Biscovey Academy Scientific Sequence of Learning
Year 3- Year 6

LKS2

Cycle A *Animals including Humans* *(Autumn 1 and 2)*	Cycle A *Sound* *(Spring 1)*	Cycle A *Electricity* *(Spring 2)*	Cycle A *Living things and their habitats* *(Summer 1)*	Cycle A *States of matter* *(Summer 2)*
What is the chain reaction when an animal eats?	***Where does sound come from?***	***How does electricity switch things on?***	***What animal lives where?***	***Do all states matter?***
1. Are all animals predators or prey? 2. What are the names of the main body parts associated with the digestive system? 3. What happens when humans eat and how? 4. How are our teeth similar and different to other mammals/ species? 5. What damages our teeth and how can we look after them?	1. How does sound travel to the ear? 2. What patterns can be found between the pitch of a sound and the object that produced it? 3. What patterns can be found between the volume of a sound and the object that produced it? 4. What impact does distance have on sound? 5. What materials best insulate against sound?	1. What every day items are powered by electricity? 2. How is a circuit constructed? 3. What simple symbols represent elements within a complete circuit? 4. What factors influence how well a circuit works? 5. What materials conduct electricity?	1. How do we group animals? 2. What is a classification key and how do we use it? 3. Why do animals have different habitats? 4. What characteristics do animals need to survive in their habitat? 5. Do humans have a negative or positive impact on the environment?	1. What are the properties of solids, liquids and gases? 2. How does temperature affect the state of matter? 3. Is water a solid, liquid or a gas? 4. How does temperature affect the water cycle?
Core Facts • **I know the key parts of the digestive system.** • **I know the functions of the basic parts of the digestive system.** • **I know the different types of teeth in humans are molars, pre-molars, canine and incisors.** • **I know what producers, predators and prey are.**	**Core Facts** • **I know that sounds are made from vibrations.** • **I know that vibrations travel through a medium to our ears.** • **I know that sound gets fainter with distance.** • **I know that sound travels through different materials differently.**	**Core Facts** • **I know the basic parts of a circuit are cells, wires, bulbs, buzzers and switches.** • **I know that all metals conduct electricity, some better than others.** • **I know the symbols for basic parts of a circuit.** • **I know that electricity can only flow through a complete circuit.**	**Core Facts** • **I know that a habitat is the home of an animal or plant.** • **I know what a classification key is used for.** • **I know that different animals have different characteristics depending on their habitat.** • **I know that the environment can change naturally and through human impact.**	**Core Facts** • **I know the properties of solids, liquids and gases.** • **I know that some materials change state when heated or cooled.** • **I know the temperatures at which, ice, water and water vapour change state.** • **I know the stages of the water cycle.**
Cycle B *Animals including Humans* *(Autumn 1 and 2)*	Cycle B *Light (Spring 1)*	Cycle B *Rocks (Spring 2)*	Cycle B *Forces and magnets (Summer 1)*	Cycle B *Plants (Summer 2)*
What would happen if we had no skeleton and didn't bother to eat?	***Why is light important?***	***Does geology rock?***	***Are magnets really polar opposites?***	***What's so special about plants?***
1. What foods do animals eat and does it differ? 2. Do different foods contain different nutrients? 3. What foods do I need to eat in order to stay healthy?	1.Where does light come from? 2. Why do I need light to see things? 3. What surfaces reflects light and how do I know? 4. Why is the sun so bright? 5. How are shadows formed?	1. What types of rocks are there and where do they come from? 2. What kinds of rocks can be found in the local environment? 3. How are rocks impacted by weather and change over time?	1. What is friction and how does it work? 2, Is friction the same on all surfaces and objects? 3. What makes magnets special? (Repel and attract)	1. What parts make up a plant? Are all plants the same? 2. What are the functions of the different parts of the plant? 3. How is water transported around those different parts?

