



Long Term Mapping Science KS3



		KS3	KS3	KS3
		Cycle 1 (2019 – 2020)	Cycle 2 (2020-2021)	Cycle 3 (2021-2022)
Autumn	1	Physics - Seasonal Changes	Living Things and their Habitats	Biology - <i>Animals Including Humans</i> Skeletons and Movement
	2	Chemistry - <i>Materials</i> Rocks	Chemistry - <i>Materials</i>	Chemistry – <i>Materials</i> Rocks
Spring	1	Physics Light	Physics - Light	Physics - Seasonal Changes
	2	Biology – <i>Animals Including Humans</i> Health	Biology - Plants	Physics - Light
Summer	1	Biology - Plants	Physics - Seasonal Changes	Physics - Forces and Magnets
	2	Physics - Forces and Magnets	Physics - Forces and Magnets	Biology - Plants



Medium Term Planning
Key Stage 3
Cycle 1 (2020 – 2021)



Aspiration for Life		Differentiated, aspirational targets dependent on pupil needs.		Language for Life	Explicit teaching/ exposure to new scientific vocabulary	Learning for Life	Opportunities to develop cross curricular skills e.g. maths, English and ICT
KS3 Cycle (2020 - 2021) INTENT: To explore the world around us, observe phenomena, develop scientific vocabulary, be curious and ask questions about what we see, answer scientific questions creatively and form conclusions from our evidence gathered.	Seasonal Changes	Rock/Materials	Light	Health	Plants	Forces and Magnets	
	Autumn 1 – 7 weeks	Autumn 2 - 7 weeks	Spring 1 – 6 weeks	Spring 2 – 6 weeks	Summer 1 – 5 weeks	Summer 2 – 7 weeks	
	Can name the four seasons and identify when in the year they occur. Pupil can observe changes across the four seasons. Pupil can observe weather associated with the seasons. Pupil can describe the weather associated with the seasons. Pupil knows that day length varies.	Pupil can distinguish between an object and the material from which it is made. Pupil can identify a variety of everyday materials including wood, plastic, glass, metal, water and rock.	Know the body parts that sense light. Pupil knows that they need light to see things. Pupil explores light and shadow.	Pupil can describe the basic survival needs of animals. Pupil understands the importance of exercise eating the right amount of different foods and hygiene.	Pupil find out and describe that plants need water, light and a suitable temperature to grow and be healthy.	Pupil experiences how objects move on different surfaces. Pupil can use magnets to test whether objects are magnetic or not. Pupil explores forces through pushing and pulling on a variety of surfaces.	
	SUGGESTED PRACTICALS (Choose from or use suitable alternative)						
	(W/S) Investigate what happens to the total length of daylight this term and write a report Weather Diary – Report (measure temperature, rainfall and wind direction). Autumn walk Find the indicators of autumn Record changes in day length over a period of time What clothes do we wear this season Match weather to season Visit your tree and record what it looks like Cross Curricular – Art VISITS – Park	Exploring and naming different materials. Grouping materials that are made of wood, plastic, water, metal, glass and rock Describe the different objects in the feely bag and guess what they are. Group materials according to properties Testing objects to see if they are bendy or not (W/S) Investigate which material is the most resistant by scrubbing sandpaper on it Cross Curricular – Art VISITS – Park	Draw around partner's body and name body parts. Emphasise eyes need light to see Use a box with a small whole in the middle, place objects inside and get the pupils to guess what's inside. Add torch into the box and switch it on. When pupils look in the whole again they can see the objects. Get them to guess what's inside the box first. – idea we need light to see objects Making shadow puppets Cross Curricular: Food Technology VISITS: sensory trail to the supermarket, seaside (smells, texture of sand, walk in the countryside)	Place pictures of animals and what they eat. Get pupils to match them to what they eat. Those that can't go to the hungry corner. Ask them what happens if their animals don't find their food (W/S) Practical: Time yourself doing 5 different exercises Keeping clean activities sheet Hygiene Hero's Game How to wash your hands- carry out Glitter Bugs Record Hygiene Bingo Hand washing song Create a healthy menu and an unhealthy menu Cross Curricular: PSHE VISITS: GP, pharmacist hospital and supermarket	Observe real plants and draw what they look like. Label different parts and describe functions (W/S) Comparative test, do plants grow better in sunlight and water, just sunlight, Just water or neither sunlight and water? Measure the length of the stem for your method, draw a graph or results and make a conclusion Cross Curricular: Geography VISITS: Garden centre or park	(W/S) Investigate which surfaces are easier to push objects on e.g toy car. (W/S) Investigate which objects are magnetic and which are non-magnetic. Investigate how surface affects how far an object travels (compare carpet and table) Pushing and pulling different materials – tug of war Experiencing a variety of push and pull in everyday objects e.g wheeled toys, opening and closing doors, rolling and cutting out pastry's or dough, making bread and magnets Identify photographs of push and pull Make objects faster and slower, e.g cars up and down ramps Cross Curricular: DT/ PE VISITS: Railway Station and fairground	
	SKILLS (to be developed)						
Observe and Describe Recording Gather and record data to help in answering questions	Identify and name Tell difference Describe Observation	Observe Explore Recording Gather and record data to help in answering questions Interpret/ report Identifying and classifying	Identify Describe Evaluate Using observations and ideas to suggest answers to simple questions.	Observe Explore Recording Gather and record data to help in answering questions	Recording Gather and record data to help in answering questions Interpret/ report Identifying and classifying Interpreting Plan and Enquire		

