Science Year 1			
	Biology- Autumn Plants and seasonal change	Chemistry and Physics- Spring Everyday materials and seasonal change	Biology- Summer Animals including humans and all living things and their habitats
Knowledge (substantive and disciplinary)	Lesson 1 – Explore the local environment and name the plants seen. Lesson 2 – Name the different parts of plants Lesson 3 – Name the different parts of a tree Lesson 4 – Sorting deciduous and evergreen trees Lesson 5 – Recognise different plants and flowers in the local area Lesson 6 – TAPS plants flower model¬– Structure of a plant Lesson 7- TAPS- dig and label plants Lesson 8 – Seasonal Change – identify features of Autumn and how this differs to other seasons Lesson 9 - Retrieval lesson Lesson 10 –- Revisit the local environment to notice how the plants have changed throughout autumn. Resources – Velcro parts of a flower (under tray G10)	Lesson 1 – explore different materials and learn the name of some every day materials Lesson 2- Group different materials. Lesson 3 – Predict and explore which material would be best to make an umbrella on a teddy. Lesson 4 – Decide which material was the most successful as an umbrella. Lesson 5 – Observe which materials are transparent and opaque. Lesson 6- TAPS materials sorting - Sorting materials based on their properties Lesson 1 – Name seasons and know main events which occur within them Lesson 2 – Identifying similarities and differences between seasons Lesson 3 –Identify weather changes in the seasons Lesson 4 –Know how what I need to wear in different seasons Lesson 5 – Describe how the seasons affect the length of day Lesson 6- TAPS Seasonal change (will need to take pictures of trees in a different season) Resources - Data loggers for measuring sunlight (Large red tray under Dictaphones)	Lesson 1 – Know how to handle animals safely. Lesson 2 – Explore what animals are in our local environment. Lesson 3 – Classify animals in my local environment. Lesson 4 – Understand what the difference is between amphibians and reptiles. Lesson 5– Classify common animals. Lesson 6 – Explain what a carnivore, herbivore and omnivore is. Lesson 7 – Sort animals into carnivores, herbivores and omnivores. Lesson 8- TAPS task- animals sorting Lesson 9 – Explore different human body parts. Lesson 10 – Label human body parts. Lesson 11 – Name the five senses and link them to the associated body parts.
Skills	Plan: choose appropriate materials Do: observe closely	Review: classifying Review: using observations and ideas to suggest answers to questions.	Review: identify and classify
END POINT	I can identify and name a variety of common wild and garden plants and can identify and describe the basic structure of a variety of common flowering plants.	I can distinguish between an object and the materials from which it is made, identify and name a variety of everyday materials, describe the simple physical properties of a variety of everyday materials and compare and group together a variety of everyday materials based on their properties. I can observe changes across the four seasons and observe and describe weather associated with the seasons and how day length varies.	I can identify and name a variety of common animals. I can identify and label the basic parts of the human body.

