ATAM
Science Coverage Map (Overview)

PRIMARY

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**All about me** • My New Class • New Beginnings • Ourselves • My Body • How have I changed? / babies • My Family • Favourite things • Being Kind/ rules	**Homes** • Different types of Houses/ Homes • Different rooms in the house • Garden • Appliances- what are they used for	**People from around the world** • Journeys/ travelling • Cultural differences	**Growth** • Discuss plant growth • Talk about animals and their growth • Talk about Mummies and babies	**People who help us and animals** • Role-play- Hospital • Doctors and nurses • Firefighters • Police officers • Paramedics • Superheroes • Other Jobs	**Amazing animals** • Zoo/ Farm/ jungle animals • Growing Life Cycles • Animals around the world • Chick hatching • Habitats
Reception	**Marvelous me** • School • My New Class • New Beginnings • Ourselves • My Body • How have I changed? • What am I good at?	**Celebrations** • Space • Light and Dark Autumn • Changing materials	**Space** • How can we get into space? • Polar regions • Climates • Contrasting environments • Hibernati on Where	**Growth: Plants and insects.** **What's hiding in our gardens?** • Signs of Spring: Changes over time • Animal life cycle stages	**Amazing Animals** • Care and concern for living things • Name and describe plants • Name and describe animals	**Fun at the seaside** • Signs of summer • Exploring the difference of land and water • Making predictions • Exploring natural materials

	• My Family • Being Kind		do you live? • Customs around the world	• The Great Outdoors Recycling • Chick hatching	• Observing life cycles • Animal patterns Habitats	
1	**Everyday Materials** Objects can be made from a variety of materials. Everyday materials include wood, plastic, glass, metal, water, and rock. Different materials have different physical properties.	**Autumn to Winter** There are four seasons—autumn, winter, spring, and summer. Different types of weather are associated with different seasons. Day length varies in different seasons.	**Amazing Animals** Animals can be grouped into fish, amphibians, reptiles, birds, and mammals by their structural features. Animals can be grouped into carnivores, herbivores, and omnivores by the food they eat.	**Amazing Animals** The human body is made of many different parts; each has its own function. Humans have five senses: sight, hearing, touch, taste, and smell. Each sense uses different body parts.	**Spring to Summer** There are four seasons—autumn, winter, spring, and summer. Different types of weather are associated with different seasons. Day length varies in different seasons.	**Plants** A plant is a living thing. The main parts of a plant are the stem, leaves, and roots. Plants can be grown by people or grow in the wild.
2	**Uses of Materials** Everyday materials include wood, metal, plastic, glass, brick, rock, paper, and cardboard. The material chosen to make an object or device is based	**Animals and Survival** Animals, including humans, have offspring which grow into adults. The basic needs of animals, including humans, for survival	**Habitats** Things can be living, dead, or never been alive. Plants and animals live in a variety of habitats, including microhabitats.	**Habitats** Habitats provide for the basic needs of different kinds of animals and plants The living things in a habitat depend on	**Protecting the Environment** Humans and their activities pose dangers to wildlife, through housing, traffic, waste, and pollution. Where possible materials should be	**Plants and Growth** Seeds and bulbs grow into mature plants. Plants need water, light, and a suitable temperature to grow and stay healthy.

