

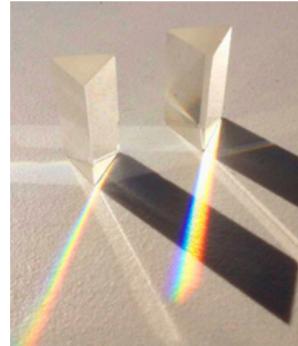
CURRICULUM RESOURCE LIGHT & COLOUR

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



OVERVIEW

This resource provides a multi-modal framework for teaching Physical Sciences (Light & Optics) across the primary years (K-6). Designed to simplify the physics of the electromagnetic spectrum, the unit bridges the gap between sensory observation and wave theory, focusing on reflection, refraction, absorption, and the properties of the visible light spectrum.



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.

- **The Multi-Stage Approach**

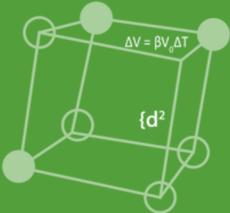
The unit allows for vertical differentiation, moving from Sensory Exploration (Early Years) to Independent Investigation (Middle Primary) and finally to Evidence-Based Data Analysis (Upper Primary).

- **Conceptual Mastery**

The curriculum covers the basic concepts on colour addition & subtraction, image formation through to the use of fibre optics in telecommunications

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

- **Additive Colour Synthesis**

Students blend primary light colours to reconstruct white light, mastering the fundamentals of the visible spectrum

- **Refraction and Reflection**

Students analyse how light "bends" as it changes speed through different media, providing a practical understanding of lenses and visual displacement.

- **Total Internal Reflection**

Students learn how fibre-optics use light to send data



IMPLEMENTATION & DATA PRIVACY



- **Resource Neutral**

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

- **Privacy Compliance**

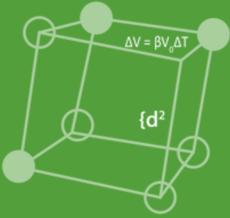
100% student data security. The platform requires zero student accounts, ensuring no PII (Personally Identifiable Information) is collected or stored.

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**



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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.