SCIENCE Year 2			
	Biology- Autumn Plants and animals including humans	Chemistry- Spring Every day materials	Biology- Summer All living things and their habitats
Knowledge (substantive and disciplinary)	Lesson 1- Identifying and Describing Seeds and Bulbs (plant cress) Lesson 2- Understanding Plant Growth Requirements Lesson 3- Observing and Describing Growth Stages Lesson 4- Analysing and Presenting Experimental Results Lesson 5- TAPS - Plants observing seed growth - observe and describe how seeds and bulbs grow into mature plants Lesson 6- TAPS – plant growth comic strip - observe and describe how seeds and bulbs grow into mature plants Lesson 1- Understanding Offspring and Growth Lesson 2- Identifying Basic Survival Needs Lesson 3 - TAPS Animals match offspring - notice that animals have offspring which grow into adults Lesson 4- Exploring the Importance of Exercise Lesson 5- Learning About a Balanced Diet Lesson 6- Understanding Hygiene Practices Resources – data loggers to measure how sunlight impacts growth of plants.	Lesson 1- Learn about Charles Macintosh. Lesson 2- Identify properties of different materials. Lesson 3 – Identify properties of different materials. Lesson 4- make something from different materials. Lesson 5- evaluate it. Lesson 6 – Identify and compare everyday materials Lesson 7 - Investigate which materials are most versatile. Lesson 8 - Investigate which materials are most versatile. Lesson 9 – Unusual uses of materials. Lesson 10 – TAPS – waterproof paper testing. Compare suitability for different uses. Resources – tray C9	Lesson 1- Know what living things need to survive. Lesson 2- Explore the difference between living things, dead things and things that have never been alive. Lesson 3- Compare the difference between living things, dead things and things that have never been alive. Lesson 4- Create charts to show findings of living, dead and things that have never been alive. Lesson 5- Recognise habitats within my local area. Lesson 6- Know what a micro-habitat is. Lesson 7- TAPS woodlice tally – Identify that living things live in habitats that suit them. Lesson 8- Understand how habitats depend on each other (interdependence). Lesson 9- Compare animals in familiar habitats with animals found in less familiar habitats. Lesson 10- Name different habitats and know which animals are suited to that habitat. Lesson 11- Construct a simple food chain. Lesson 12- TAPS Living Habitat Survey - identify and name a variety of plants and animals in their habitats, including micro-habitats
Skills	Plan: To set up a fair experiment Do: observe closely	Do: gather and record data to help in answering questions Review: using their observations and ideas to suggest answers to questions	Do: gathering and recording data to help in answering questions Do: gathering and recording data to help in answering questions
END POINT	I can observe and describe how seeds and bulbs grow into mature plants. I can describe how plants need water, light and a suitable temperature to grow and stay healthy. I understand that animals, including humans, have offspring which grow into adults, describe the basic needs of animals for survival and understand the importance for humans of exercise, diet and hygiene.	I can identify and compare the suitability of a variety of everyday materials and can explain how the shapes of solid objects made from some materials can be changed.	I can compare the differences between things that are living, dead and things that have never been alive. I can identify that most living things live in habitats to which they are suited to. I can explain a simple food chain.

SCIENCE Year 3			
	Biology and Physics- Autumn Animals including humans and light	Chemistry- Spring Rocks	Biology and Physics- Summer Plants and forces
Knowledge (substantive and disciplinary)	Lesson 1- Understanding Animal Nutrition Lesson 2- Comparing Animal Nutritional Needs Lesson 3- Planning balanced meals based on the eat well plate Lesson 4- Recognizing the Role of Skeletons and Muscles Lesson 5- Exploring the Functions of Skeletons and Muscles Lesson 6- TAPS animals draw inside fish - identify that animals have skeletons and muscles Lesson 1- Understanding Light and Vision Lesson 2- Exploring Light Reflection Lesson 3- Understanding Sun Safety Lesson 4- Recognising Shadows Lesson 5- Applying Knowledge of Light and Shadows Lesson 6- TAPS Light shadow invest - find patterns in the way that the size of shadows change Resources – skeletons on shelves.	