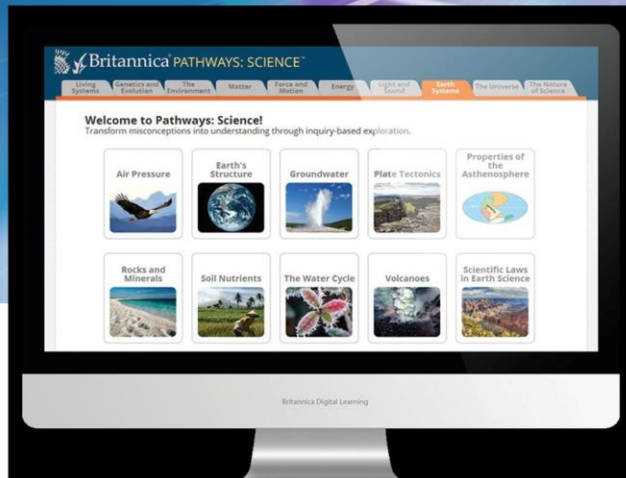


Lesson Correlation to the NSW Science Syllabus



Student Outcomes
Stages 3-5

Introduction

Britannica Digital Learning has prepared this alignment to illustrate how Britannica Pathways: Science, its online supplemental curriculum resource for middle school, supports the NSW Science Curriculum Syllabus Stages 3-5. Using common misconceptions as the context for building science knowledge and understanding Britannica: Pathways Science assists educators in making strong cross-curricular connections to help students meet curriculum standards and engage in meaningful learning opportunities in reading, research for evidence, vocabulary development, critical thinking and writing.

Each page of this document presents the following information:

NSW Science K-10 Syllabus: Understanding and Knowledge: Stage 3			
Substrand	Outcome	The student:	Britannica Pathways: Science lessons
Physical World	ST3-6PW	describes how scientific understanding about the sources, transfer and transformation of electricity is related to making decisions about its use	<ul style="list-style-type: none"> Series Circuits Electric Forces
Earth and Space	ST3-9ES	explains rapid change at the Earth's surface caused by natural events, using evidence provided by advances in technology and scientific understanding	<ul style="list-style-type: none"> Volcanoes Global Warming and the Greenhouse Effect Lessons from Fossil Discoveries Ocean Currents and Weather Weather and Climate Causes of Climate Weathering and Erosion Weathering Processes Wind
Living World	ST3-10LW	describes how structural features and other adaptations of living things help them to survive in their environment	<ul style="list-style-type: none"> Plant Diversity Animal Diversity
Living World	ST3-11LW	describes some physical conditions of the environment and how these affect the growth and survival of living things	<ul style="list-style-type: none"> Cellular Respiration Photosynthesis and Food Production Photosynthesis Global Warming and the Greenhouse Effect Plant Stems
Material World	ST3-12MW	identifies the observable properties of solids, liquids and gases, and that changes made to materials are reversible or irreversible	<ul style="list-style-type: none"> Water Molecules Properties of Matter

A description of the target student outcome for that strand at that particular stage

A list of the Pathways Science lessons that supports students to achieve this outcome

For additional information about how Britannica Pathways: Science supports the NSW Science Syllabus, please contact

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NSW Science K-10 Syllabus: Understanding and Knowledge: Stage 3

Substrand	Outcome	The student:	Britannica Pathways: Science lessons
Physical World	ST3-6PW	describes how scientific understanding about the sources, transfer and transformation of electricity is related to making decisions about its use	<ul style="list-style-type: none"> • Series Circuits • Electric Forces
Earth and Space	ST3-9ES	explains rapid change at the Earth's surface caused by natural events, using evidence provided by advances in technology and scientific understanding	<ul style="list-style-type: none"> • Volcanoes • Global Warming and the Greenhouse Effect • Lessons from Fossil Discoveries • Ocean Currents and Weather • Weather and Climate • Causes of Climate • Weathering and Erosion • Weathering Processes • Wind
Living World	ST3-10LW	describes how structural features and other adaptations of living things help them to survive in their environment	<ul style="list-style-type: none"> • Plant Diversity • Animal Diversity
Living World	ST3-11LW	describes some physical conditions of the environment and how these affect the growth and survival of living things	<ul style="list-style-type: none"> • Cellular Respiration • Photosynthesis and Food Production • Photosynthesis • Global Warming and the Greenhouse Effect • Plant Stems
Material World	ST3-12MW	identifies the observable properties of solids, liquids and gases, and that changes made to materials are reversible or irreversible	<ul style="list-style-type: none"> • Water Molecules • Properties of Matter
Material World	ST3-13MW	describes how the properties of materials determine their use for specific purposes	<ul style="list-style-type: none"> • Water Molecules • Properties of Matter
Working Scientifically	ST3 – 4WS	investigates by posing questions, including testable questions, making predictions and gathering data to draw evidence-based conclusions and develop explanations	<ul style="list-style-type: none"> • Photosynthesis and Food Production • Series Circuits • Electric Forces • Photosynthesis • Properties of Matter • Water Molecules • Plant Stems

