

RESOURCE MATRIX

Year 6 Our Changing World	Resources
1: How do animals behave during different times of the year?	Digital cameras, hand lenses, animal identification guides, binoculars, access to the school's social networking sites, if appropriate
2: How can we observe animals when we are not there?	Digital cameras, webcams, wifi electronic microscopes, iPad technology (including relevant apps), online webcams showing breeding birds and other animals, hand lenses, animal identification charts, binoculars
3: How can we observe the life cycles of specific animals more closely?	Video cameras, digital cameras, wifi electronic microscope, iPad (and appropriate apps), hand lenses, butterfly kits, access to the internet, for further research
4: How does the number, type and behaviour of birds found around our school change during the year?	Binoculars, monoculars, video cameras, digital cameras, iPads with appropriate bird ID app, webcams, access to the internet for children to view bird information websites
5: What happens to invertebrates during the year?	Materials for catching invertebrates and setting traps, digital cameras, video cameras, iPads with invertebrate identification apps, nets, sieves, large white sheets, binocular microscopes, magnifying lenses, secondary sources of information, for further research

Year 6 Module 1: The Nature Library	Resources
1: Can you sort this mess?	Large selection of different types of sweets (toffees, chocolates, marshmallows, peppermint creams, liquorice allsorts – some of the selections produced by various manufacturers would be suitable), marker pens, flip chart paper, hoops of different sizes (alternatively, different lengths of string that can be tied to form loops of different sizes)
2: Can you face the garden centre challenge?	Examples of different types of plants to include at least one moss, one fern, a conifer and a flowering plant, with photographs to increase the variety; sticky notes, mini whiteboards
3: How are vertebrates grouped together?	Internet access, secondary reference resources
4: How are invertebrates grouped together?	Internet access, secondary reference resources
5: Where do things fit?	Recording materials, such as collection pots, paintbrushes (as tickling sticks to encourage small living things into the collection pots for classification), magnifying glasses, identification keys, whiteboards and pens, clipboards and pencils, digital cameras or iPads, a Google map of the school grounds (optional), identification resources from http://www.naturedetectives.org.uk/download/index/ and http://gatekeepersgaff.co.uk/?page_id=907
6: What else is living besides plants and animals?	Microscopes (ideally with greater than x8 or x10 zoom, possibly digital), mushrooms
7: How can you grow your own micro-organism?	Petri dishes (at least four per group), trays (one per group), fresh sliced white bread, stale white sliced bread, brown bread, granary bread, sealable transparent plastic bags, sticky tape, labels, cameras
8: Was it always this way?	

Year 6 Module 1: The Nature Library Continued	Resources
9: What happens when scientists disagree?	Samples of seeds from familiar fruits and vegetables such as cucumber, apples, oranges, tomatoes, strawberries, grapes, pumpkin, pomegranates, aubergines, peppers, chillies or butternut squash; these should be presented to children once they have been removed from the fruit or vegetable, washed and dried; pictures of the plants the seeds came from, trays or boards to sort on, labels for the classification groups, knives to cut open the seeds, hand lenses, binocular microscopes, digital cameras
10: What should we call it?	
EL1: Can you make a nature guidebook for your school?	Access needed to suitable ICT tools to publish the book
EL2: What happens when the last one leaves?	

Year 6 Module 2: Body Pump	Resources
1: What does my circulatory system do?	Chalk or masking tape, three tabard style sports bibs, bicycle or foot pump, stethoscopes or cardboard tubes, sheets of red and blue paper stuck back to back
2: What is a heart and what does it do?	Different coloured modelling clay (enough for children to work in pairs), scissors, base boards, digital camera(s) and cocktail sticks (optional), access to secondary sources of information about the heart, children's labelled diagrams of circulatory system from Lesson 1
3: What is blood?	A large bucket capable of holding nine pints (or five litres) of red liquid such as food colouring in water, five empty one-litre drink cartons, plastic funnel and jug
4: What is in blood?	Plasma – yellowy liquid such as weak orange squash (one cup per soup); red blood cells – lots of small red jelly sweets or chopped up pieces of a raspberry jelly cube; white blood cells – a few small white marshmallows; platelets – small amounts of white rice; one sealable plastic bag per person or group making blood soup, children's diagrams from Lesson 1
5: What do valves and blood vessels do?	Access to secondary sources such as reference books and the internet, scissors and glue
6: What happens to water in our bodies?	Access to secondary sources of information about human and other circulatory systems, such as the internet, books, posters or leaflets
7: What does the road around our body look like?	Scissors, split pins, modelling clay, access to all materials produced in Lessons 1–6, plus secondary sources of information that children have used previously in the module