		Interpreting			Ask simple questions and recognise they can be answered in different ways Sorting
VOCABULARY (In addition to 'skills' terms listed above)					
Leaf, flower, blossom, petal, fruit, Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn) and sun.	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy,	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow	Exercise, heartbeat, breathing, hygiene, germs, disease,	Stem, roots, flower, leaves petals, flower, sunlight light, water, growth	Force, push, pull, twist, contact force, magnet, strength, bar magnet,
<p>Week 1 Name and describe seasons in order - Begin weather and changes in day length diary</p> <p>Week 2 Compare trees in different seasons and visit their favourite spot by a tree</p> <p>Week 3 Autumn Walk – Describe weather associated with Autumn</p> <p>Week 4 Match weather/vocabulary to season</p> <p>Week 5 What clothes we wear at different point in the year</p> <p>Week 6 Longest day of the year and when the clocks go backwards and forwards</p> <p>Week 7: Assessment</p>	<p>Week 1 -2 Name different materials and group them</p> <p>Week 3 -4 Describe everyday properties of materials</p> <p>Week 5-7 Compare everyday materials on the basis of their properties</p>	<p>Lesson 1 -2 Explore the difference between like and dark</p> <p>Lesson 3-4 Know which part of the body detect light</p> <p>Lesson 5 How do we see objects around us?</p> <p>Week 6 Assessment</p>	<p>Week 1 Discuss the basic needs of humans (water, food and air)</p> <p>Week 2 Define healthy and unhealthy foods and sort them</p> <p>Week 3 Plan an investigation to see which exercise is the hardest?</p> <p>Week 5-6 How to complete a simple hygiene routine like washing our hands</p>	<p>Week 1-2 Re-cap parts of the plant and functions</p> <p>Week 3 What conditions to plants grow best in?</p> <p>Week 4 Record results for what conditions plants grow best in</p> <p>Week 5 Assessment</p>	<p>Week 1 -2 Find out which materials objects travel fastest on?</p> <p>Week 3 Know that some forces need contact between 2 objects but magnetism acts from a distance</p> <p>Week 4 Define magnet and explore a bar magnet to test whether objects are magnetic or not</p> <p>Week 5 Group objects into magnetic and non-magnetic</p> <p>Week 6 Define forces as push and pulls</p> <p>Week 7 Football – to represent kicking/ pushing, basketball to represent throwing/pushing</p>



Medium Term Planning Key Stage 3 Cycle 2 (2021 – 2022)