Lesson 1- Name 3 different kinds of rock. Bring in own rocks. How would you group them? Lesson 2- Group and compare different kinds of rock based on their appearance and properties. Lesson 3- Describe how each rock is formed. Lesson 4- Test and compare rocks based on their hardness. Lesson 5- Investigate the properties of rock. Lesson 6- Match rocks to their properties and suggest uses for them (final Outstanding science lesson). Lesson 7- TAPS Rock scratching - compare and group together different kinds of rocks on the basis of their simple physical properties Lesson 8- Explain how fossils are formed. Lesson 9- Describe fossils. Lesson 10– TAPS explore fossil formation - describe in simple terms how fossils are formed when things that have lived are trapped within rock Lesson 11- Investigate what soils are made of. Lesson 12- Examine what a soil sample is made of. Resources – trays c15-c20	Lesson 1- Describe the functions of different parts of flowering plants. Lesson 2- Plan an experiment to test what plants need to grow. Lesson 3- Carry out an experiment. Lesson 4- Observe how water is transported in flowering plants. Lesson 5- Explain the part flowers play in the life cycle of flowering plants. Lesson 6- TAPS plants labelling and Q raising - identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Lesson 1- Know how magnets work. Lesson 2- Predict whether magnets will attract or repel. Lesson 3- Explain how magnets are used everyday. Lesson 4- Know that some forces need contact. Lesson 5- Compare how things move on different surfaces. Lesson 6- TAPS set up ramp invest - compare how things move on different surfaces. Magnets – c23-25, ramps
Skills	Do: making systematic and careful observations Review: reporting on findings from enquiries	Do: making systematic and careful observations, gathering and recording data.	Plan: raise their own questions about what they notice Plan: setting up simple practical enquiries, comparative and fair tests
END POINT	I can identify that animals, including humans, need the right types and amount of nutrition and they get it from what they eat. I can identify that humans and some other animals have skeleton and muscles for support, protection and movement. I can recognise that we need light to see things and darkness is the absence of light, know that light is reflected from surfaces, understand that light can be dangerous. I can understand how shadows are formed and find patters in the way that the size of a shadow changes.	I can compare and group together different kinds of rock based on their appearance and properties. I can describe how fossils are formed and recognise that soils are made from rocks and organic matter.	I can identify and describe the functions of different parts of flowering plants. Explain how magnets work and how they interact with materials.

SCIENCE Year 4			
	Biology- Autumn All living things and their habitats and animals	Biology and Chemistry- Spring Animals including humans and states of matter	Physics- Summer Sound and electricity
Knowledge (substantive and disciplinary)	Lesson 1- Understand that living things can be grouped in various ways and learn basic classifications. Lesson 2- Learn how to use classification keys to identify and group living things. Lesson 3- Animal top trumps based on characteristics- Example in TAPS folder Lesson 4- Apply knowledge of classification keys to identify local flora and fauna. Lesson 5- Understand how environmental changes can affect living things. Lesson 6- Understand the effects of pollution, deforestation, and urbanisation on living things. Lesson 7- Understand ways to protect living things and their environments. Lesson 8- TAPS task- Local Environment Survey Lesson 9- Choose a local environmental issue and develop an action plan to address it Lesson 10- Identify producers, predators and prey in food chains. Lesson 11- Construct and interpret a variety of food chains Lesson 12- Understand the importance of maintaining balanced ecosystems.	Lesson 1- Understand how the digestive system works. Make digestive system using tights. https://www.bbc.co.uk/bitesize/articles/zrm48mn#zrmb9ty Describe the basic parts of the human digestive system. Lesson 2- Understand the simple functions of each part of the digestive system. Lesson 3- Identify the different types of teeth in humans. Understand the simple functions of each type of tooth. Lesson 4- Understand how different types of teeth contribute to the digestive process. Lesson 5- TAPS task- Teeth in liquids news report Lesson 1- Group substances based on whether they are a solid, liquid or gas. Lesson 2- Explain how materials change state. Ice cube investigation. Lesson 3 - Explain the water cycle. Lesson 4- Investigate the boiling point of different materials. Lesson 5- Investigate how temperature affects evaporation rates. Water investigation. Lesson 6- TAPS task- Drying materials	Lesson 1- Identify how sounds are made and associate sounds with something vibrating. Lesson 2- Recognise that vibrations from sounds travel through a medium to the ear. Know the parts of the ear. Lesson 3- Find patterns between the pitch of a sound and features of the object that produced it. Lesson 4- Find patterns between the volume of a sound and the strength of the vibrations that produced it. Lesson 5- Recognise that sounds get fainter as the distance from the sound source increases. Lesson 6- TAPS task- Does it conduct electricity? Lesson 1- Explore electrical circuits. Lesson 2- Construct a simple series circuit. Lesson 3- Construct a series circuit with multiple components. Lesson 4- Understand how important electricity is to us. Lesson 5- TAPS task- Electricity conductors Lesson 6- Explain how metal can be used as a conductor.
