RESOURCE MATRIX

Year 5 Our Changing World	Resources
1: What signs of plant reproduction can we observe around our school?	Digital camera or iPad, magnifiers, sources of plant identification (e.g. FSC resources or similar)
2: How can we grow more plants without using seeds?	Variety of plant materials such as bulbs (autumn), rhizomes or tubers (spring), or stem cuttings from existing plants (summer) depending on the time of year, plants, e.g. fuchsias, geraniums, begonias, herbs such as rosemary and mint, bulbs for spring flowering, potato tubers, strawberry plants, lily, iris and gladioli rhizomes
3: Which plants are best to plant in our growing space? How can we ensure that produce is ready at the right time?	A space with good soil for growing, or large containers and grow bags as an alternative, garden tools, compost or manure, seeds (and their packets) for salad crops (e.g. lettuce, spring onion, rocket, nasturtium, pot marigold, cherry tomato, cucumbers, peppers) and flowering plants, potato tubers, strawberry plants, courgette or marrow plants
4: How can we ensure that plants in our growing space yield as many crops as possible?	A space with good soil for growing, or large containers and grow bags as an alternative, garden tools, compost or manure, seeds (and their packets) for salad crops (e.g. lettuce, spring onion, rocket, nasturtium, pot marigold, cherry tomato, cucumbers, peppers) and flowering plants, potato tubers, strawberry plants, courgette or marrow plants

Year 5 Module 1 Circle of Life	Resources
1: What is a life cycle?	Mini whiteboards, sticky notes, secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
2: What do we know about the life cycles of mammals?	Mini whiteboards, secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
3: What do we know about the life cycles of amphibians?	Mini whiteboards, secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
4: What do we know about the life cycles of insects?	Secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
5: What do we know about the life cycles of birds?	Secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
6: What makes a successful life cycle?	Secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets
7: How are humans helping endangered animals to complete their life cycles?	Secondary sources for research, including quality non-fiction books, web-based resources, CDs, smartphone and tablet Apps, identification guides and leaflets, www.konicaminolta.com/kids/endangered_animals
EL1: Why do animals make incredible journeys as part of their life cycles?	Secondary sources for research, including quality non-fiction books, web-based resources, educational CDs, smartphone and tablet Apps, identification guides and leaflets

Year 5 Module 2 Reproduction in Plants and Animals	Resources
1: How do flowering plants reproduce?	Enough flowers for at least one between two children (ensure that the flowers are large enough to have identifiable male and female organs, such as alstroemeria or daffodils) magnifiers, digital microscopes, iPads, digital cameras
2: Are all flowers on all plants the same?	A variety of flowers (different from those observed in Lesson 1, including some single sex flowers), such as courgette, marrow, holly. If none are available, use images of single sex flowers, magnifiers, digital microscopes, digital cameras, modelling clay, clay, junk modelling resources
3: Do all plants reproduce by producing seeds	Examples of bulbs such as garlic, onions or shallots (some of which can be cut up), tubers, rhizomes, seed potatoes, plants in pots such as fuchsia, begonia, geranium, rosemary, mint, strawberry
4: How do amphibians and insects reproduce?	
5: How do mammals and birds reproduce?	
6: How does the human life cycle compare with that of other mammals?	Mini whiteboards and pens
7: How do girls become women?	Large sheets of paper and coloured pens or pencils for poster making; video camera, tablet computer with camera, or sound recording equipment, if available
8: How do boys become men?	Large sheets of paper and pens

