



Autumn 1 & 2		
Animals Including Humans – Classification of Animals		
KS1	Year 1	Year 2
	<p>L1: What are the different groups that animals can be classified into? L2: What is an amphibian? L3: What is a mammal? L4: What is a reptile? L5: What is a bird? L6: What is an insect? L7: What is a fish? L8: What are the different diets that animals can have? L9: What are the main parts of the human body? L10: What are the five senses and what do they do? (sight / hearing) L11: What are the five senses and what do they do? (smell / taste) L12: What are the five senses and what do they do? (touch)</p>	<p>L1: What are the different groups that animals can be classified into? L2: What is an amphibian? L3: What is a mammal? L4: What is a reptile? L5: What is a bird? L6: What is an insect? L7: What is a fish? L8: What are the different diets that animals can have? L9: What are the main parts of the human body? L10: What are the five senses and what do they do? (sight / hearing) L11: What are the five senses and what do they do? (smell / taste) L12: What are the five senses and what do they do? (touch)</p>
Key Concepts to assess	<p>L1: Children know that vertebrates are divided into five groups and can name these five groups. (fish, amphibians, reptiles, birds, mammals) and that insects form another group. Children can sort and classify animals into the six groups. L2: Children know what an amphibian is. Children can name some features of amphibians. Children can name some examples of amphibians. L3: Children know what a mammal is. Children can name some features of mammals. Children can name some examples of mammals. L4: Children know what a reptile is. Children can name some features of reptiles. Children can name some examples of reptiles. L5: Children know what a bird is. Children can name some features of birds. Children can name some examples of birds. L6: Children know what an insect is. Children can name some features of insects. Children can name some examples of insects. L7: Children know what a fish is. Children can name some features of fish. Children can name some examples of fish. L8: Children know that different animals have different diets. Children can name carnivore, herbivore and omnivore and know what each one means. L9: Children can identify and name and basic parts of the human body. L10: Children know humans have five senses and can name the body part associate with each sense. Children can explore the sense of sight and hearing. L11: Children know humans have five senses and can name the body part associate with each sense. Children can explore the senses of smell and taste. L12: Children know humans have five senses and can name the body part associate with each sense. Children can explore the senses of touch.</p>	<p>L1: Children know that vertebrates are divided into five groups and can name these five groups (fish, amphibians, reptiles, birds, mammals) and insects from another group. Children can sort and classify animals into the six groups and explain their work. Children can talk about aspects of the animals that helped them to decide how to sort them. L2: Children know what an amphibian is and can name the features of amphibians. Children can name some examples of amphibians and can say how they know it is an amphibian and not for example a reptile). L3: Children know what a mammal is and can name the features of mammals. Children can name some examples of mammals and can say how they know it is a mammal and not for example a reptile). L4: Children know what a reptile is and can name the features of reptiles. Children can name some examples of reptiles and can say how they know it is a reptile and not for example an amphibian). L5: Children know what a bird is and can name the features of birds. Children can name some examples of birds and can say how they know it is a bird and not for example a mammal). L6: Children know what an insect is and can name the features of insects. Children can name some examples of insects and can say how they know it is an insect and not for example a mammal). L7: Children know what a fish is and can name the features of fish. Children can name some examples of fish and can say how they know it is a fish and not for example a mammal). L8: Children know that different animals have different diets. Children can name carnivore, herbivore and omnivore and know what each one means. They can sort animals according to their diets and can recognise some features of the animals structure that gives us clues about their diet. L9: Children can identify, label and name and basic parts of the human body. The can say what each part is used for. L10: Children know humans have five senses and can name the body part associate with each sense. Children can explore the sense of sight and hearing and record what they find out in a scientific way. L11: Children know humans have five senses and can name the body part associate with each sense. Children can explore the senses of smell and taste and record their findings in a scientific way. L12: Children know humans have five senses and can name the body part associate with each sense. Children can explore the sense of touch and record their findings in a scientific way</p>



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Vocabulary	Mammals, birds, fish, reptiles, amphibians, carnivore, omnivore, herbivore sort, classify, sense, body parts	Mammals, birds, fish, reptiles, amphibians, carnivore, omnivore, herbivore sort, classify, senses, body parts, scientific thinking, recording
Experiences	Outdoor work observing animals	
SMSC	Moral – responsibility to care of animals in the world	
British Values	Rule of Law – Animal rights	
School Values	Considerate – to animals as well as people	