Year 6 Module 3: Body Health	Resources
1: What does being healthy mean?	Large sheets of flip chart paper, sheets of A3 paper, pens, glue, scissors, plain A4 paper, access to secondary sources, including the internet and healthy education pamphlets and posters, for all levels of challenge
2: How is food divided into different groups?	Range of food packaging either sealed or clean and empty, mini whiteboards, small paper plate (one per child)
3: What makes a healthy snack or drink?	Sticky notes (five per child), wide range of snack food packaging with nutritional value information accessible
4: How have diets changed?	Access to secondary sources for all levels of challenge
5: How is pulse rate affected by exercise?	Stopwatch (one per pair)
6: What are the benefits of sports and exercise?	Access to secondary sources, including the internet, for all levels of challenge: sticky notes
7: How do drugs affect the body over time?	Existing drugs resources your school may already have, access to secondary sources for all levels of challenge
8: How does smoking affect the body?	Two large PE hoops; access to secondary sources about smoking risks, should children wish to use them
9: Can you spread the healthy word?	Access to work produced in previous lessons. Make available a range of presentation tools for children to select from six sheets of A3 plain white paper to collate research; potential to email the head teacher for the Reflect and review session is preferred
EL1: How do athletes keep fit?	
EL2: What happens when athletes cheat?	Access to secondary sources, including the internet, for further research

Year 6 Module 4: Everything Changes	Resources
1: Why do living things vary?	Rulers, metre sticks or tape measures, sticky notes, large sheets of paper (A3), access to the internet or books for further research
2: Can you breed a dog for a specific purpose?	Secondary sources of information for further research
3: How can we make our food better?	Secondary sources of information for further research
4: How does the environment affect plants?	Access to wild plants in different habitats or photographs of wild plants in different habitats
5: How do environmental variables affect plants?	Petri dishes, cotton wool, cress and mustard seeds, dark paper
6: How do living things survive?	Large pieces of paper, access to secondary sources of information, including the internet or books, for further research
7: Why do living things become extinct?	Sheets of A3 paper, secondary sources of information, including the internet, for further research
8: What does it take to survive?	Model-building materials, if available
9: What evidence is there that living things have changed over time?	Collection of fossils, including a fish fossil if possible, or a selection of photographs of fossils, access to secondary sources of information, including the internet, for further research
10: How does natural selection work?	Large pieces of paper, plastic cups, rice, tweezers, tongs, plastic forks, plastic knives, large marbles (if possible)
EL1: How can one type of animal become two?	Access to secondary sources of information, for further research if there is time

Year 6 Module 5: Danger! Low Voltage	Resources
1: How many simple circuits can you make?	Commercially produced energy stick or human circuit ball (available from primary science equipment suppliers, for example, TTS), 1.5 V cells, lamps, lamp holders wire, thin tinfoil strips, cell holders, (one of each component between two), magnifiers, digital magnifier, modelling clay (which is useful to anchor a cell while the circuits are constructed), extra wire, small screwdrivers, mini whiteboards
2: What does a switch do?	A2 paper, 1.5 V cells, lamps, wire, crocodile clips, toggle switches, slide switches, push switches, lamp holders, cell holders, small screwdrivers, wire strippers, match boxes, metal foil, paper fasteners, paper clips, film canisters, small ball bearings, card, adhesive tape or glue, hand drills, drill bit, examples of mains switches
3: How strong is your resistance?	1.5 V and 4.5 V cells, lamps, wire, crocodile clips, switches, lamp holders, cell holders, small screwdrivers, wire strippers, pencil or propelling pencil leads stuck to lollipop sticks, resistance wire and/or different thicknesses of fuse wire
4: Do you know your circuit diagrams and can you construct working circuits from them?	1.5 V cells, lamps, wire, crocodile clips, switches, lamp holders, cell holders, small screwdrivers, wire strippers
5: Will the lights stay on? (Part 1)	Sticky notes, A2 sheets of paper, computers, access to resources to allow children to research electricity generation and using renewable sources of electricity generation
6: Will the lights stay on? (Part 2)	Sticky notes, A2 sheets of paper, ICT hardware for presentations as required
EL1: Are you all wired up? (Part 1)	Cells (1.5 V and 4.5 V), lamps (1.5 V and 2.5 V), yellow green red LEDs, flashing lamps (3 V), wire, crocodile clips, switches, lamp holders, cell holders, small screwdrivers, wire strippers, wire connection block, corrugated plastic sheet or thick card, paper drill or hole punch, paper fasteners, paper clips, scissors, PVA glue, low-melt glue guns, glue gun stands, digital camera/video camera
EL2: Are you all wired up? (Part 2)	Completed circuits from Enrichment Lesson 1, presentation resources as selected by children, for example, projection hardware, recognised symbols cards
EL3: Can you protect the crown jewels? (Part 1)	Cells (1.5 V, 4.5 V), lamps (1.5 V, 2.5 V, 3.5 V), flashing lamps (3 V), buzzers, wire, crocodile clips, switches from Lesson 2, lamp holders, cell holders, small screwdrivers, wire strippers, wire connection block, corrugated plastic sheet, cardboard box, paper drill or hole punch, paper fasteners, paper clips, metal foil, scissors, PVA glue, low-melt glue guns, glue gun stands, glass beads and/or plastic tiara, digital camera
EL4: Can you protect the crown jewels? (Part 2)	Completed circuits from Enrichment Lesson 3, presentation resources, for example, projection hardware, as selected by children for the brochure