			<ul style="list-style-type: none"> • Cellular Respiration • Volcanoes • Global Warming and the Greenhouse Effect • Ocean Currents and Weather • Weathering and Erosion • Weathering Processes • Wind
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NSW Science K-10 Syllabus: Understanding and Knowledge: Stage 4

Substrand	Outcome	The student:	Britannica Pathways: Science lessons
Physical World	SC4-10PW	describes the action of unbalanced forces in everyday situations	<ul style="list-style-type: none"> • Buoyancy • Circular Motion • Effects of Gravity • Heat Transfer • Balanced Forces on Objects • Acceleration and Free Fall • Gravity in Space • Heat and Temperature • Potential and Kinetic Energy • Velocity and Acceleration
Physical World	SC4-11PW	discusses how scientific understanding and technological developments have contributed to finding solutions to problems involving energy transfers and transformations	<ul style="list-style-type: none"> • The Water Cycle • Groundwater • Global Warming and the Greenhouse Effect
Earth and Space	SC4-12ES	describes the dynamic nature of models, theories and laws in developing scientific understanding of the Earth and solar system	<ul style="list-style-type: none"> • The Moon and Its Phases • Solar and Lunar Eclipses • Daytime and Nighttime Stars • Earth's Seasons • The Distance of Stars from Earth • Light from Planets and Moons • Relative Sizes of Objects in Space • Rocks and Minerals • The Apparent Motion of Stars • The Far Side of the Moon • Ocean Currents and Weather • Wind • Weathering and Erosion • Weathering Processes

			<ul style="list-style-type: none"> • Maps and Globes • Scientific Models • Laws and Theories in Science • Theories and Hypotheses in Science
Earth and Space	SC4-13ES	explains how advances in scientific understanding of processes that occur within and on the Earth, influence the choices people make about resource use and management	<ul style="list-style-type: none"> • Energy Resources • The Water Cycle • Soil Nutrients • Groundwater • Events in the Rock Cycle • The Timescale of the Rock Cycle • Weather and Climate • Causes of Climate • Weathering and Erosion • Weathering Processes • Wind • Maps and Globes
Living World	SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	<ul style="list-style-type: none"> • Asexual Reproduction • Cell Models • Cells and Growth • Animal Diversity • Plant Diversity • Cellular Respiration • Seeing at Night • Sexual Reproduction • Cells in Living Things • Body System Interactions
Living World	SC4-15LW	explains how new biological evidence changes people's understanding of the world	<ul style="list-style-type: none"> • Food Chains and Food Webs • Matter and Decomposition • Photosynthesis • Photosynthesis and Food Production • Soil Nutrients • Source of Plant Mass • Solids, Liquids, and Gases • Ecological Succession • The Role of Theory in Science • Theories and Hypotheses in Biology • Trophic Levels • Laws and Theories in Science • Theories and Hypotheses in Science

Chemical World	SC4-16CW	describes the observed properties and behaviour of matter, using scientific models and theories about the motion and arrangement of particles	<ul style="list-style-type: none"> • Air Pressure • Conserving Mass • Density • Effects of Pressure on Matter • The Nature of Air • Properties of Matter • Solutions • Solids, Liquids, and Gases • Effects of Temperature on Matter • The Role of Theory in Science • The Nature of Matter • Laws and Theories in Science • Theories and Hypotheses in Science
Chemical World	SC4-17CW	explains how scientific understanding of, and discoveries about the properties of elements, compounds and mixtures relate to their uses in everyday life	<ul style="list-style-type: none"> • Properties of Matter • Solids, Liquids, and Gases • The Role of Theory in Science
Earth and Space	SCLS-13ES	identifies features of the Earth	<ul style="list-style-type: none"> • Volcanoes • Events in the Rock Cycle • The Timescale of the Rock Cycle • Weather and Climate • Causes of Climate • Weathering and Erosion • Weathering Processes • Wind