Skills	**Do:** Gather, record and classify data.	**Review:** reporting on findings from enquiries, using results to draw simple conclusions. **Plan:** Set up a fair test.	**Review:** Identify differences, similarities or changes related to simple scientific ideas and processes. **Review:** Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions.
END POINT	I can recognise that living things can be grouped in a variety of ways, understand and use classification keys to group, identify and name a variety of living things and recognise that environments can change and that this can sometimes pose dangers to living things. construct and interpret a variety of food chains, identifying produces, predators and prey.	I can describe the simple functions of the basic parts of the digestive system in humans, identify the different types of teeth and their simple function and I can compare and group materials together according to their state of matter, observe some materials change state when they are heated or cooled and identify the part played by evaporation and condensation in the water cycle.	I can identify common appliances that run on electricity, construct a simple circuit, identify whether or not a lamp will light in a simple series circuit, recognise that a switch open and closes a circuit and recognise some common conductors and insulators. I can identify how sounds are made, recognise that vibrations from sounds travel through a medium to the ear, find patterns between the pitch of a sound and the features of the object that produced it and recognise that sounds get fainter as the distance from the sources increases.

SCIENCE Year 5			
	Physics - SPRING Earth and Space	Biology and Physics - Autumn All living things and their habitats and forces	Chemistry and Biology- Summer Properties and changes in materials and animals including humans
Knowledge (substantive and disciplinary)	Lesson 1- Identify the role of the sun in the solar system. Lesson 2: Describe the movement of the planets. Lesson 3- Understand why the Earth's rotation causes day and night. Lesson 4- Describe the movement of the moon. Lesson 5- TAPS task- Solar System research. Lesson 6- Understand how the sun, Earth, and moon are spherical bodies. Lesson 7- Know the Earth's rotation causes day and night. Lesson 8. Explain the apparent movement of the sun across the sky. Lesson 9 – Understand how sundials were used. Lesson 10 - Construct a simple sundial. Lesson 11- Predict what Stonehenge might have been used for. Resources – model of the solar system, inflatable planets in box next to unit and tray P21	Lesson 1- Explain why objects fall to Earth. Lesson 2- Investigate the effects of air resistance. Lesson 3- Investigate the effects of water resistance. Lesson 4- TAPS task- Aquadynamics Lesson 5- Explore the effects of friction on moving objects. Lesson 6- Explore how pulleys, levers and gears work. Lesson 1- Describe the differences in the lifecycle of an animal, amphibian, insect and a bird. Lesson 2 - describe the life process of reproduction in plants. Lesson 3 - describe the life process of reproduction in animals. Lesson 4- describe the changes as humans develop to old age. Lesson 5- TAPS task- Life Cycle Research	Lesson 1- Compare and group materials on the basis of their properties. Lesson 2- Give reasons for particular uses of everyday materials. Lesson 3- Understand that some materials dissolve in liquid to form a solution. Lesson 4- Explore the different ways mixtures can be separated. Lesson 5- Conclude that dissolving, mixing, and changes of state are reversible. Lesson 6- Know some changes are difficult to reverse. Lesson 7- TAPS task- Testing Nappy Absorbency Lesson 8- Understand how chemists create new materials. Lesson 9- Know how chemical changes have an impact on our lives. Biology- Describe the changes as humans develop to old age (can cover this within SRE lessons). Lesson 1- Understand the changes which happen in puberty. Lesson 2- Draw a timeline to indicate the stages in growth in humans. Lesson 3- Compare gestation between humans and other animals.
Skills	**Do:** Gather and record data using tables and graphs. **Review:** Report and present findings from enquiries using appropriate scientific language	**Review:** Report and present findings from enquiries, in oral and written forms such as displays and other presentations, using appropriate scientific language. **Review:** Explain the degree of trust in the results	**Plan:** Plan different types of scientific enquiry, including recognising and controlling variables
END POINT	I can describe the movement of the Earth relative to the sun, the movement of the moon relative to the Earth, describe the sun, Earth and moon as approximately spherical bodies and understand why we have day and night.	I can describe the differences in life cycles of a mammal, an amphibian, an insect and a bird and describe the life processes of reproduction in some plants and animals. I understand the impact of gravity, the effects of different types of resistance and understand that different mechanism allow a smaller force to have a greater effect.	I can describe the changes as humans develop to old age. I can compare and group everyday materials based on their properties, separate mixtures, understand reversible and irreversible changes.