4. What role do muscles play in the body and why are they important? 5. Why do we need a skeleton?		4. How are fossils created? 5. What is soil made from and what can we learn from it?	4. What materials are magnetic and how do you know? 5. What impact does distance and surface have on a magnet?	4. What role do flowers play in the life cycle of a plant? 5. What is pollination and seed dispersal?
Core Facts • **I know that food contains a range of different nutrients.** • **I know that humans need to eat in order to get the nutrients they need, unlike plants.** • **I know that humans and some animals need a skeleton for movement, protection and support.** • **I know that muscles work together in antagonistic pairs.**	**Core Facts** • **I know that light comes from a light source.** • **I know that darkness is the absence of light.** • **I know that the sun can be dangerous to our eyes and that we need to protect them.** • **I know that shadows are formed by an opaque object blocking the light.**	**Core Facts** • **I know that the 3 main types of rocks are igneous, sedimentary and metamorphic.** • **I know that granite is the most common rock found in our local environment.** • **I know that rock is a naturally occurring material.** • **I know that fossils are formed in sedimentary rock and, in simple terms, explain the process.**	**Core Facts** • **I know that a force is a push or a pull.** • **I know that friction is a force and can describe what it does.** • **I know that magnets have 2 poles that attract and repel.** • **I know that magnetic forces act at a distance.**	**Core Facts** • **I know that a plant needs water, light and nutrients to grow.** • **I know the functions of different part of plants including the filament, anther and stigma.** • **I know how water is transported around plants.** • **I know how pollination and seed dispersal plays a role in the life cycle of a plant.**
UKS2				
Year 5 Space (Autumn 1)	***Year 5 Properties of Materials (Autumn 2 and Spring 1)***	***Year 5 Forces (Spring 2)***	***Year 5 Living things and their Habitats (Summer 1)***	***Year 5 Animals including Humans (Summer 2)***
Why does Earth move?	***Are all materials the same?***	***Why did the apple fall from the tree?***	***Does everything reproduce?***	***What happens as you get older? (SRE Link)***
1. What is a star? 2. What are the planets called and how are they ordered? (Copernicus and Alhazen) 3. How do the planets travel around the sun? 4. How does the Earth travel around the sun and what is its impact? 5. Does the moon move or do we? 6. What would happen if earth and the moon were flat?	1. How can materials be grouped? 2, How can materials be compared together? 3.What happens when you dissolve a material in a solution and how do you recover it? 4. What is a reversible and irreversible change? 5. How might mixtures be separated? 6. How do chemical reactions have an impact on our lives?	1. What is the impact of gravity? 2. What is resistance? 3. How does resistance act between moving surfaces? 4. Does the biggest force always have the biggest effect? 5. What did Newton and Galileo find out and why is it important?	1.What did Jane Goodall discover? 2.How do life cycles in mammals, insects, birds and amphibians differ? 3.How is the life cycle of plants different from other life cycles? 4.What are the different types of reproduction? 5.What is metamorphosis?	1. What are the different phases of life? 2. Do all animals have the same gestational period? 3.What are the emotional changes that happen during puberty? 4. How can I keep myself healthy during puberty? 5.Do all animals have the same gestational period?
Core Facts • **I know that the sun is a star and it is at the centre of our solar system.** • **I know the names and order of the planets in our solar system.**	**Core Facts** • **I know that materials have different properties.** • **I know what a reversible and irreversible change is.** • **I know that some materials can dissolve in liquid to make a solution and others cannot.**	**Core Facts** • **I know what gravity is.** • **I know the effects of air resistance, water resistance and friction.** • **I know that you do not always need a big force to have the biggest effect.**	**Core Facts** • **I know the differences in life cycles between mammals, birds, insects and amphibians.** • **I know the two different types of reproduction.** • **I know the life processes of some plants and animals.**	**Core Facts** • **I know the different phases of life in humans.** • **I know that the gestational period is the time between conception and birth.**

• I know that the Earth rotates on its axis every 24 hours and orbits the sun. • I know that the Moon orbits the Earth.	• I know that mixtures can be separated through filtering, sieving and evaporation.	• I know that you use a Newton meter to measure force.	• I know that metamorphosis only occurs in certain animals such as insects.	• I know that the human gestational period is 9 months. • I know some animals which have gestational periods longer and shorter than humans.
Year 6 **Light** **(Autumn 1)**	***Year 6*** ***Electricity*** ***(Autumn 2 and Spring 1)***	***Year 6*** ***Animals including Humans*** ***(Spring 2)***	***Year 6*** ***Evolution and Inheritance*** ***Summer 1***	***Year 6*** ***All livings things and their Habitat*** ***Summer 2***
Why do we need eyes to see?	***How many men does it take to invent the lightbulb?***	***What is the cost of being heartless?***	***How do living things adapt to their environments?***	***How are living things grouped?***
1.How does light travel and how do we know? 2.How does light travel to the eye? 3.What impact does light have on objects? 4.Do shadows have the same shapes as the objects that cast them? 5.Why do we have rainbows?	1. What conventional circuit symbols represents different components within a circuit? 2. What impact does voltage have on the brightness and volume of a bulb? 3. What factors can influence how complete a circuit is? 4. What is the effect of adding more components to a circuit with only one cell? 5. What effect does multiple cells have on how many competes can be added to a circuit?	1, How does the heart keep us alive? 2. What role does the circulatory system play in keeping us alive? 3. How do we look after our bodies? 4. What is harmful to our bodies? 5. What does research tell us about how to maintain a healthy lifestyle?	1. What makes us different? 2. Why does the environment change and how do we keep up? 3. Why is evolution important for survival? 4. What characteristics do we need to survive? 5. What did Darwin find and how do we know it's true?	1.What is the classification system and how do we use it? 2.What did Carl Linnaeus discover and why is it important? 3.How can we observe specific characteristics in a range of creatures? 4.What are vertebrates and invertebrates and how do they differ? 5.How can we classify microorganisms?
Core Facts • I know how light travels. • I know that light reflects off surfaces. • I know why shadows have the same shape as the object that cast them. • I know what the angle of incidence and angle of reflection is.	**Core Facts** • I know the symbols for components of circuits. • I know that the brightness of a bulb or volume of a buzzer correlates with voltage. • I know that adding more components to a circuit with only one cell results in less current. • I know that currents, voltage and amps can impact a circuit.	**Core Facts** • I know the functions of the main parts of the circulatory system. • I know how nutrients and water are transported around the body. • I know that drugs and alcohol are harmful to our bodies. • I know how nutrition, physical activity and hygiene impact on health.	**Core Facts** • I know that offspring are not identical to their parents. • I know that evolution is the theory that living things changed over time. • I know who Charles Darwin was. • I know what Darwin's Theory of Evolution was and why he thought that.	**Core Facts** • I know that a vertebrate has a skeleton and an invertebrate does not. • I know that plants can either be flowering or non-flowering. • I know that living things are adapted to suit their environment. • I know the seven levels of classification.