Cherry Tree Academy Medium Term Science Cycle A

Spring 1 & 2		
KS1	Animals Including Humans – Basic Needs	
	Year 1	Year 2
	<p>L1: How do animals change as they grow? L2: What is a life cycle? What does the life cycle of a chicken look like? L3: What is a life cycle? What does the life cycle of a human look like? L4: What do animals need in order to survive? L5: Why is exercise important? L6: Why is good hygiene important? L7: What is a healthy diet and why is this important? L8: What are the different food groups and how can they help us have a healthy diet? L9: What are the different food groups and how can they help us have a healthy diet? L10: What other ways can I keep myself healthy?</p>	<p>L1: How do animals change as they grow? L2: What is a life cycle? What does the life cycle of a chicken look like? L3: What is a life cycle? What does the life cycle of a human look like? L4: What do animals need in order to survive? L5: Why is exercise important? L6: Why is good hygiene important? L7: What is a healthy diet and why is this important? L8: What are the different food groups and how can they help us have a healthy diet? L9: What are the different food groups and how can they help us have a healthy diet? L10: What other ways can I keep myself healthy?</p>
Key Concepts to assess	<p>L1: Children know that animals can have offspring which grow into adults. Children can match adults to their young. Children can make comparisons between adults and their young. L2: Children know what a life cycle is. Children can sequence the life cycle of a chicken. L3: Children know what a life cycle is. Children can sequence the life cycle of a human. L4: Children can name the things that animals need in order to survive (water, food, air, shelter/warmth). L5: Children know what humans and other animals need in order to be healthy. Children know why exercise is important. Children can name different kinds of exercise. L6: Children know what humans and other animals need in order to be healthy. Children know good hygiene is important. Children can talk name different kinds of good hygiene. L7: Children know what a healthy diet consists of. Children can explain why a healthy diet is important. L8: Children can name the food groups. Children can talk about how the food groups and balanced meal plate can help us to have a healthy diet. Children can sort foods into the different food groups. L9: Children can name the food groups. Children can talk about how the food groups and balanced meal plate can help us to have a healthy diet. Children can sort foods into the different food groups. L10: Children understand other ways to keep themselves healthy including mental health.</p>	<p>L1: Children know that animals can have offspring which grow into adults. Children can match adults to their young including examples where this is not as obvious. Children can make comparisons between adults and their young and say what is similar and different. L2: Children know what a life cycle is and can explain to others. Children can sequence the life cycle of a chicken and talk about what is happening at each stage. L3: Children know what a life cycle is and can explain to others. Children can sequence the life cycle of a human and talk about what is happening at each stage. L4: Children can name the things that animals need in order to survive (water, food, air, shelter/warmth). Children can talk about what would happen if one of these things was not in place. Children can talk about needs in the context of different animals. L5: Children know what humans and other animals need in order to be healthy. Children know why exercise is important and can link this to humans and other animals. Children can name different kinds of exercise and express opinions. Children can talk about and observe how exercise affects them. L6: Children know what humans and other animals need in order to be healthy. Children know good hygiene is important and can link this to illness, germs and disease. Children can name different kinds of good hygiene. L7: Children know what a healthy diet consists of. Children can explain why a healthy diet is important and can explain what could happen if someone had an unhealthy diet. L8: Children can name the food groups and say what each food group does for our bodies. Children can talk about how the food groups and balanced meal plate can help us to have a healthy diet. Children can sort foods into the different food groups. L9: Children can name the food groups and say what each food group does for our bodies. Children can talk about how the food groups and balanced meal plate can help us to have a healthy diet. Children can sort foods into the different food groups. L10: Children understand other ways to keep themselves healthy including mental health. They can give examples of ways to look after their mental health and explain why this is important.</p>
Vocabulary	Needs, exercise, hygiene, nutrition, health, diet, balanced, life cycle, survival, offspring	Needs, exercise, hygiene, nutrition, health, diet, balanced, life cycle, survival, offspring, adult, growth, change, develop, balanced meal, carbohydrate, protein, fruits and veg, dairy, fats and oils, sugar,



Cherry Tree Academy Medium Term Science Cycle A

Experiences	
SMSC	
British Values	Mutual respect – differences in people and the way they live
School Values	Inclusive – different body types and backgrounds Healthy - lifestyles



Summer 1 & 2		
KS1	Living Things and their Habitats	
	Year 1	Year 2
	<p>L1: What does it mean to be living, dead or never been alive?</p> <p>L2: What is a habitat? Can you name some different habitats and match the animals to the correct one?</p> <p>L3: How are plants and animals adapted to survive in the habitat in which they live?</p> <p>L4: What is a micro habitat?</p> <p>L5: What minibeasts can be found living in our school grounds? Why do they live here?</p> <p>L6: Can you make a habitat for a given animal?</p> <p>L7: What other wildlife visits our school grounds?</p> <p>L8: What would be the best habitat for a woodlouse?</p> <p>L9: What is a food chain?</p> <p>L10: Can you create a food chain?</p>	<p>L1: What does it mean to be living, dead or never been alive?</p> <p>L2: What is a habitat? Can you name some different habitats and match the animals to the correct one?</p> <p>L3: How are plants and animals adapted to survive in the habitat in which they live?</p> <p>L4: What is a micro habitat?</p> <p>L5: What minibeasts can be found living in our school grounds? Why do they live here?</p> <p>L6: Can you make a habitat for a given animal?</p> <p>L7: What other wildlife visits our school grounds?</p> <p>L8: What would be the best habitat for a woodlouse?</p> <p>L9: What is a food chain?</p> <p>L10: Can you create a food chain?</p>
Key Concepts to assess	<p>L1: Children know what the terms living, dead and never lived mean. Children can sort things into living, dead and never lived.</p> <p>L2: Children know what a habitat is. Children can name some different habitats. Children can match animals to the correct habitat.</p> <p>L3: Children can explain some key features that mean the animal or plant is suited to its habitat.</p> <p>L4: Children know what a micro habitat is. Children can name some different micro habitats. Children can match minibeasts to the correct micro habitat.</p> <p>L5: Children know what a micro habitat is. Children can recognise and name some different minibeasts. Children can record observations and collect data.</p> <p>L6: Children can think of what an animal or minibeast needs in a habitat in order for it to live there.</p> <p>L7: Children can predict what wildlife might visit our school grounds. Children can make observations and record their findings.</p> <p>L8: With support children can plan a simple investigation. Children can make a prediction. Children can make and record observations. Children can form a conclusion.</p> <p>L9: Children know what a food chain is.</p> <p>L10: Children can use a food chain to explain what animals eat. To be able to use a food chain to explain what animals eat</p>	<p>L1: Children know what the terms living, dead and never lived mean. Children can sort things into living, dead and never lived and explain their reasons.</p> <p>L2: Children know what a habitat is and can use the definition. Children can name some different habitats and describe what they are like. Children can match animals to the correct habitat and explain their reasoning.</p> <p>L3: Children can explain the key features that mean the animal or plant is suited to its habitat and can explain simply why a plant or animal is suited.</p> <p>L4: Children know what a micro habitat is and can use the definition. Children can name some different micro habitats and describe what they are like. Children can match minibeasts to the correct habitat and explain their reasoning.</p> <p>L5: Children know what a micro habitat is and can use the definition. Children can recognise and name different minibeasts. Children can collect and record data.</p> <p>L6: Children can think about what an animal or minibeast needs in a habitat in order for it to live there. They can explain their reasoning in terms of health, adaptations and suitability.</p> <p>L7: Children can predict what wildlife might visit our school grounds giving reasons for their choices and linking it to their knowledge of habitats. Children can record and present data and observations in different ways.</p> <p>L8: Children can plan a simple investigation and ask questions. Children can make a prediction giving a reason to back it up. Children can make and record observations. Children can form a conclusion.</p> <p>L9: Children know and can explain what a food chain is. They can use the correct vocabulary when talking about food chains.</p> <p>L10: Children can use a food chain to show what different animals eat.</p>



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Vocabulary	Habitat, shelter, warmth, space, food chain, forest, grassland, micro habitat, natural, environment, suitable	Habitat, shelter, warmth, space, food chain, forest, grassland, micro habitat, natural, environment, suitable, adaptation, producer, consumer
Experiences	Visit to a different habitat e.g. pond dipping	
SMSC	Moral – responsibility to care for habitats and animals living in them.	
British Values		
School Values	Considerate – to the school grounds and the world as a whole. Healthy – to role the natural world plays in positive mental and physical health.	



