Science

Year 3: Summer Term 1 Topic-Rocks, Soils and Fossils

National Curriculum: Rocks

Subject Cultural Capital = understanding subject vocabulary/applying science K & S to different situations
Differentiation= see weekly planning for exceeding, emerging & SEND (please see SEND pupils' IEP's)
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Long term memory development= LAST, LAST, LAST linked to the WALT
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Term	Week 2 lessons per week	National Curriculum Statement	WALT	Resources/Use all or some of the following activities to cover this objective	NC/Working scientifically skills developed in the activities	Switched on Science Teacher's Guide reference	Switched on Science resources	Vocabulary
Summer Term: Topic 1 - Rocks, soils and fossils	1a 1b	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.	1a) walt: brainstorm what pupils know about rocks 1b) walt: sort objects according to what they have in common	1. Sorting Rocks 2. Being a geologist	Gather, record, classify and present data in a variety of ways to help in answering questions.	Pages 09 - 11		
Summer Term: Topic 1 - Rocks, soils and fossils	2	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.	2a) walt: order rocks according to their scale of hardness 2b) walt: compare rocks according to one property 2c) walt: sort rocks into permeable or impermeable	3. Moh's Scale of Hardness 4 Comparing rocks 5. Permeable or impermeable?	Setting up simple practical enquiries, comparative and fair tests. Ask relevant questions and use different types of scientific enquiries to answer them.	Pages 11 - 13	Activity Resource 1.1	

Summer Term: Topic 1 - Rocks, soils and fossils	3	Compare and group together different kinds of rocks on the basis of appearance and simple physical properties.	3a) walt: explain why rocks are grouped together 3b) explain how layers are created when sedimentary rocks are formed	1. Adopt a rock 2. Sedimentary sandwiches		Pages 13 - 15	Activity Resource 1.2	
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Summer Term: Topic 1 - Rocks, soils and fossils	4	Compare and group together different kinds of rocks on the basis of appearance and simple physical properties. Recognise that soils are made from rock and organic matter.	4a) walt: explain how heating and pressure contribute to how metamorphic rocks are formed with a branching key 4b) explain how heating and cooling shows how igneous rocks are formed with a branching key	3. Chocolate metamorphic rocks 4. Chocolate igneous rocks 1. What is soil	Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Set up simple practical enquiries, comparative and fair tests? L.O. Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units using a range of equipment.	Pages 16 – 17	Activity Resource 1.3	
Summer Term: Topic 1 - Rocks, soils and fossils	5	Recognise that soils are made from rock and organic matter.	5a) walt: recognise that soils are made from rocks and organic matter 5b) recognise that soils are in layers and	2. Shaking soil 3. How much soil is air and water? 4. Are all soils the same? 5. Are worms good for the soil? 6. Is soil and important resource?	Ask relevant questions and use different types of scientific enquiries to answer them. L.O. Gather, record, classify and present data in a variety of ways to help in answering questions. Reporting on findings from enquiries,	Pages 18 – 19	Activity Resource 1.3	

			made up of bits of rocks and plants 5c) walt: understand that worms are also useful for the soil		including oral and written explanations, displays or presentations of results and conclusions			
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Summer Term: Topic 1 - Rocks, soils and fossils	6	Describe in simple terms how fossils are formed when things that have lived are trapped within rock.	6a) walt: understand that fossils represent an animal or plant that lived millions of years ago 6b) walt: know how fossils are created	1. Looking at fossils 2. Making a mould fossil 3. Making a cast fossil	Ask relevant questions using different types of enquiries to answer them.	Pages 20 - 21	Activity Resource 1.4	
Summer Term: Topic 1 - Rocks, soils and fossils	7	Describe in simple terms how fossils are formed when things that have lived are trapped within rock.	7a) walt: understand that livings things are trapped within the rock 7b) walt: know how plants and animals can be fossilised in ice and amber	4. Asking questions about fossils 5. Other kinds of fossils 6. Finding fossils role play	Ask relevant questions and using different types of scientific enquiries to answer them.	Pages 22 - 23		

Science

Year 3 Autumn Term 1: Topic 2-Food and Our Bodies

National Curriculum: Animals, Including Humans

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Autumn Term: Topic 2 - Food and our bodies	1	Identify that animals, including humans, need the right types and amounts of nutrition, and that they cannot make their own food, they get nutrition from what they eat.	1a. walt:brainstorm what we know about animals, including humans 1b. Walt: understand what animals, including humans need to eat	1. What do humans and other animals need to eat? 2. Who eats what? 3. My food diary 4. Bird feeders	Choose an appropriate approach to answer a question Record my results Be able to report on findings from enquires	Pages 28 – 30	Activity Resource 2.1	**Balanced Diet** **Carbohydrates** **Protein** **Nutrients** **Fats** Movement Respiration