	on the suitability of its properties. The shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.	include water, food, and air. To remain healthy it is important for humans to exercise, eat the right amounts of different types of food, and have good hygiene.	Most living things live in habitats to which they are suited.	each other for survival. Animals obtain their food from plants and other animals. This can be shown using a simple food chain.	recycled to reduce landfill and pollution. To ensure a sustainable supply of water and energy, these resources must be used efficiently. Trees are a source of food, fuel, oxygen, and timber. Trees provide a habitat for many animals.	
3	**Skeletons, Muscles and Nutrition** Animals, including humans, need the right types and amount of nutrition. Animals cannot make their own food; they get nutrition from what they eat. Humans and some other animals have	**Rocks and Fossils** Rocks can be grouped by their appearance and simple physical properties. Fossils are formed when things that have lived are trapped within rock. Soils are made from rocks and organic matter.	**Light and Shadows** Light is needed to see things. Darkness is the absence of light. Light is reflected from surfaces.	**Light and Shadows** Light from the sun can be dangerous, and eyes should be protected from sunlight. Shadows are formed when the light from a light source is blocked by an opaque object.	**Plants - Need for survival** Flowering plants have roots, a stem/trunk, leaves, and flowers. Plants require air, light, water, nutrients from the soil, and room to grow.	**Forces and Magnets** Objects experience different amounts of friction on different surfaces. Some forces need contact between two objects, but magnetic forces can act at a distance. Some materials are magnetic, meaning

	skeletons and muscles for support, protection, and movement.			There are patterns in the way that the size of shadows change.	Water is transported within plants in vessels. Flowers play an important role in the life cycle of flowering plants, including pollination, seed formation, and seed dispersal.	they are attracted to a magnet. Magnets have two poles. Magnets can attract or repel each other, depending on which poles are facing each other.
4	**Teeth and Digestion** The human digestive system contains a number of organs including the mouth, stomach, oesophagus, and intestines. The main types of human teeth are incisors, canines, molars, and premolars. Each type of tooth looks different and has a different function.	**States of Matter** Materials can be grouped according to whether they are solids, liquids, or gases. Materials can change state when they are heated or cooled—this happens at different temperatures for different materials. Evaporation and condensation are key processes in the water cycle.	**Living things and the environment** Living things can be grouped in a variety of ways. Classification keys can be used to help group, identify and name living things.	**Living things and the environment** Environments can change and this can sometimes pose dangers to living things.	**Sound** Sounds are made when something vibrates. Vibrations from sounds travel through a medium to the ear. The pitch of a sound is affected by how quickly an object vibrates. The volume of a sound is determined by the strength of the vibrations that produced it.	**Electricity** The brightness of a lamp or the volume of a buzzer is associated with the number and voltage of cells used in the circuit. Switches can be used to turn components on and off in a circuit. Circuit symbols are used when representing a simple circuit in a diagram.

		Rate of evaporation is affected by temperature.			Sounds get fainter as the distance from the sound source increase.	
5	**Earth and Space** Earth and other planets in the Solar System orbit around the Sun. The Moon orbits round Earth. The Sun, Earth, and the Moon are approximately spherical bodies. The rotation of Earth results in day and night, and the apparent movement of the Sun across the sky.	**Forces** Unsupported objects fall towards Earth because of the force of gravity acting between Earth and the falling object. Air resistance, water resistance, and friction act between moving surfaces. Some mechanisms including levers, pulleys, and gears allow a smaller force to have a greater effect.	**Materials** The properties of materials include their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. The particular uses of everyday materials, including metals, wood, and plastic depend on their properties. Some materials will dissolve in liquid to form a solution.	**Materials** Mixtures can be separated using filtering, sieving, and evaporating. Dissolving, mixing, and changes of state are reversible changes. Changes that result in the formation of new materials are not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	**Life Cycles** There are differences in the life cycles of mammals, amphibians, insects, and birds. Plants and animals produce offspring by the life process of reproduction.	**Growing Older** Humans experience a number of changes as they develop to old age.
6	**Light** Light travels in straight lines.	**Classification** Living things are classified into broad	**Evolution and inheritance**	**Evolution and inheritance**	**Electricity** The brightness of a lamp or the volume	**Circulatory System and Lifestyle**

	Objects are seen because they give out or reflect light into the eye. We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. As light travels in straight lines shadows have the same shape as the objects that cast them.	groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals.	Living things have changed over time. Fossils provide information about living things that inhabited Earth millions of years ago.	Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	of a buzzer is associated with the number and voltage of cells used in the circuit. Switches can be used to turn components on and off in a circuit. Circuit symbols are used when representing a simple circuit in a diagram.	The main parts of the human circulatory system include the heart, blood vessels, and blood. Nutrients and water are transported within animals, including humans, in the blood. Diet, exercise, drugs, and lifestyle can all affect the way our bodies function.