Aspiration for Life		<i>Differentiated, aspirational targets dependent on pupil needs.</i>		Language for Life		Explicit teaching/ exposure to new scientific vocabulary		Learning for Life		Opportunities to develop cross curricular skills e.g. maths, English and ICT			
Living Things and their Habitats		Rocks/Materials		Light		Plants		Seasonal Changes		Forces and Magnets			
Autumn 1 – 7 weeks		Autumn 2 - 7 weeks		Spring 1 – 6 weeks		Spring 2 – 6 weeks		Summer 1 – 5 weeks		Summer 2 – 7 weeks			
KS3 Cycle 2 (2021 – 2022) <small>INTENT; To explore the world around us, observe phenomena, develop scientific vocabulary, be curious and ask questions about what we see, answer scientific questions creatively and form conclusions from our evidence</small>		Pupil can explore and compare the difference between things that are living, dead, and things that have never been alive. Pupil identifies that living things live in habitats to which they are suited and how living things depend on each other.		Pupil can identify a wider variety of materials. Pupil can compare the suitability of a wider variety of materials. Pupil can change the shape of solid objects by squashing, bending, twisting and stretching. Pupil can select solid objects which are likely to change shape if squashed, bent, twisted and stretched. Pupil can identify creative uses of everyday materials.		Pupil knows that they need light to see things. Pupil explores light and shadow.		Pupil can observe and describe how seeds and bulbs grow into mature plants.		Can name the four seasons and identify when in the year they occur Pupil can observe changes across the four seasons. Pupil can observe weather associated with the seasons. Pupil can describe the weather associated with the seasons. Pupil knows that day length varies.		Pupil notices that some forces need contact between two objects, but magnetic forces can act at a distance. Pupil knows that magnets have 2 poles.	
		SUGGESTED PRACTICALS <i>(Choose from or use suitable alternative)</i>											
Which area has the most woodlice? (W/S) Woodlice Habitats Sorting Living and Non-living (sorting hoops) Visit a suitable local habitat Record number of each mini-beast on a your habitat/ Make your own habitat up Choose a habitat to go back to and observe throughout the year Cross Curricular: Geography/Art VISITS: Chester Zoo/Manchester Museum		Exploring and naming different materials Identifying common materials that objects are made from Describe the different objects in the feely bag and guess what they are Go outside and about and identify uses of different materials Provide a range of objects (e.g spoon, ruler, glass) and suggest why these objects are made from these materials. Explore changing the shape of different objects Circus activity – can objects be squashed twisted or bended? Sort out recycling Choose the correct material to build something that would stop an egg from smashing when it falls (W/S) Compare who's model is the best by carrying out an experiment to see (W/S) Cross Curricular: DT/Art		Making Shadows: Punch holes in the centre of three equal-sized pieces of card. Hold the pieces of card so that the holes line up. Shine a torch so that the beam of light can travel straight through the holes Search of objects in a light space and dark space. Search for light and dark in the MSE room Make shadow puppets (W/S) Investigate how many materials around school you can find that are translucent, opaque and transparent Cross Curricular: Art VISITS: Hall of mirrors, theatre lights, planetarium		Observe real plants and draw what they look like. Label different parts and describe functions Pupil can identify plants in the school grounds and local community Make models of how different seeds can disperse Cross Curricular: Geography VISITS: Garden Centre		(W/S) Investigate what happens to the total length of daylight this term and write a report Weather Diary – Report (measure temperature, rainfall and wind direction) Summer walk Find the indicators of summer Record changes in day length over a period of time What clothes do we wear this season Match weather to season Visit your tree and record what it looks like Cross Curricular – Art VISITS – Park		Role play freeze-frames for different actions that involve push or pull. Ten Pin Bowling – Can use a ball and tin cans Ball games, riding bikes, balloons, blowing bubbles Play games or use PE activities to demonstrate understanding of faster and slower Talk about when it is useful to change direction, go faster and go slower e.g car Contact and non-contact forces circus Cross Curricular VISITS – Railway station, fairgrounds			

