Britannica Expedition:LEARN!

Teacher Guide

NSW SCIENCE

Your guide to how Expedition Learn fulfills your **curriculum's outcomes.**

IMAGEQUEST: Chemistry lesson. Science Photo Library..

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Britannica EDUCATION

Content

Expedition: Learn! and the NSW Curriculum

The education team at Britannica is committed to providing digital resources that are rigorous, engaging, and deeply relevant to the NSW context.

This guide details how Expedition Learn aligns specifically with the **NSW Science Syllabuses (K–10).** To support seamless integration into your teaching programs, this document mirrors the structure of the curriculum itself.

Curriculum Organisation

Reflecting the developmental stages of learning outlined by NESA, our content is designed to support the **NSW Stages of Learning (Stage 2 for Years 3 - 4, Stage 3 for Years 5 - 6, and Stage 4 for Years 7–8).** Within these stages, lessons are categorised by the key content strands of the syllabus:

- Material and Chemical World
- Physical World
- Living World
- Earth and Space

Navigating this Guide

The tables in this document map the NSW Syllabus outcomes directly to Expedition Learn lessons. By referencing the specific syllabus codes (e.g., SC4-14LW), teachers can easily identify the exact lessons, interactive activities, and assessments required to fulfill specific learning outcomes.

This document acts as a comprehensive planning tool, ensuring that when you use Expedition Learn, you are delivering targeted instruction that meets the rigorous standards of the NSW Curriculum.

Science as a Human Endeavour

In the study of Science as a Human Endeavour, students learn that science is not just a body of knowledge - it is a uniquely human pursuit shaped by curiosity, creativity, ethics, culture, and collaboration. They discover that scientific understanding evolves as new evidence emerges, that breakthroughs arise when technology, engineering and societal need intersect, and that responsible decision-making requires balancing knowledge with environmental, social and ethical considerations.

These ideas matter because they teach students **how to think,** not what to think - how to question evidence, navigate complexity, and participate in solving the great challenges of their time. Britannica strengthens this journey by immersing students in **real-world inquiry,** connecting them with global perspectives, and scaffolding the investigative habits - skepticism, perseverance, accuracy, and imagination - that define **authentic scientific practice.** It equips every learner to see themselves not just as consumers of science, but as future contributors to a world shaped by evidence, empathy, and informed action.

This document acts as a comprehensive planning tool, ensuring that when you use Expedition Learn, you are delivering targeted instruction that meets the rigorous standards of the NSW Curriculum.

Stages 2 - 3 (Years 3 - 6)

NSW Curriculum

MATERIAL AND CHEMICAL WORLD

Matter

Go to **Expedition Learn** →

Code/s	Code Description	Lesson
ST2-6MW-S	describes how adding or removing heat causes a change of state	• What Is Matter? • States of Matter
ST2-7MW-T	investigates the suitability of natural and processed materials for a range of purposes	• Measuring Mass and Volume • Properties of Matter • Conductors and Insulators
ST2-8PW-ST	describes the characteristics and effects of common forms of energy, such as light and heat	• Conductors and Insulators
ST3-6MW-S	explains the effect of heat on the properties and behaviour of materials	• What Is Matter? • States of Matter • Measuring Mass and Volume • Properties of Matter
ST3-7MW-T	explains how the properties of materials determine their use for a range of purposes	• Properties of Matter • What Are Chemical Reactions? • Mixtures and Solutions • Conservation of Matter
ST3-8PW-ST	explains how energy is transformed from one form to another	• Conductors and Insulators

PHYSICAL WORLD

Forces and Motion

Code/s	Code Description	Lesson
ST2-8PW-ST	describes the characteristics and effects of common forms of energy, such as light and heat	• What Are Electric and Magnetic Interactions? • Electromagnets
ST2-9PW-ST	describes how contact and non-contact forces affect an object's motion	• What Are Forces? • Balanced and Unbalanced Forces • What Is Friction? • What Are Electric and Magnetic Interactions? • Gravitational Force • Patterns of Motion • Changes in Movement • Using Magnets to Solve Problems
ST3-8PW-ST	explains how energy is transformed from one form to another	• What Are Electric and Magnetic Interactions? • Electromagnets

Energy

Code/s	Code Description	Lesson
ST2-8PW-ST	describes the characteristics and effects of common forms of energy, such as light and heat	• Identifying Forms of Energy