Cherry Tree Academy Medium Term Science Cycle A

Autumn 1		
LKS2	Rocks	
	Year 3	Year 4
	<p>L1: Can I name and compare the three different types of rocks? L2: Can I classify rocks according to their features? L3: Can I explain how a fossil is formed? L4: Can I explain what a palaeontologist does and why Mary Anning's discoveries were important? L5: Can I explain what soil is made from and how it is formed?</p>	<p>L1: Can I name and compare the three different types of rocks? L2: Can I classify rocks according to their features? L3: Can I explain how a fossil is formed? L4: Can I explain what a palaeontologist does and why Mary Anning's discoveries were important? L5: Can I explain what soil is made from and how it is formed?</p>
Key Concepts to assess	<p>L1: Children will compare different types of rocks based on their appearance in the context of understanding the difference between natural and human-made rocks. L2: Children will group rocks based on their physical properties. L3: Children will explain to process of fossilization. L4: Children will describe Mary Anning's contributions to palaeontology. L5: Children will observe soils. Children will explain the process of soil formation.</p>	<p>L1: Children will compare different types of rocks based on their appearance and explain the difference between natural and human-made rocks. L2: Children will decide how to group rocks based on their physical properties. L3: Children will explain to process of fossilization and compare fossils to the animals that they belong to. L4: Children will describe Mary Anning's contributions to palaeontology and explain how palaeontology has changed our understanding of prehistoric animals. L5: Children will observe similarities and differences between different soils. Children will explain the process of soil formation.</p>
Vocabulary	<p>Rocks, igneous, sedimentary, metamorphic, form, formation, volcano, sea, seabed, changes, compare, types, natural, human-made, strata, anthropic, group, classify, properties, hard, soft, durable, buoyancy, fossil, sedimentary, fossilization, animals, bones, chemical fossils, body fossils, trace fossils, layers, pressure, coprolite, trackways, Mary Anning, ichthyosaur, dinosaurs, Jurassic, Lyme Regis, scientists, William Buckland, paleontology, observe, soil, organic matter, animals, top soil, sub soil, bedrock, additions, losses, translocations, transformations.</p>	<p>Rocks, igneous, sedimentary, metamorphic, form, formation, volcano, sea, seabed, changes, compare, types, natural, human-made, strata, anthropic, group, classify, properties, hard, soft, durable, buoyancy, permeable, impermeable, fossil, sedimentary, fossilization, animals, bones, chemical fossils, body fossils, trace fossils, layers, pressure, coprolite, compare, Mary Anning, ichthyosaur, dinosaurs, Jurassic, Lyme Regis, scientists, William Buckland, prehistoric, palaeontology, observe, similarities, differences, soil, organic matter, animals, top soil, sub soil, bedrock, additions, losses, translocations, transformations.</p>
Experiences	Trip to Mam Tor	
SMSC		
British Values		
School Values	<p>Considerate of animals in soils, rocks and at the coast. Health-hygiene and hand washing after handling and observing rocks and soils.</p>	



Cherry Tree Academy Medium Term Science Cycle A

Autumn 2		
LKS2	Light	
	Year 3	Year 4
	<p>L1: Can I identify a range of light sources? L2: Can I explain reflection and identify reflective objects? L3: Can I use a mirror to reflect light onto different objects? L4: Can I investigate which materials block light to form shadows? L5: Can I observe patterns in the way that shadows change size?</p>	<p>L1: Can I identify a range of light sources? L2: Can I explain reflection and identify reflective objects? L3: Can I use a mirror to reflect light onto different objects? L4: Can I investigate which materials block light to form shadows? L5: Can I observe patterns in the way that shadows change size?</p>
Key Concepts to assess	<p>L1: Children will explain that we need light to see things and that dark is the absence of light. Children will identify man-made and natural light sources. L2: Children will investigate which surfaces reflect light. L3: Children will know what the image in a mirror is reversed. They will use a mirror to reflect light onto different objects. L4: Children will test how shadows are formed when the light from a light source is blocked by a solid object. They will investigate the best material to use for curtains for a baby's bedroom. L5: Children will find patterns in the way that the size of shadows change, by investigating what happens when you change the distance between the object and the light source.</p>	<p>L1: Children will explain that we need light to see things and that dark is the absence of light. Children will identify man-made and natural light sources and explain why the moon, a mirror and a window are not light sources. L2: Children will investigate which surfaces reflect light and select the most reflective material for a purpose. L3: Children will know what the image in a mirror is reversed. They will use a mirror to reflect light onto different objects and explain to most effective angle in which to position the mirror for doing so. L4: Children will plan and set up an investigation to test how shadows are formed when the light from a light source is blocked by a solid object. They will investigate the best material to use for curtains for a baby's bedroom. L5: Children will find patterns in the way that the size of shadows change, by investigating what happens when you change the distance between the object and the light source. Children will explain the patterns that they find.</p>
Vocabulary	light, source, dark, man-made, natural, reflect, see, illuminate, visible, predict, test, mirror, smooth, shiny, rays, rough, scatter, reverse, beam energy, travel, straight, opaque, translucent, transparent, block, shadow, observe, pattern, size, distance, change.	light, source, dark, man-made, natural, reflect, reflective, see, illuminate, visible, predict, test, mirror, smooth, shiny, rays, rough, scatter, reverse, beam, angle, position, effective, energy, travel, straight, opaque, translucent, transparent, block, shadow, plan, observe, pattern, size, distance, change.
Experiences		
SMSC		
British Values		
School Values		