	VISITS: Wood yard, builders yard, garden centre Recycling centre Hardware store Department store Church Glass factory Crafts people – cooper, farrier etc Quarries, slate mines				
SKILLS (to be developed)					
<p>Recording Gather and record data to help in answering questions</p> <p>Interpret/ report Identifying and classifying Interpreting</p> <p>Plan and Enquire Ask simple questions and recognise they can be answered in different ways</p>	<p>Observation Recording Making models</p>	<p>Observe Explore Recording Gather and record data to help in answering questions Interpret/ report Identifying and classifying Interpreting</p>	<p>Observe Explore Recording Identify Describe</p>	<p>Observe and Describe Recording Gather and record data to help in answering questions</p>	<p>Observation Record Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawing, labelled diagrams</p>
VOCABULARY (In addition to 'skills' terms listed above)					
<p>Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes</p>	<p>Shape, push/pushing, pull/pulling, twist/twisting, squash /squashing. Bend/bending, stretch/stretching</p>	<p>Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow</p>	<p>Stem, roots, flower, leaves petals, flower,</p>	<p>Leaf, flower, blossom, petal, fruit, Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn) and sun.</p>	<p>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole</p>
<p>Week 1 Define living, dead and alive and sort animals into living dead or alive Week 2 Define habitat, look at examples and describe the habitat you live in Week 3-4 Define Micro habits and go on a mini beast hunt Week 5 Define food chains and construct them Week 6 Food Webs Week 7 Assessment</p>	<p>Week 1 Identify a wide variety of materials (brick, paper and cardboard) Week 2 Identify possible uses for brick. Paper and cardboard Week 3 Squashing, twisting and bending Week 4-5 Sort objects into those that will twist, bend and squash Week 6-7 Making models</p>	<p>Lesson 1 Explore the difference between like and dark Lesson 2 Search for objects in light and dark spaces Week 3 Make shadow puppets Week 4 Experiment with making your shadow longer and shorter Week 5 Explore changes in light through different materials, translucent, opaque and transparent Week 6 Assessment</p>	<p>Week 1 Re-cap parts of the plant and functions Week 2 Follow a method to plant a seed. Over the coming weeks watch it grow Week 4 Seed Dispersal Week 5-6 Order the simple life cycle of a plant</p>	<p>Week 1 Name and describe seasons in order - Begin weather and changes in day length diary Week 2 Compare trees in different seasons and visit their favourite spot by a tree Week 3 Spring Summer Walk – Describe weather associated with Autumn Week 4 Match weather/vocabulary to season Week 5 What clothes we wear in spring Week 6 Longest day of the year and when the clocks go backwards and forwards Week 7: Assessment</p>	<p>Week 1-2 Push and Pull Week 3-4 Observe and compare and find out the different friction and a magnetic force (One is a contact force the other is a non-contact force) Week 5-7 Understand the magnets have a north and a south pole</p>

Medium Term Planning Key Stage 3 Cycle 3 (2022 – 2023)

Aspiration for Life		<i>Differentiated, aspirational targets dependent on pupil needs.</i>		Language for Life	Explicit teaching/ exposure to new scientific vocabulary	Learning for Life	Opportunities to develop cross curricular skills e.g. maths, English and ICT		
KS3 Cycle 3 (2022 – 2023)	INTENT: To explore the world around us, observe phenomena, develop scientific vocabulary, be curious and ask questions about what we see, answer scientific questions creatively and form conclusions from our evidence gathered.	Animals Including Humans Skeletons and Movement	Materials Rocks	Seasonal Changes	Light	Forces and Magnets	Plants		
		Autumn 1 – 7 weeks	Autumn 2 - 7 weeks	Spring 1 – 6 weeks	Spring 2 – 6 weeks	Summer 1 – 5 weeks	Summer 2 – 7 weeks		
		Pupil can identify that humans and some other animals have skeletons and muscles for Support, protection and movement.	Pupil can compare and group different kinds of rock on the basis of their appearance. Pupil can compare and group different kinds of rock on the basis of their simple physical properties. Pupil can describe in simple terms how fossils are formed. Pupil can recognise that soil is made of rocks and organic matter. Pupil knows that some rocks can be weathered to become smoother.	Can name the four seasons and identify when in the year they occur. Pupil can observe changes across the four seasons. Pupil can observe weather associated with the seasons. Pupil can describe the weather associated with the seasons. Pupil knows that day length varies.	Pupil notices that light is reflected from surfaces. Pupil recognises that shadows are formed when light from a light source is blocked by a solid object and finds patterns in the way that the size of shadows change.	Pupil knows that magnets have 2 poles.	Can explain the function of the parts of a flowering plant. Carry out investigations to find out optimal conditions in a plant. Can describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination. Can give different methods of pollination and seed dispersal, including examples.		
SUGGESTED PRACTICALS <i>(Choose from or use suitable alternative)</i>									
Sorting Skeletons Activity Skeleton functions activity sheet Which activity is the best exercise for our muscles? (W/S) Investigating the Human Skeleton Who has the longest arms? (Y3 or Y6?) Are adult heads bigger than children's heads? Do older children have bigger feet? Cross - curricular links with PE Visit Tesco to look at all the foods		Use a microscope to look at the surface of rocks Group rocks Make fossils (W/S) Find and record the best and worst material for a new paved area in school Investigate what happens when different rocks are added to water and rubbed together and record results Excavation activities for fossils Creating a mini compost bin (W/S) Testing permeability of soil – (Rock reports) Visit an area with different rock formation to observe – Yorkshire dales. Cross - curricular links with geography		(W/S) Investigate what happens to the total length of daylight this term and write a report Weather Diary – Report (measure temperature, rainfall and wind direction) Spring walk Find the indicators of spring Record changes in day length over a period of time What clothes do we wear this season Match weather to season Visit your tree and record what it looks like Cross Curricular – Art VISITS – Park		Design a reflective book bag so that when a child crosses the road headlights reflect off the bag (W/S) Compare which reflective different pupils reflective bags in the classroom to find out which one is the best Mirror games- use a mirror to show your partner something you have drawn. Swap messages to decipher what has been written Mirror Games – walk on a wavy line while looking in a mirror held overhead. Making Shadows: Punch holes in the centre of three equal-sized pieces of card. Hold the pieces of card so that the holes line up Shine a torch so that the beam of light can travel straight through the holes (W/S) Test which materials make shadows Light source sorting game What's in the feely bag?		Investigate which poles of a magnet attract Investigate materials that are magnetic and non-magnetic Testing strength of a magnet using paper clips Investigating friction using a toy car and boards with different surfaces Match picture of part plant to its function Practical - Food colouring to show water transportation in plants Compare the speed of water transportation using different temperatures and food colouring in different plants Practical: Measure how much water do plants need to grow? Investigate if a plant will grow better at different temperatures Go to Garden Centre Plant Museum Cross - curricular links with geography and food technology	