		• Introduction to Sound Energy • Introduction to Light Energy • Heat • Electric Currents and Circuits • Energy Transfer
ST2-5LW-T	describes how agricultural processes are used to grow plants and raise animals for food, clothing and shelter	• Energy in Food
ST2-9PW-ST	describes how contact and non-contact forces affect an object's motion	• Speed and Energy • Energy and Colliding Objects
ST3-8PW-ST	explains how energy is transformed from one form to another	• Identifying Forms of Energy • Introduction to Sound Energy • Introduction to Light Energy • Heat • Electric Currents and Circuits • Speed and Energy • Energy Transfer • Energy and Colliding Objects • Energy Conversions
ST3-5LW-T	explains how food and fibre are produced sustainably in managed environments for health and nutrition	• Energy in Food
ST3-9PW-ST	investigates the effects of increasing or decreasing the strength of a specific contact or non-contact force	• Speed and Energy • Energy and Colliding Objects

Waves and Information Transfer

Code/s	Code Description	Lesson
ST2-8PW-ST	describes the characteristics and effects of common forms of energy, such as light and heat	• What Is Light? • Mirrors and Reflection of Light
ST2-11DI-T	describes how digital systems represent and transmit data	• Patterns Transfer Information
ST3-8PW-ST	explains how energy is transformed from one form to another	• What Is Light?
ST3-11DI-T	explains how digital systems represent data, connect together to form networks and transmit data	• Patterns Transfer Information

LIVING WORLD

Structures and Processes of Living Things

Code/s	Code Description	Lesson
ST2-4LW-S	compares features and characteristics of living and non-living things	• Life Cycles of Flowering Plants • Plant Structures • Flowers • How Do Flowering Plants Reproduce? • Plant Responses • Life Cycles of Animals • Animal Structures

		• Animal Senses • Animal Responses • Responding to Seasonal Changes
ST2-5LW-T	describes how agricultural processes are used to grow plants and raise animals for food, clothing and shelter	• Materials for Plant Growth
ST3-4LW-S	examines how the environment affects the growth, survival and adaptation of living things	• Life Cycles of Flowering Plants • Plant Structures • Flowers • How Do Flowering Plants Reproduce? • Materials for Plant Growth • Plant Responses • Life Cycles of Animals • Animal Structures • The Heart • The Brain • The Skin • The Lungs • The Stomach • How Is the Human Body Organised? • Human Body Systems • Animal Senses • Animal Responses • Responding to Seasonal Changes
ST3-5LW-T	explains how food and fibre are produced sustainably in managed environments for health and nutrition	• Materials for Plant Growth

Ecosystems

Code/s	Code Description	Lesson
ST2-4LW-S	compares features and characteristics of living and non-living things	• Ecosystems • Ocean Ecosystems • Changes in the Environment • Group Behavior • Producers, Consumers, and Decomposers • Food Chains and Food Webs • Microorganisms
ST2-5LW-T	describes how agricultural processes are used to grow plants and raise animals for food, clothing and shelter	• Plant Growth and the Environment
ST3-4LW-S	examines how the environment affects the growth, survival and adaptation of living things	• Ecosystems • Ocean Ecosystems • Changes in the Environment • Group Behavior • Producers, Consumers, and Decomposers • Food Chains and Food Webs • Microorganisms
ST3-5LW-T	explains how food and fibre are produced sustainably in managed environments for health and nutrition	• Plant Growth and the Environment

Traits and Behaviours

Code/s	Code Description	Lesson
ST2-4LW-S	compares features and characteristics of living and non-living things	• What Is a Trait? • Traits and the Environment • Instincts and Learned Behaviors
ST3-4LW-S	examines how the environment affects the growth, survival and adaptation of living things	• What Is a Trait? • Traits and the Environment • Instincts and Learned Behaviors

Evolution and Classification

Code/s	Code Description	Lesson
ST2-4LW-S	compares features and characteristics of living and non-living things	• Survival and Differences Among Organisms • Animal Habitats • Classification of Organisms • Classifying Plants • Comparing Animals
ST2-10ES-S	investigates regular changes caused by interactions between the Earth and the Sun, and changes to the Earth's surface.	• Types of Fossils and How They Form • Fossils and Evidence of Life • Understanding Earth's Changes • Extinct Plants and Animals

ST3-4LW-S	examines how the environment affects the growth, survival and adaptation of living things	• Survival and Differences Among Organisms • Animal Habitats • Classification of Organisms • Classifying Plants • Comparing Animals • Extinct Plants and Animals
ST3-10ES-S	explains regular events in the solar system and geological events on the Earth's surface	• Understanding Earth's Changes

EARTH AND SPACE

Earth and Space

Code/s	Code Description	Lesson
ST2-10ES-S	investigates regular changes caused by interactions between the Earth and the Sun, and changes to the Earth's surface	• Earth, the Sun, and the Moon • How Earth Moves • Patterns of Daily Change • The Sun • The Phases of the Moon
ST3-10ES-S	explains regular events in the solar system and geological events on the Earth's surface	• Earth, the Sun, and the Moon • How Earth Moves • Patterns of Daily Change

ST3-10ES-S	explains regular events in the solar system and geological events on the Earth's surface	• Comets, Asteroids, and Meteoroids • The Planets • What Are Moons? • The Sun • The Phases of the Moon • Moon Phases and Tides • Seasonal Changes in Stars • What Are Galaxies?