								Sensitivity Growth Reproduction Excretion Nutrition
Autumn Term: Topic 2 - Food and our bodies	2	Identify that animals, including humans, need the right types and amounts of nutrition, and that they cannot make their own food, they get nutrition from what they eat.	2a. Walt: describe what **humans** need to eat and why 2b. Walt: **understand that they get their nutrition from what they eat**	5. Food groups 6. Which food groups do I eat? 7. Sugary drinks 8. School lunches 9. Meal planner y	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.	Pages 30 – 32	Activity Resource 2.2 Activity Resource 2.3	**Balanced Diet** **Carbohydrates** **Protein** **Nutrients** **Fats** **Herbivore** **Omnivore** **carnivore**
Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Autumn Term: Topic 2 - Food and our bodies	3	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	3a: Walt: identify the different bones in our skeleton 3b. walt: describe how skeletons help us	1. Our skeletons 2. Bones 3. Researching bones 4. Build a skeleton.	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,	Pages 33 - 34	Activity Resource 2.4	Vertebrate Skeleton Skull ribcage pelvis Movement Respiration Sensitivity Growth Reproduction Excretion Nutrition
Autumn Term: Topic 2 - Food and our bodies	4	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	4a: walt: understand that some animals	1. Protecting the brain 2. Animals without a skeleton	Record findings using simple scientific language, drawings, labelled diagrams,			Skeleton Exoskeleton vertebrate

			have skeleton and some don't 4b. walt: describe how the skeleton help animals	3. Broken bones survey	keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Pages 35 - 36		Skull ribcage pelvis humerus femur Movement Respiration Sensitivity Growth Reproduction Excretion
Autumn Term: Topic 2 - Food and our bodies	5	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	5a. walt: identify the different types of muscles in humans and some animals 5b. walt: understand how the different muscles work	1. Muscles 2. How do our arm muscles work?	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Pages 37 - 38	Activity resource 2.4	**Muscles** **Biceps** **Triceps** **Humerus** **Femur** **Relax** **Contact** **Protection** **Movement** **Growth**
Autumn Term: Topic 2 - Food and our bodies	6	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	6a. walt: describe how the different muscles work 6b. walt:identify where the bones meet (joints)	3. Make a model of a muscle 4. Getting to know joints	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Pages 39 - 40		**Joints** **Muscles** **Biceps** **Triceps** **Humerus** **Femur** **Relax** **Contact** **Protection** **Movement** **Growth**
Assessment				6. Which food group do I eat? 4. Build a skeleton		Pages 31 / 34 / 39	Activity Resource 2.4	

			3. Make a model of a muscle				

Science

Year 3: Autumn 2:Topic 3 –Light and Shadows

National Curriculum: Light

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Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Autumn Term: Topic 3 - Light and shadows	1	Recognise that they need light in order to see things and that dark is the absence of light.	1a) WALT: brainstorm what do you know about light and shadows 1b) walt: name different light sources and can	1. Sources of light	Set up simple practical enquiries, comparative and fair tests.	Pages 45 - 46		Description dull: explanation light source

			describe what darkness is.					
Autumn Term: Topic 3 - Light and shadows	2	Notice that light is reflected from surfaces.	2a) walt: know that darkness is the absence of light 2b)walt: say that smooth and shiny surfaces reflect light.	2. Darkness box 3. Dark area 4. Shiny and dull	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Pages 47 – 49	Activity Resource 3.1 Activity Resource 3.2	Mirror shiny polished surface observation opaque reflect:
Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Autumn Term: Topic 3 - Light and shadows	3	Notice that light is reflected from surfaces.	3a) walt:know which surfaces reflect and can describe what their reflection looks like in a mirror 3b) walt: know that light is reflected from the mirrors and that the images are different	5. Finding out about mirrors 6. Concave and convex mirrors	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Pages 49 - 50		shadow: darkness blocked shiny light translucent transparent
Autumn Term: Topic 3 - Light and shadows	4	Notice that light is reflected from surfaces.	4a) walt: recognise that when they	7. Mirror maths - How many? 8. Mirror maths - Making shapes	Report on findings from enquiries, including oral and written explanations,	Pages 50 - 51	Activity Resource 3.3	**Reflect Bounce back Concave**

			change the angle of the mirror the number of images changes 4b) walt: know that things are reflected in the mirror		displays or presentations of results and conclusions.			**Concex Blocked**
Autumn Term: Topic 3 - Light and shadows	5	Recognise that shadows are formed when the light from a light source is blocked by a solid object.	5a) walt: classify materials and predict which materials will make the darkest shadow 5b) walt: describe how a shadow is made	1. Which material is best for making shadows? 2. How is Black Rabbit's shadow made?	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.	Pages 52 - 53	Activity Resource 3.4 Activity Resource 3.5	**Changes Shadow Opaque Dark Darker silhouette**
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Assessment				3 Black Rabbit		Page 53		

Science

Year 3: Spring 2:Topic 4- How Does Your Garden Grow?

