mission is to provide educators with the tools and expertise required to foster deep inquiry and scientific literacy in the primary classroom.

PROVEN GLOBAL IMPACT

- **4 Million+ Students**
  Our programs have been delivered to students across Australia, the USA, and over 40 countries via live video conferencing and in-person workshops.
- **Corporate & Government Partnerships**
  We provide STEM outreach for leading organisations, including the NRMA, Optus, the GWS Giants and many more
- **Award-Winning Pedagogy**

EXPERT LEADERSHIP: BEN NEWSOME CF

Ben Newsome CF is a qualified science teacher, 2013 Churchill Fellow, and founder of Fizzics Education. Having reached over 4 million students, his work has earned the UTS Chancellor's Award for Excellence and a spot as an ASETNSW Ambassador. Author of 'Be Amazing!' and host of the FizzicsEd Podcast,

Ben serves on international boards such as Educating for Leadership (Alaska) and as a board advisor to the Center for Interactive Learning & Collaboration to advance global STEM learning.