SECONDARY

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	**Cells** Asking Questions Risks and Hazards Animal Cells Plant Cells Microscopes Specialised Cells Levels of Organisation SI units Decimals How to write a method **Particles** Solids, Liquids, Gas and their properties Changing states - Melting and Boiling Points Heating and cooling curves Diffusion Identifying Variables* Gas Pressure Density	**Forces** Contact and Non-Contact Forces Balanced and Unbalanced Accuracy and Precision Resultant Forces Drag and Friction Springs and Deformation Scales on a graph	**Reproduction** Sexual Reproduction Asexual Reproduction The Menstrual Cycle Embryo Development Plant Reproduction Seed Dispersal Data and Results **Atoms, Elements, Compounds** Atoms and Elements The Periodic Table Metals and Non-metals Chemical vs Physical Changes Reactivity of metals Compounds Chemical Formulae Calculating Means and Range	**Earth and Space** Gravity Mass and Weight Keeping in Orbit The Solar System Days, years and seasons, Bar charts, histograms and pie charts **Energy** Energy Stores and Pathways Energy Transfers Energy in Food Wasted Energy Efficiency Heat, Temperature and Thermal Temperature and Particles Conductors and Insulators Substitution in equations	**Interdependence** Ecosystems Sampling Adaptations Food chains and Food Webs Trophic Levels Biotic and Abiotic Factors Competition Line Graphs **Mixtures** Solutions vs Pure substances Separation Techniques Filtration and Crystallisation Fractional Distillation Chromatography Writing a method	**Electricity** Models of Electricity Series and Parallel Circuits Current Circuit Components Measuring Current Measuring Voltage Drawing Conclusions

8	**Tissues and Organs** The Skeletal and Muscular System Investigating Muscle Fatigue Composition of the Atmosphere Respiratory System Breathing Gas exchange Medicinal Drugs Recreational Drugs Organ Donation	**Acids and Alkali** The pH Scale Indicators Neutralisation Making Salts Acids and Metal Carbonates Making salts from metal carbonates **Motion, Forces and Pressure** Stretching and compression Drag and Friction Applications of Pressure Calculating Pressure Moments Density	**Respiration and Photosynthesis** Aerobic Respiration Anaerobic Respiration Exercise Photosynthesis Plant Adaptations **Changing Substances** Exothermic and Endothermic Conservation of Mass Oxidation and Reduction Combustion Thermal Decomposition Testing for Gases **Electromagnets** Magnetism Magnetic Fields Electromagnets Investigation Electromagnets Earth's Magnetic Field	**Life Diversity** Variation Inheritance Artificial and Natural Selection Evolution Human Impact on Natural Selection Fractions Percentages **Earth and Atmosphere** Igneous Rocks Sedimentary Rocks Metamorphic Rocks The Rock Cycle The Water Cycle Water and Living Things	**Electricity** Resistance Significant Figures Ohms Law Proportionality Measuring resistance Resistance in Wires **Nutrition and Digestion** Diet and Nutrition Food Tests Obesity, Deficiency and Starvation The Digestive System The Small Intestine Enzymes Digestive Enzymes Plant Nutrition	**Nutrition and Digestion Cont.** **Light** Light Reflection Refraction Lenses Colour
9	**Working Scientifically**	**Forces and Acceleration** Scalers and Vectors	**Intro to Quantitative Chemistry** Relative Formula Mass	**Energy** Energy Stores and Transfers Kinetic Energy	**Genetics** Types of Reproduction DNA and Genes	**Electricity** Current, Charge Potential Difference

