

Transform misconceptions into understanding through inquiry-based exploration

'...excellent curricular support...Recommended.'
– Internet@Schools



EARTH SYSTEMS



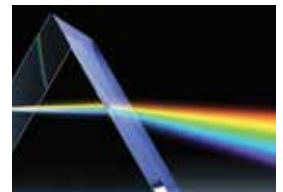
ENERGY



FORCE AND MOTION



GENETICS AND EVOLUTION



LIGHT AND SOUND



LIVING SYSTEMS



MATTER



THE ENVIRONMENT



THE NATURE OF SCIENCE



THE UNIVERSE

Targeting commonly held misconceptions to build true understanding in biological, earth & space, chemical and physical sciences.

Britannica Pathways: Science is a highly visual and interactive interface with relevant and trusted articles, videos and images from Britannica School. It ensures students remain engaged and connected in the classroom, home or any other learning environment.



Teacher module

Allows for flexible implementation and the necessary tools and data to assist teachers to monitor, assess, respond and guide students quickly and easily.

Student module

Allows flexibility in learning as students can work independently, in small groups, or as a class.

FEATURES

- 100 interactive lessons across 10 key science topics
- Consistent and systematic process: Predict – Investigate – Conclude
- Teacher module with full lesson plans, guidelines and printable worksheets
- Curriculum search to all graded lessons
- Individual student logins
- Compatible with all tablets, desktops and whiteboards
- Video clips, images and trusted articles with reader support tools
- Practical experience in computerised research and writing

BENEFITS

- Supplements core science instruction and enhances any science program
- Challenges and corrects student misconceptions
- Minimises teacher planning time and simplifies student progress tracking
- Supports the flipped classroom approach
- Caters to visual learners and supports differentiation
- Supports BYOD programs
- Curriculum support for: Australian Curriculum Science Years 6 – 10, NSW Syllabus for the Australian Curriculum Stages 3 – 5, New Zealand Curriculum Levels 4 – 6
- Develops critical thinking, creativity and evaluation skills

1 PREDICT

What I Know



Confronted with an engaging question, students use their prior knowledge to formulate an explanation for an event or an idea about a concept.

2 INVESTIGATE

What I Want To Know



Using articles, images and videos accessible directly in Pathways: Science, students dig for evidence to support or contradict their predictions. Student input is dynamically captured and saved in an interactive graphic organiser and retrieved as needed.

3 CONCLUDE

What I Learned



Students evaluate the evidence they find and compare it to their original ideas to determine which idea is correct and why the misconceptions are incorrect.

Easily Adapts to Any Science Program

- Self-paced learning
- Practical experience in online research and writing
- Video clips, images and articles

Support for Differentiation

- Text to speech articles
- Built-in dictionary
- Three reading levels
- Printable worksheets for offline option
- Ready-to-use ideas and examples

Time Saving Teachers' Resources

- Teachers can select topics in any order for large or small groups or for independent work
- Appropriate for collaborative or independent work
- Useful for pre & post testing knowledge

$$a^2 - b^2 = (a+b)(a-b)$$



100 Lessons across key middle school science topics

LIVING SYSTEMS

- Body System Interactions
- Cell Models
- Cells and Growth
- Cells in Living Things
- Cellular Respiration
- Photosynthesis
- Photosynthesis and Food Production
- Plant Stems
- Sources of Plant Mass

FORCE AND MOTION

- Acceleration and Free Fall
- Action and Reaction Forces
- Balanced Forces on Objects
- Buoyancy
- Circular Motion
- Effects of Gravity
- Gravity in Space
- Velocity and Acceleration

MATTER

- Density
- Effects of Pressure on Matter
- Effects of Temperature on Matter
- Properties of Matter
- Solutions
- Solids, Liquids and Gases
- The Nature of Air
- The Nature of Matter
- Water Molecules
- Conserving Mass

THE ENVIRONMENT

- Ecological Succession
- Ecosystems
- Energy Flow in Ecosystems
- Energy in Ecosystems
- Energy Resources
- Food Chains and Food Webs
- Global Warming and the Greenhouse Effect
- Matter and Decomposition
- Predator and Prey Populations
- Trophic Levels

LIGHT AND SOUND

- Colour
- How Light Travels
- Lenses and Light
- Radiation
- Reflection of Light
- Refraction of Light
- Seeing at Night
- The Nature of Sound
- White Light

THE NATURE OF SCIENCE

- Exploring Scientific Inquiry
- Laws and Theories in Science
- Maps and Globes
- Scientific Models
- Theories and Hypotheses in Science
- The Role of Theory in Science

ENERGY

- Conservation of Energy
- Electric Charge
- Electric Forces
- Heat Transfer
- Heat and Temperature
- Magnets and Electricity
- Newton's Third Law
- Potential and Kinetic Energy
- Series Circuits
- Simple Machines and Work

EARTH SYSTEMS

- Air Pressure
- Causes of Climate
- Earth's Structure
- Events in the Rock Cycle
- Fossils
- Groundwater
- Ocean Currents and Weather
- Plate Tectonics
- Properties of the Asthenosphere
- Rocks and Minerals
- Soil Nutrients
- The Timescale of the Rock Cycle
- The Water Cycle
- Weather and Climate
- Weathering and Erosion
- Weathering Processes
- Wind
- Volcanoes

THE UNIVERSE

- Daytime and Night-time Stars
- Earth's Seasons
- Light from Planets and Moons
- Relative Sizes of Objects in Space
- Solar and Lunar Eclipses
- Star Magnitude
- The Apparent Motion of Stars
- The Distance of Stars from Earth
- The Far Side of the Moon
- The Moon and its Phases

GENETICS & EVOLUTION

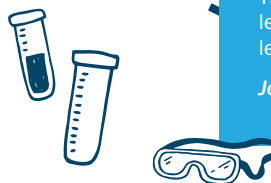
- Adaptation of Populations
- Animal Diversity
- Asexual Reproduction
- Biotechnology and Genetic Engineering
- Genes, DNA and Chromosomes
- Inheritance of Traits
- Mutations
- Natural Selection and Evolution
- Plant Diversity
- Sexual Reproduction

The self-paced nature of the lessons means the teacher is free to help the weaker or slower students – particularly in mixed ability classes.

Fiona Kerrell-Vaughan, science teacher, Cape Naturaliste College, Teaching Science Vol 60.2.

The teacher module has full lesson guidance and lesson plans and supports teachers with varying levels of experience.

John Wilkinson, science educator, Labtalk, Ed 1.



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