National Curriculum: Plants

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Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Spring Term: Topic 4 - How does your garden grow?	1	Identify and describe the functions of different parts of	1a) walt: brainstorm what do	1. Parts of a Plant	Recording Gathering, recording, classifying and	Pages 59 - 60	Activity Resource 4.1	carpel

		flowering plants: roots, stem / trunk, leaves and flowers.	we know about Plants 1b) walt: identify, name and describe the function of part of the plant		presenting data using diagrams, charts and tables Communicating Talking and writing about observations sharing conclusions, suggesting possible reasons for results			stigma, style and ovary flower: root shoot leaves: ovary: ovules ovule: eggs; seeds petal: pollen: stamen pollen male anther female stigma root: stem: style carpel, ovary stigma:
SpringTerm: Topic 4 - How does your garden grow?	2	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	2a) walt: identify, name and describe the function of parts of plants in the locality 2b) walt:compare and sort plants and their functions in the locality	2. Plants in our school grounds 3. Grow a seed	Investigate the way in which water is transported within plants. Set up simple practical enquiries, comparative and fair tests. Communicating Talking and writing about observations sharing conclusions, suggesting possible reasons for results	Pages 60 - 62		**Buttercup Sunflower Weeds Herbs Tomatoes**
Spring Term: Topic 4 - How does your garden grow?	3	Identify and describe the functions of different parts of		1. How is water transported in a plant?	Ask relevant questions and using different types of	Pages 63 - 64		root: anchor

		flowering plants: roots, stem/trunk, leaves and flowers	3a) walt: explain how the coloured water travelled up the tubes in the celery stem 3b)walt: can link the drinking straw model to explain how water is transported in a plan	5. Multi-coloured What do I want to know? Asking questions 2. How to answer my questions	scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests			soil; water and nutrients root hairs stem: tubes that allow water to travel from the roots to the rest of the plant veins:
Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Spring Term: Topic 4 - How does your garden grow?	4	Explain the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant.	4a) walt: understand that plants are living things and need light, air ,water and 'food' (nutrients) 4b)walt: raise questions and carry out investigation regarding what plants need to	3. How much water do plants need to be healthy? 4. Do plants need soil to grow? 5. Do plants need light to grow?	Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Pages 64 - 66		nutrients soil nourish plants soil; water and nutrients root hairs

			grow healthy and strong					
Spring Term: Topic 4 - How does your garden grow?	5	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	5a)walt: observe, record, and use data and observations to answer the original question 5b) walt: observe and decide how some seed are dispersed	1. Parts of a flower 2. What is pollination? 3. Pollination playtime 4. A day in the life of a flower	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Pages 67 - 69	Activity Resource 4.2	carpel stigma, style and ovary flower: germinate: root and shoot leaves: food life cycle: nutrients: materials soil nourish plants
Spring Term: Topic 4 - How does your garden grow?	6	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	6a) walt identify and name different parts of a flowering plant 6b) walt: to communicate their research about pollination through role play (seed dispersion)	5. Lets go on a pollination hunt 6. Parts of a flower 7. How do these seeds spread?	Gather, record, classify and present data in a variety of ways to help in answering questions.	Pages 70 - 71	Activity Resource 4.2 Activity Resource 4.3	ovary: ovules ovule: eggs; seeds petal: flower attracts insects photosynthesis: pollen: stamen pollination: pollen male anther female stigma seed dispersal: sepals: protect the stem carpel, ovary to the stigma stigma

Assessment			assessment 8. Copy nature 9. What do seeds and velcro have in common?		Page 72		

Science

Year 3: Spring 1:Topic 5- Forces and Magnets

National Curriculum: Forces and Magnets

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Spring Term: Topic 5 - Forces and magnets	1	Compare how things move on different surfaces.	1a) WALT: brainstorm what do you know about forces and magnets 1b) WALT: understand push and a pull are contact forces	1. Pushes and pulls	Researching Using primary and secondary information to find out specific ideas, concepts and laws Observing Identifying differences, similarities and changes, making connections and conclusions	Page 76		**Attract Contact Force Push pull**
Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**
Spring Term: Topic 5 - Forces and magnets	2	Compare how things move on different surfaces.	2a) WALT: compare how things move over different surfaces	2. Moving things on different surfaces	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate	Page 77		touching force: a push, pull, twist or turn