Cherry Tree Academy Medium Term Science Cycle A

Spring 1		
LKS2	Electricity	
	Year 3	Year 4
	<p>L1: Can I identify common appliances that run on electricity? L2: Can I classify common appliances according to whether they are mains or battery powered? L3: Can I identify circuit components and build a working circuit? L4: Can I draw a labelled diagram of a circuit? L5: Can I predict whether a circuit will work? Can I identify circuits as incomplete or complete?</p>	<p>L1: Can I identify common appliances that run on electricity? L2: Can I classify common appliances according to whether they are mains or battery powered? L3: Can I identify circuit components and build a working circuit? L4: Can I draw a labelled diagram of a circuit? L5: Can I predict whether a circuit will work? Can I identify circuits as incomplete or complete?</p>
Key Concepts to assess	<p>L1: Children will identify and name household electrical appliances. L2: Children will sort pictures of electrical appliances according to whether they are mains or battery powered. L3: Children will identify and name the different components in a circuit and build a circuit that works. L4: Children will construct a simple series electrical circuit and record by drawing and labelling a diagram. L5: Children will use given diagrams to predict whether a circuit will work. They will build it to test it and describe it as complete or incomplete. Children will discuss what they have observed and found out.</p>	<p>L1: Children will identify and name household electrical appliances and classify objects according to them being electrical and non-electrical on a Venn diagram. L2: Children will sort pictures of electrical appliances according to whether they are mains or battery powered on a Venn diagram, placing objects that can be both in the middle. L3: Children will identify and name the different components in a circuit and build a circuit that works. Children will observe what happens to bulb brightness when more cells are added. L4: Children will construct a simple series electrical circuit and record by drawing and labelling a diagram. Children will write simple instructions about how to construct a circuit safely. L5: Children will use given diagrams to predict whether a circuit will work. Children build a series circuit for their partner to examine that is either incomplete or complete. Children will identify incomplete and complete circuits and explain how to make an incomplete circuit complete.</p>
Vocabulary	Appliance, mains, battery, electricity, powered, device, sort, classify, circuit, series circuit, bulb, wire, buzzer, switch, cell, battery, component, diagram, complete circuit, incomplete circuit, conductor.	Appliance, mains, battery, electricity, powered, device, sort, classify, Venn diagram circuit, series circuit, bulb, wire, buzzer, switch, cell, battery, component, diagram, brightness, safety complete circuit, incomplete circuit, conductor.
Experiences	Building circuits.	
SMSC		
British Values		
School Values		



Cherry Tree Academy Medium Term Science Cycle A

Spring 2		
LKS2	Electricity	
	Year 3	Year 4
	<p>L1: Can I identify conductors and insulators of electricity? L2: Can I explain what a switch is and the job it does in a circuit? L3: Can I make a switch? L4: Can I discuss and solve problems about electricity? L5: Can I explain the dangers of electricity?</p>	<p>L1: Can I identify conductors and insulators of electricity? L2: Can I explain what a switch is and the job it does in a circuit? L3: Can I make a switch? L4: Can I discuss and solve problems about electricity? L5: Can I explain the dangers of electricity?</p>
Key Concepts to assess	<p>L1: Children will make predictions about which materials conduct electricity, test, observe and record results. Children will explain how they have carried out a fair test by changing one variable. L2: Children will try adding a switch into the simple series circuit (bulb, wire and cell) they used in previous lessons. Children will explain that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. L3: Children will use folded card and foil to make a switch and add into a simple circuit they used in previous lessons. L4: Children will apply their knowledge of electricity to answer why plastic is used to cover plugs, light switches and plug sockets. L5: Children will make a poster to promote electrical safety in the home.</p>	<p>L1: Children will plan and set up an investigation to predict, test, observe and record which materials conduct electricity. Children will explain how they have carried out a fair test by changing one variable. L2: Children will research different types of switch, add a switch to a circuit and explain that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. L3: Children will use folded card and foil to make a switch and add into a simple circuit they used in previous lessons. Children will draw a diagram, showing how the switch opens and closes the circuit. L4: Children will apply their knowledge of electricity to answer why a circuit completed with a plastic-coated paper clip will not work. L5: Children will make a poster to promote electrical safety in the home and at school.</p>
Vocabulary	Electricity, cell, bulb, battery, circuit, complete, incomplete, conductor, insulator, material, object, equipment, prediction, results, conclusion, fair, variable, metal, wood, plastic, fabric, switch, complete circuit, incomplete circuit, closed, open, on, off, danger, fire, electrocute, water, pylons.	Electricity, cell, bulb, battery, circuit, complete, incomplete, conductor, insulator, material, object, equipment, prediction, results, conclusion, fair, variable, metal, wood, plastic, fabric, plan switch, complete circuit, incomplete circuit, closed, open, on, off, slide switch, toggle switch, selector switch, push button switch danger, fire, electrocute, water, pylons.
Experiences	Trip to Eureka.	
SMSC		
British Values	Rule of law-safety in school and the workplace.	
School Values		