Earth's Systems and Resources

Code/s	Code Description	Lesson
ST2-10ES-S	investigates regular changes caused by interactions between the Earth and the Sun, and changes to the Earth's surface	• What Is Weather? • Seasons and Weather • What Is Climate? • Weathering and Erosion • Patterns of Earth's Features • Earth's Land Features • Understanding the Water Cycle • Where Is Earth's Water Found? • Soil, Rocks, Air, and Water • Soil and How It Is Formed • What Is the Rock Cycle? • What Are Minerals?

Earth and Human Activity

Code/s	Code Description	Lesson
ST2-10ES-S	investigates regular changes caused by interactions between the Earth and the Sun, and changes to the Earth's surface	• How Humans Change the Environment • How Do Fossil Fuels Form? • Protecting Earth
ST2-8PW-ST	describes the characteristics and effects of common forms of energy, such as light and heat	• Renewable Energy Resources • Nonrenewable Energy Resources
ST2-7MW-T	investigates the suitability of natural and processed materials for a range of purposes	• Protecting Earth • What Is Recycling?
ST3-10ES-S	explains regular events in the solar system and geological events on the Earth's surface	• How Humans Change the Environment • Protecting Earth
ST3-8PW-ST	explains how energy is transformed from one form to another	• Renewable Energy Resources • Nonrenewable Energy Resources
ST3-7MW-T	explains how the properties of materials determine their use for a range of purposes	• Protecting Earth • What Is Recycling?

Stages 3 - 4 (Years 6 - 8)

NSW Curriculum

MATERIAL AND CHEMICAL WORLD

Matter

Go to **Expedition Learn** →

Code/s	Code Description	Lesson
ST3-6MW-S	explains the effect of heat on the properties and behaviour of materials	• The Structure of Matter • Thermal Energy and States of Matter • Comparing Properties of Matter • Density
ST3-7MW-T	explains how the properties of materials determine their use for a range of purposes	• Elements and Compounds • Synthetic Materials • Substances and Mixtures • Comparing Properties of Matter • Density • Classifying Elements • Factors that Affect Dissolving
ST3-8PW-ST	explains how energy is transformed from one form to another	• Thermal Energy and States of Matter • Classifying Conductors and Insulators

SC4-16CW	describes the observed properties and behaviour of matter, using scientific models and theories about the motion and arrangement of particles	• The Structure of Matter • Elements and Compounds • Substances and Mixtures • Chemical Symbols and Formulas • Comparing Properties of Matter • Density • Classifying Conductors and Insulators • Classifying Elements • Factors that Affect Dissolving
SC4-17CW	explains how scientific understanding of, and discoveries about, the properties of elements, compounds and mixtures relate to their uses in everyday life	• Elements and Compounds • Synthetic Materials • Thermal Energy and States of Matter • Substances and Mixtures • Chemical Symbols and Formulas • Comparing Properties of Matter • Density • Classifying Elements • Factors that Affect Dissolving •
SC4-10PW	describes the action of forces and the ways in which energy can be transformed and transferred	• Thermal Energy and States of Matter • Classifying Conductors and Insulators

Chemical Reactions

Code/s	Code Description	Lesson
ST3-6MW-S	explains the effect of heat on the properties and behaviour of materials	• Chemical Reactions and Energy
ST3-7MW-T	explains how the properties of materials determine their use for a range of purposes	• Chemical Changes Affect Properties • Chemical Reactions • Conservation of Matter in Chemical Reactions
SC4-16CW	describes the observed properties and behaviour of matter, using scientific models and theories about the motion and arrangement of particles	• Chemical Changes Affect Properties • Chemical Reactions • Conservation of Matter in Chemical Reactions • Chemical Reactions and Energy
SC4-17CW	explains how scientific understanding of, and discoveries about, the properties of elements, compounds and mixtures relate to their uses in everyday life	• Chemical Changes Affect Properties • Chemical Reactions • Conservation of Matter in Chemical Reactions • Chemical Reactions and Energy

PHYSICAL WORLD

Forces and Interactions

Code/s	Code Description	Lesson
ST3-8PW-ST	explains how energy is transformed from one form to another	• Electric and Magnetic Forces • Fields and Forces
ST3-9PW-ST	investigates the effects of increasing or decreasing the strength of a specific contact or non-contact force	• Forces and Motion • Graphing and Describing Motion • Electric and Magnetic Forces • Gravitational Interactions • Fields and Forces
SC4-10PW	describes the action of forces and the ways in which energy can be transformed in systems	• Forces and Motion • Newton's First Law • Newton's Third Law • Graphing and Describing Motion • Electric and Magnetic Forces • Gravitational Interactions • Fields and Forces