			2b) WALT: set up and carry out a fair test to show how things move over different surfaces		measurements using standard units, using a range of equipment including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.			surface carpet friction artificial grass tarmac rough smooth slippery non-contact prediction more abled: friction slope
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Spring Term: Topic 5 - Forces and magnets	3	Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	3a) Walt: create a graph with results and draw a comparative conclusion	3. Which magnet is the strongest?	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers	Pages 78 - 79	Activity Resource 5.1	Strongest Weakest data graph

			3b) walt: know that magnets only attract objects which are made from some metals		and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Use straightforward scientific evidence to answer questions or to support their findings.			Iron Loadstone poles contact iron magnet magnetic attract North south non-contact non-magnetic prediction repel
Spring Term: Topic 5 - Forces and magnets	4	Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	4a) WALT: know that a force is needed to move an object and a magnet can move some things without touching 4b) WALT: make careful observations of a magnet moving things without contact	4. Magnetism 5. Do magnets work through different materials?	Set up simple practical enquiries, comparative and fair tests. Use straightforward scientific evidence to answer questions or to support their findings.	Pages 79 - 80	Activity Resource 5.2 Activity Resource 5.3	repel south north explain magnetic marbles, floating magnets Contact Bar Magnet Iron fillings magnetic: magnetic North non-contact non-magnetic prediction

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Spring Term: Topic 5 - Forces and magnets	5	Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others.	5a)WALT: predict what will happen when poles are put together 5b) WALT: explain how magnets are used in our own lives	6. North and south poles 1.Where are magnets used?	Communicating Talking and writing about observations sharing conclusions, suggesting possible reasons for results Testing Carrying out practical enquires, and comparative and fair tests	Page 81		explain compass useful
Spring Term: Topic 5 - Forces and magnets	6	Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	Assessment Due to it being a shorter half term	2.		Page 82	Activity Resource 5.4	
Assessment						Pages 81 - 82	Activity Resource 5.4	

Science

Year 3: Summer 2:Topic 3 –Light and Shadows

National Curriculum: Light

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	1		1a) WALT: brainstorm what do you know about light and shadows					**Changes Shadow Opaque Dark Darker silhouette**
Summer Term: Topic 3 - Light and shadows	2	Find patterns in the way that the sizes of shadows change.	2a) walt: explain how the shadow is made 2b) walt:observe how a shadow changes throughout the day	3. Black rabbit 4. Exploring my shadow	Make systematic and careful observations and, where appropriate,	Pages 53 - 54	Activity Resource 3.5	**Block North Compass South Long Longer Short 12 noon shortest**
	3	Find patterns in the way that the sizes of shadows change.	3a) walt:make measurements and create a graphs 3b) draw to a conclusion about how shadows change throughout the day		take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.			**Conclusion Hypothesis Graph Intervals O'clock**

Assessment		Due to the season, this topic will be completed in Summer 2.	3 Black Rabbit		Page 53		

Science

Year 3: Topic 6- The Nappy Challenge

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Summer Term: Topic 6 – The nappy challenge	1			1. Exploring a disposable nappy	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gather, record, classify and present data in a variety of ways to help in answering questions.	Page 87		
Summer Term: Topic 6 – The nappy challenge	2			2. Asking questions.: What else do we want to know about a disposable nappy? 3. Checking our questions for maths and scientific language	Ask relevant questions and use different types of scientific enquiries to answer them.	Page 88		
Summer Term: Topic 6 – The nappy challenge	3			4. How can we answer our questions?	Ask relevant questions and use different types of scientific enquiries to answer them.	Page 89		
Term	**Week 2 lessons per week**	**National Curriculum Statement**	**WALT**	**Resources/Use all or some of the following activities to cover this objective**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's Guide reference**	**Switched on Science resources**	**Vocabulary**

Summer Term: Topic 6 – The nappy challenge	4		5. Which nappy is the most absorbent? 6. Which nappy elastic stretches the furthest? 7. Who invented nappies?	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Ask relevant questions and use different types of scientific enquiries to answer them.	Pages 90 - 91	Activity Resource 6.1	
Summer Term: Topic 6 – The nappy challenge	5		1. Nappy survey	Ask relevant questions and use different types of scientific enquiries to answer them. Gather, record, classify and present data in a variety of ways to help in answering questions. Use straightforward scientific evidence to answer questions or to support their findings.	Page 92		
Term	**Week 2 lessons**	**National Curriculum Statement**	**WALT** **Resources/Use all or some of the following activities**	**NC/Working scientifically skills developed in the activities**	**Switched on Science Teacher's**	**Switched on Science resources**	**Vocabulary**

	per week		to cover this objective		Guide reference		
Summer Term: Topic 6 – The nappy challenge	6		2. Should disposable nappies be banned?	Ask relevant questions and use different types of scientific enquiries to answer them. Use straightforward scientific evidence to answer questions or to support their findings.	Page 93	Activity Resource 6.2	
Assessment			3. Design and make your own nappy		Page 94		