Year 5 Module 3 Get Sorted	Resources
1: How can we compare and group materials?	Sticky notes, large sheets of paper, familiar classroom objects, for example, marker pen, pencil, paper clip, plant pot, sweatshirt, sports shoe, stapler, ruler, water bottle, lunch box, eraser; real objects and substances, for example, milk, shaving foam, ketchup, butter, yoghurt, jelly, hair gel, steam, sand, flour, sugar
2: Is a solid always hard?	Microscope, marshmallows and jelly sweets, chocolate buttons, cheese strings, cooked pasta, foil, elastic, net (or old tights), sponge, polystyrene, sand, soil, butter, brick, wooden ruler, plastic toy, metal object, piece of fabric, glass bottle, sponge, corn flour, water, tray or large bowl
3: Is a liquid always runny?	Large sheets of paper, honey, cooking oil, syrup, milk, washing up liquid, bubble bath, lemonade, yoghurt, different brands of tomato ketchup, wipe-clean ramps, whiteboards, teaspoons, tablespoons, stop watches or watches with second hands
4: Are all metals the same?	Magnets, examples of objects made of metals, for example, cooking pan, spoon, bell, paper clips, stepladder, power cable, access to books or the internet for research
5: Are all plastics the same?	Large bowl or jug, variety of large serving spoons made out of plastic, wood or metal, collection of objects made of plastics, for example, plastic bottles and packaging, plastic jugs and bowls (polythene), clothing made of polyester, strong ropes, washing line (nylon), beakers, plates, disposable cutlery, yoghurt pots (hardened polystyrene), insulation and packaging materials (expanded polystyrene), perspex sheets, lenses in torches (acrylic), pencils of different hardness, polystyrene cup, lemonade bottle, shampoo bottle, carrier bags, cling film, dustbin, washing up bowl or classroom tray, access to the internet or books for further research
6: To bounce or not to bounce? Why are sports balls so different?	Collection of balls, for example, cricket, tennis, hockey, snooker, football, rugby, basketball, volleyball, sponge, ping pong, golf, bowling, large hoops

Year 5 Module 4 Everyday Materials	Resources
1: Which materials are used in our school buildings, what for and why?	
2: Weighty problem: Which is the best carrier bag?	Lengths of thick dowel, broom handles, etc., modelling clay, large masses, for example, bricks, heavy books or cans of food to test bags, stop watches, different types of carrier bags, thick and thin plastic
3: Which is the best type of plate to use?	A variety of plates made of different materials (as similar in size as possible), ceramic, glass, pyrex, metal, plastic (different types and thicknesses), paper/ card (different types and thicknesses), wood, plates that children can test to destruction (no best china), tools for chip test, safety goggles, tomato ketchup or similar for stain test, electronic weighing scales
4: Cool box conundrum: Can the same container keep cold things cold and hot things hot?	Thermometers, data loggers with temperature probes, hot water or soup in plastic containers with lids that have holes to allow access of thermometer or probe, ice cubes or ice cream in similar sized boxes or containers, cooked hot jacket potatoes, cool bags to use for testing, plus a couple of cool bags for disassembling
5: Mystery material: What will happen if we add water to the material?	Tub of 'Insta-Snow®' (available from TTS and other suppliers), water jugs, measuring cylinders, pipettes or water droppers, syringes, paper clips, jelly strings, hand lenses
6: Nappy ending: What's the best brand of nappy?	Mini whiteboards, water jugs, measuring cylinders, pipettes or water droppers, syringes, a collection of nappies with a variety of brands
EL1: Are all bikes the same?	A number of bikes of different types, mini whiteboards, bike catalogues, bike advertisements
EL2: Spencer Silver and sticky notes: what's the stickiest glue?	Glue spreaders, different kinds of glue that are safe for children to use, for example, stick glue, PVA glue; paste, fabrics and other materials, for example, plastic, cellophane, card, felt, hessian, lolly sticks, sand paper, sticky notes and Post-it™ notes, 'surfaces', for example, sheets of plastic, carpet tiles, lino, ceramic tiles, felt or fabric squares; 'labels', pre-cut rectangles of plastic or fabric, milk, gelatine, flour, access to the internet or books for further research