Cherry Tree Academy Medium Term Science Cycle A

Summer 1		
LKS2	Sound	
	Year 3	Year 4
	<p>L1: Can I explain how sound sources vibrate, creating sound? L2: Can I explain how sounds travel to our ears? L3: Can I observe and describe patterns between the pitch of a sound and features of the object that made the sound? L4: Can I explain how sound can be affected by distance? L5: Can I investigate the best material for absorbing sound?</p>	<p>L1: Can I explain how sound sources vibrate, creating sound? L2: Can I explain how sounds travel to our ears? L3: Can I observe and describe patterns between the pitch of a sound and features of the object that made the sound? L4: Can I explain how sound can be affected by distance? L5: Can I investigate the best material for absorbing sound?</p>
Key Concepts to assess	<p>L1: Children will identify sound sources around school. Children will feel (vocal chords) and see vibrations (rice on a drum and tuning fork in water) L2: Children will explain how vibrations travel through a medium to our ears. Children will make observations and find patterns between the volume of a sound and the strength of the vibrations that produced it. L3: Children will make and identify high and low sounds. Children will play high and low sounds on different musical instruments and record the features of each instrument. L4: Children will explain that sounds get quieter as the distance between the sound source and the listener increases. Children will construct and test a string telephone and explain that sound travels along the string. L5: Children will make a pair of ear defenders by attaching different materials to test which best insulate against sound.</p>	<p>L1: Children will identify sound sources around school and explain what was vibrating to create each sound. Children will feel (vocal chords) and see vibrations (rice on a drum and tuning fork in water) L2: Children will explain how vibrations travel through a medium to our ears. Children will make observations and find and conclude patterns between the volume of a sound and the strength of the vibrations that produced it. L3: Children will make and identify high and low sounds. Children will play high and low sounds on different musical instruments and record the features of each instrument. Children will look for patterns in the features and describe how the pitch can change. L4: Children will explain that sounds get quieter as the distance between the sound source and the listener increases. Children will construct and test a string telephone and explain that sound travels along the string. Children will explain why sounds can be heard better through the string than over the same distance through air L5: Children will make a pair of ear defenders by attaching different materials to test which best insulate against sound. Children will use a data logging App to record the loudness of sounds heard through each material.</p>
Vocabulary	<p>Sound, vibration, volume, tuning fork, sound source, vibration, amplitude, loud, quiet, travel, wave, particles, ear, observe, pattern, high, low, pitch, string instruments, pitched percussion instruments, wind instruments, distance, loud, quiet, telephone, transmit, sound waves, soundproof, absorb, insulate, sound, material, noise, sponge, bubble wrap.</p>	<p>Sound, vibration, volume, tuning fork, sound source, vibration, amplitude, loud, quiet, travel, wave, particles, ear, observe, pattern, conclude high, low, pitch, string instruments, pitched percussion instruments, wind instruments, change, distance, loud, quiet, telephone, transmit, sound waves, air, soundproof, absorb, insulate, sound, material, noise, sponge, bubble wrap, record, results, data logging App/equipment.</p>
Experiences	<p>Making and testing string telephones. Make sound proof ear defenders.</p>	
SMSC		
British Values	<p>Rule of law-noise pollution</p>	
School Values	<p>Considerate-noise pollution</p>	



Cherry Tree Academy Medium Term Science Cycle A

Summer 2		
LKS2	Living things and their habitat	
	Year 3	Year 4
	<p>L1: Can I group living things in a variety of ways? L2: Can I generate questions to use in a classification key? L3: Can I hunt for invertebrates and use a classification key to answer questions to identify and name what I find? L4: Can I recognise positive and negative changes to the local environment? L5: Can I describe environmental dangers to endangered species?</p>	<p>L1: Can I group living things in a variety of ways? L2: Can I generate questions to use in a classification key? L3: Can I hunt for invertebrates and use a classification key to answer questions to identify and name what I find? L4: Can I recognise positive and negative changes to the local environment? L5: Can I describe environmental dangers to endangered species?</p>
<p>Key Concepts to assess</p> <p>L1: Children will sort living things according to given criteria on a Venn and Carroll diagram. L2: Children will explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment by generating 3 questions to sort vertebrates in a classification key. L3: Children will find invertebrates in the local environment. After carefully examining their invertebrate, children will identify the invertebrate by answering questions on a classification key. Children will draw a labelled diagram and describe the characteristics that they have used in identification. L4: Children will identify dangers to wildlife in the local environment and suggest how humans can have a positive effect on the local environment. L5: Children will name some endangered species and describe how changes to the environment have affected them. Children will research an endangered species and write a report including information gathered.</p>	<p>L1: Children will generate criteria and sort living things accordingly on a Venn and Carroll diagram. L2: Children will explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment by generating 4 questions to sort vertebrates in a classification key. L3: Children will find invertebrates in the local environment. After carefully examining their invertebrate, children will identify the invertebrate by answering questions on a classification key. Children will draw a labelled diagram and describe the characteristics that they have used in identification. Children will compare two invertebrates. L4: Children will identify dangers to wildlife in the local environment and suggest how humans can have a positive effect on the local environment. Children will write an explanation of how their suggestion will help protect local living things. L5: Children will name some endangered species and describe how changes to the environment have affected them. Children will research an endangered species and write and present a report including information gathered. Children will suggest ideas of how we can contribute to the conservation of endangered species.</p>	
<p>Vocabulary</p> <p>Living things, organism, sort, group, criteria, Venn diagram, Carroll diagram, classification key, yes/no question, variation, classification, vertebrates, invertebrates, similarities, differences, local environment, specimen, thorax, abdomen, antenna, segmented, wing case, mandible, proboscis, prolegs, diagram, label, characteristics, habitat, wildlife, change, danger, vulnerable, threat, positive, negative, protect, endangered, extinct, research, report.</p>	<p>Living things, organism, sort, group, generate, criteria, Venn diagram, Carroll diagram, classification key, yes/no question, variation, classification, vertebrates, invertebrates, similarities, differences, local environment, specimen, thorax, abdomen, antenna, segmented, wing case, mandible, proboscis, prolegs, diagram, label, characteristics, compare, habitat, wildlife, change, danger, vulnerable, threat, positive, negative, protect, explanation endangered, extinct, conservation, research, report, presentation.</p>	
<p>Experiences</p> <p>Go on an invertebrate hunt in the local environment.</p>		
<p>SMSC</p> <p>Moral-caring for living things by handling them carefully with correct equipment and placing them back where they were found. Discuss poaching and deforestation.</p>		
<p>British Values</p> <p>Rule of law-animal cruelty.</p>		
<p>School Values</p>		