SCIENCE Year 6			
	Physics and Biology- Autumn Electricity and all living things and their habitats	Biology Animals including humans	Biology and Physics Evolution and inheritance and light
Knowledge (substantive and disciplinary)	Lesson 1- Identify the relationship between the brightness of a lamp and the number/voltage of cells in a circuit. Lesson 2- Compare and provide reasons for variations in how electrical components function. Lesson 3- Analyse and compare the behaviour of components in a circuit. Lesson 4- Use recognised symbols to represent simple circuits, incorporating technology. Lesson 5- Apply circuit symbols to represent complex circuits and explain their function. Lesson 6- TAPS- Bulb Brightness Lesson 1- Classify different living things based on observable characteristics (introduce what a living this is/why scientist classify and children to broadly classify a range of animals) Lesson 2- Understand the Linnaean system (introduce Carl Linnaean and understand and use his taxonomy system) Lesson 3 – Identify similarities and differences when classifying vertebrates Lesson 4 – classify and organise invertebrates Lesson 5 – Understand what a microorganism is Lesson 6 – classify the plant kingdom	Lesson 1- Identify and name the main parts of the human circulatory system. Lesson 2- Describe the functions of blood and blood vessels. Lesson 3- Explain how the human heart works. DIY pumping heart model. Lesson 4- Describe ways nutrients and water are transported in humans and animals. Transport of nutrients and water – KS2 Science curriculum - BBC Bitesize Lesson 5- Investigate the effect of exercise on heart rate and the benefits/long term effects. Lesson 6- Use a graph to record findings. (Find out the preferred forms of exercise in our class.) Lesson 7- TAPS task- Reaction catches graph Lesson 8 – Recap PSHE lesson on different types of drugs. Lesson 9 - Describe the negative impact that alcohol and smoking has on the body, and the heart rate, long term use (addiction), lifestyle. Lesson 10- TAPS task- Heart Rate Poses	Lesson 1-Understand what fossils are and how they provide information about living things that inhabited the Earth millions of years ago. Lesson 2- Compare offspring with their parents to recognise patterns of inheritance and variation within species. Lesson 3- Identify how animals and plants are adapted to suit their environment in different ways. Lesson 4- Demonstrate how adaptation may lead to evolution over time. Lesson 5- Present information about animals and plants and their adaptations visually. Lesson 6- TAPS task- Fossil Habitats Lesson 1- Revisit my Year 3 learning on light. Lesson 2- Design a periscope. Lesson 3- Create my own periscope and explain how it works. Lesson 4- Explain how our eyes see objects. Lesson 5- TAPS task- Investigating Shadows Lesson 6- Know about different phenomena created by light.
Skills	**Plan:** Plan a scientific enquiry to answer a question, recognising and controlling variables. **Plan:** Plan different types of scientific enquiries to answer their own questions (pattern seeking)	**Do:** recording data and results of increasing complexity. **Do:** Use test result to make predictions to set up further comparative and fair tests.	**Review:** Identifying scientific evidence that has been used to support or refute ideas or arguments. **Do:** Take accurate measurements and records data on a graph.
END POINT	I can associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in a circuit, compare and give reasons for variations in how components function and use recognised symbols when representing a simple circuit in a diagram. I can describe how living things are classified and give reasons for this based on specific characteristics.	I can identify and name the main parts of the human circulatory system and describe the functions of the heart, bloody vessels and blood. I can recognise the importance of diet, exercise, drugs and lifestyle. I can describe the ways in which nutrients and water are transported within animals.	I can recognise that living things have changed over time, recognise that living things produce offspring that can vary and identify how animals and plants are adapted to suit their environment in different ways. I can recognise that light travels in straight lines, explain that objects are seen because they give or reflect light, explain how we see things and understand how shadows are created.