Year 5 Module 5 Marvellous Mixtures	Resources
1: How can we separate mixtures?	Disposable plates of different kinds – these can be pierced with nails, hole punches or bodkins to form makeshift sieves; selection of fabrics, nets and gauzes; Cupboard Catastrophe mixture – rice, raisins, large pasta, flour, dried lentils, dried peas, fine sand, white sugar, paperclips, wood shavings, plus three or four plastic spiders; large foil trays, plastic beakers, magnets, spoons
2: What happens when we mix liquids and solids?	Sand, salt, fruit syrup, brown sugar, large transparent beakers, collection of solids – powder paint, flour, sugar, sand, coffee granules, bath salts, tea leaves, baby powder, sugar substitute, bicarbonate of soda; collection of solvents – oil, vinegar, water; beakers, spoons, weighing equipment, measuring jugs
3: What makes a difference to how fast sugar or salt dissolves?	Rock salt, table salt, icing sugar, Demerara sugar, granulated sugar, water, disposable transparent beakers, saucers, teaspoons, measuring equipment, timers, hand lenses, mini microscopes
4: How can we get drinkable water from seawater?	Large bowls, saucers, salt solution, water jugs, desk lamps or other strong light sources, cling film, plastic sheeting
5: How can we purify materials?	Chunky rock salt with impurities, sand, gravel chips and soil; materials to create filter beds, such as felt, wood shavings, sand, insulation fibre, wadding, cotton wool, three 1-litre plastic lemonade bottles pre-cut at neck (these will be used to create filters that can be prepared by children in advance of the lesson – see Resource sheet 1), water, water jugs, selection of sieves and funnels of different sizes
EL1: What will happen if we add a sprinkle of salt to a combination of liquids?	Transparent pint beakers, cheapest vegetable oil, cheapest lemonade (in large quantities), food colour and water droppers, table salt, trays full of sand to stabilise beakers of liquid
EL2: How can we clean up contaminated water?	Containers of 'contaminated' water – a soupy mixture containing as nasty a mix as you like: oil, soil, sand, pebbles, leaves and twigs, bits of plastic, and so on, and some pond water for children completing Challenge 3. Sieves with different grade mesh, funnels of different size, filter papers, buckets, bowls, plastic sheeting, mop and bucket. Material collection for making filter beds – fine sand, gravel, wadding, felts and other thick fibrous fabrics, foil food trays, microscopes

Year 5 Module 6 Materials: All Change	Resources
1: Are the changes that happen around us reversible or non-reversible?	Small bottles of lemonade, shaving foam canisters, salt, water, chocolate buttons, beakers and small plates, paper towels
2: How much gas can be produced by non-reversible change?	Disposable latex gloves; solids: bicarbonate of soda, tartaric acid, baking powder, effervescent vitamin C tablets, effervescent indigestion tablets; liquids: water, white vinegar, lemon juice; small beakers, disposable cups, plastic teaspoons, milk bottles or cartons, small pop bottles
3: How long does it take for iron nails to rust?	Iron nails, metal paint, paint brushes, petroleum jelly (or similar thick grease), oil, salt, lemon juice, vinegar, lemonade, water, plastic disposable beakers (transparent), clingfilm, objects made of metal, including washers, key, spoons, copper wire, aluminium foil, tin can, zinc and copper nails
4: What happens when a candle burns?	Candles (see below), metal containers filled with sand, glass jars of varying size, paper, pencils, digital camera, mini whiteboards
5: How long does it take for things to rust?	The beakers containing iron and other materials that were being observed in different conditions to investigate rusting; the children's observation records
EL1: What would make the best rocket fuel?	Narrow measuring cylinders or small beakers, water, effervescent vitamin C tablets (one per group), small containers with snap-on lids. Stomp rocket (optional), sticky tack, water in jugs
EL2: What are the bubbles in honeycomb toffee?	For the honeycomb toffee: 100 g sugar, 2 tablespoons of syrup, 1 heaped teaspoon of bicarbonate of soda, 1 tablespoon of vegetable oil for oiling the pan, a large heavybased saucepan, a wooden spoon, a tin lined with aluminium foil (to save on washing up!) and a means of heating, such as a portable stove or access to the school kitchen. Challenge 3 – honeycomb toffee that has cooled, samples of pumice stone, sponge cake, bread, expanded polystyrene, hand lenses, access to sources of information about these materials