Cherry Tree Academy Medium Term Science Cycle A





Cherry Tree Academy Medium Term History

Autumn 1		
UKS2	Forces	
	Year 5	Year 6
	<p>L1: What is a force and how do they work? L2: What is Gravity and how can it be measured? L3: What is air resistance and how does it happen? L4: What is air resistance and how does it happen? L5: How do everyday Objects use forces? L6: Who is John McAdam and is he involved in the development of suitable road surfaces?</p>	<p>L1: What is a force and how do they work? L2: What is Gravity and how can it be measured? L3: What is air resistance and how does it happen? L4: What is air resistance and how does it happen? L5: How do everyday Objects use forces? L6: Who is John McAdam and is he involved in the development of suitable road surfaces?</p>
Key Concepts to assess	<p>L1: Children will know that for some forces to act, there must be contact, but some forces can also act at a distance. L2: Children will be able to demonstrate the effect of gravity acting on an unsupported object. L3: Children can give examples of air resistance and when it is beneficial to have high or low air resistance. L4: Children can give examples of water resistance and when it is beneficial to have high or low water resistance. L5: Children will demonstrate how pulleys, levers and gears work. L6: Children to know about the life and work of John McAdam and use this to create an investigation to investigate surface friction.</p>	<p>L1: Children will know that for some forces to act, there must be contact, but some forces can also act at a distance giving examples for each. L2: Children will be able to demonstrate the effect of gravity acting on an unsupported object and know this is measured in NM. L3: Children can give examples of air resistance and when it is beneficial to have high or low air resistance as well as explain that the quicker an object moves the more particles it will collide with. L4: Children can give examples of water resistance and when it is beneficial to have high or low water resistance and explain which shapes will have high or low resistance and why. L5: Children will demonstrate how pulleys, levers and gears work including how the placement of the fulcrum point effects this. L6: Children to know about the life and work of John McAdam and use this to create an investigation to investigate surface friction, explaining the type to forces involved (contact force).</p>
Vocabulary	<p>long arm, load pivots effort lever Pulley, axel gear, machines water resistance particles Air resistance Newton Meter Sir Isaac Newton Gravity mass, John McAdam surface friction</p>	<p>long arm, fulcrum, load pivots effort lever Pulley, fixed axel, free axle, gear, machines water resistance particles Air resistance Newton Meter Sir Isaac Newton Gravity mass, John McAdam, surface friction, exert, mass</p>



Cherry Tree Academy Medium Term History

<p>Experiences</p>	<p>Scientific Enquiry – create a timer that uses gravity to move a ball- research how the work of scientists such as Isaac Newton helped to develop the theory of gravitation.</p> <p>Scientific Enquiry – - investigate the effects of air resistance using parachutes ... explain the results of my investigations in terms of the force, showing a good understanding that as the object tries to move through the air, the air resistance slows it down</p> <p>Scientific Enquiry – investigate the effects of water resistance in a range of contexts e.g. dropping shapes through water and pulling shapes, such as boats, along the surface of water ...explain the results of our investigations in terms of the force, showing a good understanding that as the object tries to move through the water or across the surface the particles in the water or on the surface slow it down.</p> <p>Scientific Enquiry – explore how levers, pulleys and gears work and make a product that involves a lever, pulley or gear. ... demonstrate clearly the effects of using levers, pulleys and gears.</p>
<p>SMSC</p>	<p>Cause and effect- To show an understanding of the consequences of their behaviour and actions.</p> <p>Social – working with other pupils when completing experiments</p> <p>Culture – understanding the importance of Isaac Newton’s role in developing the principles of modern physics</p>
<p>British Values</p>	<p>Mutual respect and tolerance – through listening to others' opinions when working with materials</p>
<p>School Values</p>	<p>Resilience- discuss the force placed on us when things are difficult and the reaction to this force, we need to achieve what we want.</p>



Autumn 2		
Properties and Changes of Materials		
UKS2	Year 5	Year 6
	<p>L1: What different states of matter are there, and can they change? L2: Can solids and liquids interact? L3: Are all changes permanent? L4: Are all materials the same? L5: Can crystals be made? L6: Can we influence the process of change?</p>	<p>L1: What different states of matter are there, and can they change? L2: Can solids and liquids interact? L3: Are all changes permanent? L4: Are all materials the same? L5: Can crystals be made? L6: Can we influence the process of change?</p>
Key Concepts to assess	<p>L1: Children will know the three states of matter and that in the case of water they can change through temperature change. L2: Children will know that in some solid materials the bonds between particles break when surrounded by a liquid allowing the liquid to 'absorb' the solid; when this happens, the solid is called a solute, the liquid is called a solvent and the result is a solution and that when a solid does dissolve in a liquid it is described as being soluble in that solvent. L3: Children will know that a reversible change is one where the object can be reversed back to their original state as no chemical reaction has taken place while an irreversible change is one that cannot be reversed and that examples of this often involves a chemical change where a new material is made L4: Children will know that materials' different properties can be tested through acting upon them, including testing to find whether materials are magnetic, thermally or electrically conductive L5: Children will know that filtering allows solids and liquids to be separated and that sieving allows solids of different sizes to be separated L6: Children investigate to know how the temperature of water affects how well sugar dissolves in it.</p>	<p>L1: Children will know the three states of matter and that in the case of water they can change through temperature change and the effect this has on their molecules L2: Children will know that in some solid materials the bonds between particles break when surrounded by a liquid allowing the liquid to 'absorb' the solid; when this happens, the solid is called a solute, the liquid is called a solvent and the result is a solution and that when a solid does dissolve in a liquid it is described as being soluble in that solvent. They will also know the amount a solvent can is finite before it becomes saturated. L3: Children will know that a reversible change is one where the object can be reversed back to their original state as no chemical reaction has taken place while an irreversible change is one that cannot be reversed and that examples of this often involves a chemical change where a new material is made giving examples (e.g. burning, boiling an egg, the reaction of bicarbonate of soda and acid) L4: Children will know that materials' different properties can be tested through acting upon them, including testing to find whether materials are magnetic, thermally or electrically conductive and suggest how these properties make them suitable for certain purposes. L5: Children will know that filtering allows solids and liquids to be separated and that sieving allows solids of different sizes to be separated and give examples of when to use which type of separation. L6: Children investigate to know how the temperature of water affects how well sugar dissolves in it and understand the effect the temperature had on the molecules in the water.</p>