Year 6 Module 6: Light Up Your World	Resources
1: What is light and what does it do?	Torches, sunglasses, mirrors, a collection of materials that are transparent, translucent and opaque, a light meter/data logger
2: Can you see more than just your face in a mirror?	Plastic mirrors (one of each for each group), shiny metal spoons (ideally larger than teaspoons so a reflection of a child's face is clearly visible in them)
3: Can light go round corners?	Plastic mirrors (two for each group), a selection of torches and a small object such as a car or plastic figure (one of each for each group), cardboard, scissors and Sellotape
4: Can you make a camera with a box, paper and a pin?	Plastic mirror, a bright torch, small shoe box, tracing paper, black paper or card (or kitchen foil), scissors and sticky tape, needle or drawing pin; two very large pieces of card, ideally greater than 1m x 1m, one with a triangle cut out of it (side length about 50cm each side) and the other with a smaller circular hole about the size of a tennis ball cut in it; long straight piece of wooden dowel (2m) or ball of thread, large piece of paper (bigger than A3) and thick marker pen
5: How can you measure a shadow?	Torches, large sheets of white paper, tape measures or metre rulers, card to make shapes, scissors, graph paper, fair test planning board
6: What do we know about changing shadow sizes?	Torches, large sheets of white paper, tape measures or rulers, card to make shapes, scissors, graph paper
7: Can light change direction without a mirror?	For demo: Glass beaker or clear 1pt glass, water, cooking oil, pencil, mini whiteboards (if available) Water magnifier: Clear piece of plastic at least 5cm x 5cm with tape around edges, sheet of newspaper, water and dropper if possible, magnifying glass, glass bead The Surprising Coin: 1p or 5p coin, mug, water Oil, water and a pencil: A jam jar or similar sized clear, straight edged plastic container mainly filled with water but with a layer of at least a few cm of cooking oil on the top, pencil Amazing arrows: Jam jar or clear straight edged glass filled with water. Piece of paper with three parallel arrows drawn on it (see Resource sheet 1 and 2, Refraction circus instructions and observation sheets, for more details) Because of the liquids involved, plenty of paper towels in case of any spillages.
8: How many ways can you make a rainbow?	Torch (ideally with as white a beam as possible, such as a bike light), a red torch or fairy lights (optional). For each colour wheel: marble (a little bigger than the hole in middle of the CD), glue, CD, white paper, scissors, coloured pencils (red, orange, yellow, green, blue and violet) or printed colour template. (Alternative version without marble will need card/scissors/pens and a strong thread.) Bubble blower and mixture. Tray of water, plastic mirror and torch for each group
9: How much do you know about light?	Access to the internet or a range of books on light, A3/A2 poster paper and pens
EL1: How can you make a good shadow puppet?	For each of the groups a torch or light source, a piece of tracing or greaseproof paper (ideally A3 in size) in a cardboard frame for stability. These are the practice screens for each group. To make the characters, thick card, scissors and split pins. Thin wooden kebab sticks (with ends cut off and made safe) or similar to attach the figures to Health and safety
EL2: What makes a good shadow puppet theatre show?	The finished shadow puppets from the previous lesson; a large thin white sheet with a large light source behind it for the screen, suspended off the floor so that the children can get behind it to be able to make their shadows without making a shadow themselves