	Respiration and Photosynthesis Aerobic Respiration Anaerobic Respiration Exercise Photosynthesis Plant Adaptations Ecosystems Abiotic and Biotic Factors Carbon Cycle Global Warming **The Periodic Table** Atoms Electron Configuration Isotopes Understanding the Atom The Periodic Table Noble Gases Alkali Metals The Halogens Reactions of Halogens Transition Metals	Resultant Vectors Resolving Vectors Newtons 3rd Law Newtons 1st Law Acceleration Velocity-time graphs **Growth and Differentiation** Eukaryotic and Prokaryotic Microscopes Diffusion Osmosis Active Transport Cell Division Cancer Stem Cells Bacteria Aseptic Techniques Growth of Bacteria Standard Form Orders of Magnitude	% by Mass Conservation Of Mass Uncertainty Balancing Equations Concentration Soluble Salts	Elastic Potential Energy Gravitational Potential Energy Energy Conservation and Dissipation Work Done Power Efficiency Energy Resources Specific Heat Capacity	Probability Punnet Squares Inherited Disorders Sex Determination	Resistance Components and IV Graphs Power Cost of Electricity Power in Circuits, Energy in Appliances Mains Electricity, Plugs National Grid Static Electricity
AQA Combined Science	Chemistry - Atoms, Elements and The Periodic Table	Biology - Cells and Transport	Biology - Gas Exchange, The	Chemistry - Acids and Alkali	Chemistry - Quantitative Chemistry	Physics - Atomic Structure and Radiation

Trilogy Year 10	Chemistry - Structure and Bonding Physics - Particle Model and Atomic Structure	Biology - The Digestive System	Circulatory system and Respiration Chemistry - Extraction of Metals	Biology - Plant Structure and Function and Photosynthesis	Biology - Immune Response Chemistry - Energy Changes	Chemistry - Using Resources Physics - Forces
AQA Single Science Year 10	Chemistry - Atoms, Elements and The Periodic Table Chemistry - Structure and Bonding Physics - Particle Model and Atomic Structure Physics - Atomic Structure and Radiation	Biology - Cells and Transport Biology - The Digestive System Biology - Gas Exchange, The Circulatory system and Respiration	Chemistry - Quantitative Chemistry Chemistry - Acids and Alkali Biology - Plant Structure and Function and Photosynthesis	Chemistry - Extracting Metals Physics - Forces Biology - Non-Communicable Diseases Chemistry - Energy Changes	Biology - Homeostasis and Response Chemistry - Rate and extent of chemical change Physics - Forces	Chemistry - Purity, formation and chromatography Biology - Ecology
AQA Combined Science Trilogy Year 11	Biology - Plant Organisation Biology - Bioenergetics (Photosynthesis and Respiration)	Physics - Particle Model of Matter Physics - Forces	Chemistry - Chemistry of the Atmosphere Chemistry – Using resources	Biology - Ecology Chemistry - Organic Chemistry	Revision GCSE EXTERNAL EXAMS	GCSE EXTERNAL EXAMS

	Biology - Immune Response Chemistry - Electrolysis Chemistry - Moles and Limiting Reactions Physics - Atomic Structure and Radiation	Chemistry - Rate and extent of chemical change and Hydrocarbons Biology - Homeostasis	Biology - Inheritance, variation and Evolution Chemistry – Chemical Analysis	Physics - Waves Physics - Magnetism and Electromagnetism		
AQA Single Science Year 11	Biology - Bioenergetics Chemistry - Energy Changes Chemistry - Rate and extent of chemical change Chemistry - Earth's Early Atmosphere	Physics - Forces Biology - Homeostasis	Chemistry - Using Resources Biology – Inheritance, variation and evolution Physics - Waves Biology - Ecology Chemistry - Organic Chemistry	Physics - Magnets and Electromagnetism Physics - Space Chemistry - Chemical Analysis	Revision GCSE EXTERNAL EXAMS	GCSE EXTERNAL EXAMS