Cherry Tree Academy Medium Term History

Vocabulary	Evaporation, melting, materials, conductor insulator solution particles solute soluble solvent dissolve insoluble saturated crystals reversible filtering irreversible sieving electricity thermally magnetic	Evaporation, melting, materials, conductor insulator solution Particles solute soluble solvent dissolve insoluble Saturated crystals reversible filtering Irreversible sieving electricity thermally Magnetic Molecules bicarbonate of soda Acid Alkaline separation
Experiences	<p>Scientific Enquiry – Observing Over Time - investigate making crystals</p> <p>Scientific Enquiry – Comparative & Fair Testing – investigate materials that will keep hot porridge hot and frozen yoghurt cold.</p> <p>Scientific Enquiry – Comparative & Fair Test – investigate which materials can best be used to filter solids out of water.</p> <p>Scientific Enquiry – Comparative & Fair Testing – investigate how the temperature of water affects how well sugar dissolves in it</p>	
SMSC	Moral- homeless people need the most thermally insulated materials to keep warm- should these be free to them?	
British Values	Mutal respect- listen to and evaluate other predictions respectfully.	
School Values	Inclusive- ensure all members of a team are included in the enquiry sessions.	



Spring		
UKS2	Earth and Space	
	Year 5	Year 6
	<p>L1: How long does it take for the Earth and other planets to orbit the Sun? L2: What are the names of the planets in the Solar System and where are they? L3: Why is the moon always there? L4: Why does the moon change L5: Why is it dark at night? L6: Were we right when we first learned about our solar system?</p>	<p>L1: How long does it take for the Earth and other planets to orbit the Sun? L2: What are the names of the planets in the Solar System and where are they? L3: Why is the moon always there? L4: Why does the moon change L5: Why is it dark at night? L6: Were we right when we first learned about our solar system?</p>
<p>Key Concepts to assess</p> <p>L1: Children will know that the Earth and other planets move in circular paths called orbits due to the sun's gravitational pull and that one year is the amount of time it takes for a planet to orbit the Sun once. (for the Earth it is 365½ days.) L2: Children will know that there are eight planets in the Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and the order of the planets, according to their distance from the Sun.</p> <p>L3: Children will know that a moon is a satellite that does not produce its own light and a planet's gravitational pull keeps the moon travelling in a circular shape around the planet.</p> <p>L4: Children will know that as the Moon travels around the Earth, we can only see the part of the Moon facing the Sun at that time and therefore its appearance will change depending on where we are viewing the moon from.</p> <p>L5: Children will know that Earth is constantly spinning on its axis, and it takes 24-hours for the Earth to completely spin creating night and day.</p> <p>L6: Children will know that Ptolemy was an Ancient Egyptian astronomer who was one of the first people to describe the model of the Solar System</p>	<p>L1: Children will know that the Earth and other planets move in circular paths called orbits due to the sun's gravitational pull, that one year is the amount of time it takes for a planet to orbit the Sun once. (for the Earth it is 365½ days.) and that planets in our Solar System are far away from each other, so their orbits never cross over.</p> <p>L2: Children will know that there are eight planets in the Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and the order of the planets, according to their distance from the Sun and that the four planets furthest away from the Sun are known as the gas giants.</p> <p>L3: Children will know that a moon is a satellite that does not produce its own light, a planet's gravitational pull keeps the moon travelling in a circular shape around the planet and takes just over 27 days for the Moon to orbit the Earth.</p> <p>L4: Children will know that as the Moon travels around the Earth, we can only see the part of the Moon facing the Sun at that time and therefore its appearance will change depending on where we are viewing the moon from as well as the names for these phases of the moon.</p> <p>L5: Children will know that Earth is constantly spinning on its axis, it takes 24-hours for the Earth to completely spin creating night and day, and this means that all the countries cannot have the same time.</p> <p>L6: Children will know that Ptolemy was an Ancient Egyptian astronomer who was one of the first people to describe the model of the Solar System and he believed the Earth was at the centre of the Solar System and that the Sun and other planets orbited around the Earth. This is called the geocentric model of the Solar System</p>	



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Vocabulary	Astronomer, Ptolemy, astronomer, Ptolemy, geocentric elliptical path, orbits, gravity, gravitational pull, Satellites Axis, reflects	Astronomer, Ptolemy, astronomer, Ptolemy, Geocentric Orbits, elliptical path, gravity, gravitational pull, Satellites Axis, time zone, reflects geocentric, -Day 1: New Moon -Day 4: Waxing Crescent, -Day 7: First Quarter, -Day 10: Waxing Gibbous -Day 14: Full Moon, -Day 18: Waning Gibbous -Day 21: Last Quarter -Day 24: Waning Crescent -Day 28: New Moon
Experiences	<p>Scientific Enquiry – Observing Over Time – create a shadow investigation to see what happens to the shadow at different times of the day.</p> <p>Scientific Enquiry – Identifying & Classifying / Research – create a model to show the movement of the Sun, Moon and Earth within the Solar System</p> <p>Immersive Planetarium - Wonder dome</p>	
SMSC	Spiritual- respectfully discuss the different theories on how the world began.	
British Values	Mutual respect and tolerance – discuss the differing views on the moon landings.	
School Values	Resilient- how astronomers must be resilient when facing challenges and setbacks- link to Armstrong and the broken button.	