NSW Science K-10 Syllabus: Understanding and Knowledge: Stage 5

Substrand	Outcome	The student:	Britannica Pathways: Science lessons
Physical World	SC5-10PW	applies models, theories and laws to explain situations involving energy, force and motion	<ul style="list-style-type: none"> • Buoyancy • Circular Motion • Colour • Effects of Gravity • Heat Transfer • Balanced Forces on Objects • Acceleration and Free Fall • Gravity in Space • How Light Travels • Lenses and Light • Reflection of Light • Nature of Sound • White Light • Action and Reaction Forces • Newton's Third Law • Refraction of Light • Velocity and Acceleration • Simple Machines and Work • Scientific Models • Laws and Theories in Science • Theories and Hypotheses in Science
Physical World	SC5-11PW	explains how scientific understanding about energy conservation, transfers and transformations is applied in systems	<ul style="list-style-type: none"> • Conservation of Energy • Electric Forces
Earth and Space	SC5-12ES	describes changing ideas about the structure of the Earth and the universe to illustrate how models, theories and laws are refined over time by the scientific community	<ul style="list-style-type: none"> • Adaptation of Populations • Colour • Earth's Structure • Genes, DNA, and Chromosomes • Global Warming and the Greenhouse Effect • Natural Selection and Evolution • The Distance of Stars from Earth • Inheritance of Traits • Lenses and Light • Mutations • Plate Tectonics

			<ul style="list-style-type: none"> • Properties of the Asthenosphere • Relative Sizes of Objects in Space • Exploring Scientific Inquiry • Star Magnitude • Lessons from Fossil Discoveries • Ocean Currents and Weather • Weather and Climate • Causes of Climate • Weathering and Erosion • Weathering Processes • Wind • Maps and Globes • Scientific Models • Laws and Theories in Science • Theories and Hypotheses in Science
Earth and Space	SC5-13ES	explains how scientific knowledge about global patterns of geological activity and interactions involving global systems can be used to inform decisions related to contemporary issues	<ul style="list-style-type: none"> • Global Warming and the Greenhouse Effect • Lessons from Fossil Discoveries • Weather and Climate • Causes of Climate • Weathering and Erosion • Weathering Processes • Maps and Globes • Wind
Living World	SC5-14LW	analyses interactions between components and processes within biological systems	<ul style="list-style-type: none"> • Cells and Growth • Ecosystems • Energy Flow in Ecosystems • Energy in Ecosystems • Food Chains and Food Webs • Matter and Decomposition • Photosynthesis • Plant Stems • Photosynthesis and Food Production • Predator and Prey Populations • Source of Plant Mass • Ecological Succession • Trophic Levels • Body System Interactions • Scientific Models
Living World	SC5-15LW	explains how biological understanding has advanced	<ul style="list-style-type: none"> • Adaptation of Populations • Biotechnology and Genetic Engineering

		through scientific discoveries, technological developments and the needs of society	<ul style="list-style-type: none"> • Colour • Genes, DNA, and Chromosomes • Global Warming and the Greenhouse Effect • Natural Selection and Evolution • Inheritance of Traits • Lenses and Light • Mutations • Radiation • Exploring Scientific Inquiry • Cells in Living Things • Laws and Theories in Science • Theories and Hypotheses in Science
Chemical World	SC5-16CW	explains how models, theories and laws about matter have been refined as new scientific evidence becomes available	<ul style="list-style-type: none"> • Density • Electric Charge • Scientific Models • Laws and Theories in Science • Theories and Hypotheses in Science
Chemical World	SC5-17CW	discusses the importance of chemical reactions in the production of a range of substances, and the influence of society on the development of new materials	<ul style="list-style-type: none"> • Biotechnology and Genetic Engineering
Physical World	SCLS-10PW	explores a range of forces in everyday situations	<ul style="list-style-type: none"> • Magnets and Electricity