			Cut and stick clothes in sunny weather Cross Curricular: Art VISITS: Hall of mirrors, theatre lights, planetarium		
SKILLS (to be developed)					
Ask questions and plan enquiry Ask relevant questions and use different types of scientific enquiries to answer them	Compare Group Describe Observe and Measure Making systematic and careful observations Describe Interpret + Report Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Observe and Describe Recording Gather and record data to help in answering questions	Define Design Record Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawing, labelled diagrams, keys, bar charts and tables	Observation Record Gather, record, classify and present data in a variety of ways to help in answering questions Interpret + Report Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Observe and Measure Making systematic and careful observations and measurements using standard units Recording Gather and record data to help in answering questions Evaluate Using observations and ideas to suggest answers to simple questions Explore
VOCABULARY (In addition to 'skills' terms listed above)					
skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil	Leaf, flower, blossom, petal, fruit, Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn) and sun.	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	
Week 1 Identify that humans have skeletons and muscles for support, protection and movement Week 2-3 Identify the differences between animal and a human Week 3-4 What would happen if we didn't have a skeleton? Week 4-5 Define muscle and answer the question how we can exercise this muscle Week 5-6 Write a plan to describe how we can find out which activity is the best exercise for our muscles Week 6 Carry out investigation to find out which activity is the best exercise for our muscles and come up with a conclusion Week 7 Assessment	Week 1 : Look at the surface of rocks under a microscope Week 2 Grouping man-made, natural rocks Week 3 Grouping rocks into igneous, metamorphic and sedimentary Week 4 Investigate the best material for a new paved area in the school. Write a scientific report Week 5 Define fossil and group rocks that have fossils and those that don't. Week 6 Describe how fossils are formed Week 7 Investigate what happens when different rocks are added to water and rubbed together and record results	Week 1 Name and describe seasons in order - Begin weather and changes in day length diary Week 2 Compare trees in different seasons and visit their favourite spot by a tree Week 3 Spring Walk – Describe weather associated with Autumn Week 4 Match weather/vocabulary to season Week 5 What clothes we wear in spring Week 6 Assessment	Week 1 Define reflection and design a reflective book bag Week 2 Define reflection and play mirror games Week 3 Making shadows Week 4 Define shadows, make a shadows and test to see which materials make shadows Week 5 Changing Shadows Week 6 Investigate whether everything can make a shadow	Week 1 Predict and investigate which poles of a magnet attract Week 2 Investigate materials that are magnetic and non-magnetic Week 3-4 Testing the strength of different electromagnets Week 5 Investigating friction Week 6 Assessment	Week 1 To know different parts of the plant and their functions Week 2 Compare the speed of water transportation using different temperatures and food colouring in different plants Week 3-4 Describe what plants need to grow Week 6 Plan an investigation to find out which temperature a plant will grow in Week 7 Assessment To find out about pollination (flower dissection)