Cherry Tree Academy Medium Term History

Summer 1		
Living things and their Habitats- Classification		
UKS2	Year 5	Year 6
	<p>L1: Why is the classification of plants and animals useful?</p> <p>L2: Why is Carl Linnaeus’s work famous?</p> <p>L3: Do all animals that fit into the same group have the same characteristics?</p> <p>L4: What are microorganisms, and can they help or harm us?</p> <p>L5: Can micro-organisms be classified in the same way as plants and animals?</p> <p>L6: How do conditions affect the growth of micro-organisms?</p>	<p>L1: Why is the classification of plants and animals useful?</p> <p>L2: Why is Carl Linnaeus’s work famous?</p> <p>L3: Do all animals that fit into the same group have the same characteristics?</p> <p>L4: What are microorganisms, and can they help or harm us?</p> <p>L5: Can micro-organisms be classified in the same way as plants and animals?</p> <p>L6: How do conditions affect the growth of micro-organisms?</p>
Key Concepts to assess	<p>L1: Know that scientists collected a huge number of plants and animals to arrange and classify them and why.</p> <p>L2: Know that in the Linnaean system, living things are classified and levels: domain, kingdom, phylum, class, order, family, genus, species</p> <p>L3: Know that there are 6 kingdoms which include animals, plants, fungi and bacteria.</p> <p>L4: Know that a microorganism is a very small living thing that can only be seen with a microscope. Give examples of those that can help- penicillin and those that can harm- viruses.</p> <p>L5: Know that microorganisms can be classified in various ways- number of cells, helpful or harmful.</p> <p>L6: Know that microorganisms reproduce more rapidly in the correct conditions.</p>	<p>L1: Know that scientists collected a huge number of plants and animals to arrange and classify them and how this has helped modern scientific discoveries.</p> <p>L2: Know that in the Linnaean system, living things are classified and levels: domain, kingdom, phylum, class, order, family, genus, species and how this has helped scientists understand new species that are discovered.</p> <p>L3: Know that there are 6 kingdoms which include animals, plants, fungi and bacteria and the characteristics that define these.</p> <p>L4: Know that a microorganism is a very small living thing that can only be seen with a microscope. Give examples of those that can help- penicillin and those that can harm- viruses as well as those that can be both- fungi.</p> <p>L5: Know that microorganisms can be classified in various ways- number of cells, helpful or harmful. Know that bacteria are a single-celled organism which can multiply and either help humans (such as in the stomach) or harm them (such as causing infection)</p> <p>L6: Know that microorganisms reproduce more rapidly in the correct conditions and which conditions prevent their growth.</p>
Vocabulary	<p>Observation, group, classify, classification, Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, micro-organism, bacteria, fungus, virus, cell, nucleus</p> <p>Linnaean system, : domain, kingdom, phylum, class, order, family, genus, species microorganism, yeast</p>	<p>Observation, group, classify, classification, Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, micro-organism, bacteria, fungus, virus, cell, nucleus, microorganisms</p> <p>Linnaean system: domain, kingdom, phylum, class, order, family, genus, species, mould, yeast, archaea, eukarya bacteria</p>
Experiences	<p>Scientific Enquiry In which conditions do microorganisms grow most rapidly? [<i>note: experiment includes growing microorganisms through cultivating mould on bread. Please ensure that relevant precautions are taken to keep all safe</i>]</p> <p>Scientific Enquiry Does temperature affect the growth rate of microorganisms? (Yeast experiment)</p>	



Cherry Tree Academy Medium Term History

SMSC	Social – working with other pupils when completing experiments
British Values	Mutual respect- listening to and understanding the opinions of others when planning and predicting an investigation.
School Values	Healthy- we keep ourselves healthy by using good hygiene routines to kill bacteria.



Cherry Tree Academy Medium Term History

Summer 2		
UKS2	Famous Inventors	
	Year 5	Year 6
	<p>L1: Who was Stephen Hawking and what was his impact? L2: What is a Black hole and how are they made? L3: Can bacteria be good for us? L4: What is the impact of penicillin today? L5: Who was Steve Jobs and how have his inventions changed the world? L6: What power is in the finger?</p>	<p>L1: Who was Stephen Hawking and what was his impact? L2: What is a Black hole and how are they made? L3: Can bacteria be good for us? L4: What is the impact of penicillin today? L5: Who was Steve Jobs and how have his inventions changed the world? L6: What power is in the finger?</p>
<p>Key Concepts to assess</p> <p>L1: Children will be able to share facts about Stephen Hawking’s life. L2: Children will plan and set up an inquiry to demonstrate the causes of black holes. L3: Children will be able to describe Fleming’s discovery of penicillin. L4: Children will be able to construct a scatter graph from a table of results L5: Children will understand how Steve Jobs used electronics to design computers. L6: Children will know how Steve Jobs was obsessed with the power of manipulating devices with one finger and use recognised symbols to represent some components used to make computers.</p>	<p>L1: Children will be able to share facts about Stephen Hawking’s life and the impact his disability may have had positively or negatively. L2: Children will plan and set up an inquiry to demonstrate the causes of black holes and interpret and share their findings. L3: Children will be able to describe Fleming’s discovery of penicillin and how wile beneficial it is still a dangerous drug. L4: Children will be able to construct a scatter graph from a table of results and answer questions about the effects of penicillin using my scatter graph. L5: Children will understand how Steve Jobs used electronics to design computers and explain the impact of his inventions. L6: Children will know how Steve Jobs was obsessed with the power of manipulating devices with one finger and use recognised symbols to represent some components used to make computer and build a simple circuit.</p>	
<p>Vocabulary</p> <p>Stephen Hawking, astrophysicist, black hole, gravity, density, light, event horizon, matter, Alexander Fleming, penicillin, antibiotic, microorganism, bacteria, , colony/ colonies, Steve Jobs, technology, computer, Apple, component, circuit</p>	<p>Stephen Hawking, astrophysicist, black hole, gravity, density, light, event horizon, matter, amyotrophic lateral sclerosis (ALS), also known as motor neurone disease (MND). Alexander Fleming, penicillin, antibiotic, microorganism, bacteria, correlations, colony/ colonies, diameter, exposed Steve Jobs, technology, computer, Apple, component, circuit</p>	
<p>Experiences</p>	<p>Scientific enquiry: What makes a black hole and how are they formed?</p>	
<p>SMSC</p>	<p>Social- explore the positive and negative impact of the invention of modern technologies.</p>	
<p>British Values</p>	<p>Individual liberty- despite his deteriorating health Stephen Hawking was able to change the world as he wanted due to and our equalities act enabling him to attend university- this is not the case in all countries.</p>	
<p>School Values</p>	<p>Inclusion- disabilities don’t prevent brilliance.</p>	

Cherry Tree Academy Medium Term History

