Year 4

Town Field Primary Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
National Curriculum Objectives	**Animals including humans** - describe the simple functions of the basic parts of the digestive system in humans - identify the different types of teeth in humans and their simple functions	**States of Matter** -compare and group materials together, according to whether they are solids, liquids or gases - observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) - identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Living things and their habitats** - recognise that living things can be grouped in a variety of ways - explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment - recognise that environments can change and that this can sometimes pose dangers to living things. **Animals including humans** - construct and interpret a variety of food chains, identifying producers, predators and prey.	**Electricity** - identify common appliances that run on electricity - construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery - recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit - recognise some common conductors and insulators, and associate metals with being good conductors.	**Sound** -identify how sounds are made, associating some of them with something vibrating - recognise that vibrations from sounds travel through a medium to the ear - find patterns between the pitch of a sound and features of the object that produced it - find patterns between the volume of a sound and the strength of the vibrations that produced it - recognise that sounds get fainter as the distance from the sound source increases.
TAPS Assessment		Set up simple practical enquiries, comparative and fair tests –drying materials Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers –measure temperature	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. – local survey Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings – teeth (eggs) in liquids.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Identify differences, similarities or changes related to simple scientific ideas and processes - conductors	Ask relevant questions and use different types* of scientific enquiries to answer them. – investigating pitch Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Identify differences,
Science Capital Opportunities	In history, pupils should explore the question – Did Romans have better teeth than we did? Scientists examining the remains of 30 men, women and children killed in Pompeii when Mount Vesuvius erupted in Roman Times has discovered that the ancient Romans had better teeth than people today. Children could think about why this might be? As Romans didn't have the same standard of dental care we have today, researchers believe this to be due to a low-sugar, fibre-rich diet. This is a good talking point for child when thinking about how to look after our teeth and a healthy diet. Children should take part in a practical experiment which recreates the digestive system and then examine fake poo – using working scientifically skills to compare either modern and Roman diets or identify people from different sections of Roman society. A visit to Doncaster museum activity We Dig The Romans would help children understand the science behind archaeology (examine coprolite, seed and pollen records, surveying techniques)	Children should be given the opportunity to explore the effect of temperature on substances such as chocolate butter and cream by making food such as rice crispy cakes for a Christmas event such as the party or school fair. Children could explore natural materials from the rainforest, such as rubber, cocoa etc and investigations could then be done around the changes in state for such as chocolate. Research could be undertaken to find the melting and boiling points of materials such as rubber, gold and iron ore which are harvested from rainforests. Pupils should study the water cycle in general along with how water changes in state, this could include a range of investigations looking at the changes in temperature, surface area etc and then apply this to the water cycle in the rainforest.	Children could visit the YWP and explore the local area to make first hand observations of South American and British animals and use these observations to explore possible ways of grouping and sorting them. Children will create classification keys for animals found in the local environment and South American species. The Great Kapok Tree could be used to explore deforestation and the resulting impact (linked to persuasive writing unit) The Window could be used to explore the impact of humans on the environment in the UK. Children could compare the teeth of carnivores and herbivores from the UK and South America. They use first-hand observations of animals from South America (YWP) to group and classify animal, suggest reasons for the differences. They could talk to vets/ YWP staff to find out what can damage teeth and how they can be cared for. Children could use all of the knowledge they have gathered to create simple South American food chains. Children could create a classification key in computing.	Children should be given the opportunity to develop a circuit for a given purpose e.g. creating a fan where a simple circuit with a switch powers a motor.	similarities or changes related to simple scientific ideas and processes – string phones Children could make a classroom sound monitor (Barefoot computing)