Year 5 Module 7 Feel the Force	Resources
1: How can we measure forces?	Newton meters (2.5 N, 5¯N, 10 N, and 20 N), modelling clay, toy vehicles, three sizes of match box, some of which have different materials glued to the base (for example, rough sandpaper, aluminium foil, rectangular sections cut from rubber gloves or thin foam rubber, cotton cloth)
2: Why does an object fall?	Objects to drop to demonstrate something falling, empty camera film canisters, modelling clay, good quality cupcake cases, timers
3: What makes things move?	Bubble mixture, big toy vehicle, balloon, straws, fans (battery and paper), hair dryer, table tennis ball, card arrows of different sizes
4: How can we slow down falling objects?	Different types of string, scissors, plastic bin liners, different sized small plastic, a range of materials, including tissue paper, plastic, fabric, card, paper
5: Does the shape of an object affect its movement in a liquid?	Modelling clay, viscous children's bubble bath, 1000 ml measuring cylinders (or 1.5 litre plastic bottles with the necks cut off), timers (stopwatches or stopclocks), 1000 ml jugs, digital scales, kitchen roll, sticky notes, elastic bands, masking tape (if required for the plastic bottles)
6: Do all heavy things sink?	Fish tanks of water, Newton meters, modelling clay, balloon, large clear plastic tumblers, fruit and vegetables, weighing scales, salt, elastic bands
7: How far can you stretch?	Fixed cup hooks, selection of springs, paper clips, rubber bands, sets of hanging slotted weights up to 100 g, hanging weights of 50 g and 100 g, Newton meters, tape measures, modelling clay, small objects from around the classroom to hang on rubber bands
8: How can we use levers to help us?	Everyday objects that use class one levers (e.g. claw hammer, scissors, pliers, metal spoon), empty tins with inset metal lids, long-handled wooden spoons, 1 litre plastic bottles filled with water to weigh 1 kg, stiff cardboard tubes approximately 3 cm diameter, modelling clay, push/pull meters up to 10 N, books (at least thick paperback size), wooden ramps to be used in Challenge 1
9: How can we lift a heavy load?	Wooden dowel (at least 2 cm diameter)or brush handles, pulley sets or metal coat hangers and curtain rings to slide on dowel, cotton reels, string or thin rope, small bucket , sand, Newton meters, sets of slotted weights in 10 g denominations, hanging masses of 50 g, 200 g, 500 g and 1000 g.

Year 5 Module 7 Feel the Force	
10: Can a wheel with teeth make work easier?	Balloon whisk, rotary whisk, 2 bowls and 2 egg whites, cheap clock with removable back, commercially produced plastic gear wheels, plastic bricks, axles, plastic brick bases

Year 5 Module 8 The Earth and Beyond	**Resources**
1: What's in space?	A2 paper
2: What is a year?	A big ball of string (at least 20 metres in length), a big block of chalk or a couple of packs of chalk (different colours, if possible), eight large balls, card strips about a third A4, each with the name of a planet
3: What is a day?	Globe, sticky tack, bright torch, cocktail stick, compass
4: How does the sun help us to measure time?	Large paper or polystyrene plates, permanent marker pens (different colours), fairly small but sharpened pencils, modelling clay, cereal boxes, scissors, direction compasses, watches, torches, small model figures (about 8–15 cm high)
5: What time is it around the world?	Globes, torches, sticky tack, large map of the world that shows major cities, online maps of the world that show longitude, internet world clock
6: Why do we have seasons?	Battery powered lanterns that shine in all directions (or torches), a globe, sticky tack, materials for making a poster, piece of dowelling, small ball of modelling clay, secondary sources for research
7: What are our conclusions about sunrise and sunset times?	Globe, torch, maps and atlases of the UK and the world, access to the internet for further research
8: Why does the Moon change shape?	A border strip of dark paper for a 'Moon phase' frieze, at least 30 circles for cutting out moon shapes, chalks, a big ball half covered with black plastic and half covered with a white plastic bag, a piece of black sugar paper per child, with a circle drawn in the middle of each sheet in white chalk, (number these sheets individually from 1, up to the number of children in the class), access to the internet to check online calendars, a calendar for the month ahead