Energy

Code/s	Code Description	Lesson
ST3-8PW-ST	explains how energy is transformed from one form to another	• Electrical Circuits • Conservation of Energy
SC4-11PW	discusses how scientific understanding and technological developments have contributed to finding solutions to problems involving energy transfers and transformations	• Kinetic Energy • Changes in Kinetic Energy • Thermal Energy Transfer • Energy and Temperature Change • Electrical Circuits • Conservation of Energy

Waves and Electromagnetic Radiation

Code/s	Code Description	Lesson
ST3-8PW-ST	explains how energy is transformed from one form to another	• Digital and Analog Signals
SC4-11PW	discusses how scientific understanding and technological developments have contributed to finding solutions to problems involving energy transfers and transformations	• Introduction to Wave Properties • Light • The Electromagnetic Spectrum • Digital and Analog Signals

LIVING WORLD

Structure, Function, and Information Processing

Code/s	Code Description	Lesson
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Cells • Parts of a Cell • Organisation of the Human Body • The Human Muscular System • The Human Respiratory System • The Human Circulatory System • The Human Excretory System • Body Structure and Symmetry • Cell Division for Growth and Repair • Using Characteristics to Classify Organisms • Comparing Organisms
SC5-14LW	analyses interactions between components and processes of living systems	• Sensing Information • The Human Nervous System • Homeostasis
SC5-15LW	explains how genetic information is transferred from generation to generation	Coming Soon

Matter and Energy in Organisms and Ecosystems

Code/s	Code Description	Lesson
ST3-4LW-S	examines how the environment affects the growth, survival and adaptation of living things	• Ecosystems: Impacts of Change • Ecological Succession
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Photosynthesis • Cellular Respiration • Materials in Food Are Used for Growth • Resources in Ecosystems • Matter and Energy in Food Webs
SC5-14LW	analyses interactions between components and processes of living systems	• Cycles of Matter: Carbon • Energy Pyramids

Interdependent Relationships in Ecosystems

Code/s	Code Description	Lesson
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Interactions in Ecosystems • Predators and Prey • Viruses, Bacteria, Fungi, and Parasites • Biodiversity • Organisation of Ecosystems

SC5-14LW	analyses interactions between components and processes of living systems	• Epidemics and Pandemics

Growth, Development, & Reproduction of Organisms

Code/s	Code Description	Lesson
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Plant Reproduction • Animal Behaviors Affect Reproduction • Growth of Organisms • Reproduction
SC5-15LW	explains how genetic information is transferred from generation to generation	• Genes, Chromosomes, and Traits • Mutations • Humans Influence the Inheritance of Traits • Punnett Squares and Pedigrees

Natural Selection and Adaptation

Code/s	Code Description	Lesson
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Understanding Adaptation

SC5-15LW	explains how biological understanding has advanced through scientific discoveries, technological developments and the needs of society	• Patterns in the Fossil Record • Extinctions • Inferring Evolutionary Relationships • Patterns in Development • Natural Selection

EARTH AND SPACE

Space Systems

Code/s	Code Description	Lesson
ST3-10ES-S	explains regular events in the solar system and geological changes on Earth's surface	• Characteristics of the Sun • The Sun's Energy • The Solar System
SC4-12ES	describes the dynamic nature of Earth and its position in space	• Lunar Phases • Seasons • Eclipses • What Causes Tides? • Motion in Space
SC5-12ES	describes changing ideas about the structure and age of the universe and Earth's internal structure	• Stars • Galaxies • The Universe

History of Earth

Code/s	Code Description	Lesson
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	• Weathering and Other Changes in Earth's Surface
SC5-12ES	describes changing ideas about the structure and age of the universe and Earth's internal structure	• Earth's Layer
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	• The Geologic Time Scale • Volcanoes • Plate Movements • Plate Boundaries

Earth's Systems

Code/s	Code Description	Lesson
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	• The Rock Cycle • The Water Cycle • Natural Resources • Soil Formation and Its Properties • Minerals and Their Properties
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	• The Earth System and Subsystems

Weather and Climate

Code/s	Code Description	Lesson
ST3-10ES-S	explains regular events in the solar system and geological changes on Earth's surface	• Air Masses and Weather
SC4-14LW	relates the structure and function of living things to their classification, survival and reproduction	• Biomes
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	• Earth's Atmosphere • Introduction to Climate • Climate Change • What Are Greenhouse Gases?

Human Impacts and Natural Hazards

Code/s	Code Description	Lesson
ST3-10ES-S	explains regular events in the solar system and geological changes on Earth's surface	• Introduction to Natural Hazards • Natural Disasters Affect Florida
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	• Monitoring and Minimising Human Impact • Human Impacts on Earth Systems • Watersheds • How People Use Water

Learn more at: elearn.eb.com/expedition-learn

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