

RESOURCE MATRIX

Year 3 OCW: Our changing world	Resources
1: How do leaves change through the year?	Digital cameras, photograph of a tree, green, red and yellow paint colour charts
2: What seeds can we find through the year?	Digital camera, balls of string, lolly sticks, large hoops, e.g. PE hoops
3: How do flowers change through the year?	Digital cameras
4: What colour are berries?	No additional resources
5: How often do insects visit plants?	Digital camera, iPad
6: What plants grow in the school grounds during the year?	Digital cameras, magnifiers, large hoops, quadrats or four 1 m or 1.5 m canes joined in a square, 5 m lengths of rope (or washing line), Our Changing World diary
7: How do sunflower seeds and plants grow and change over time? – Part 1	Sunflower seeds of different varieties – remember to choose varieties that will flower before the end of summer term if seeds are planted early (March/April) under glass, fibre pots, potting compost, lolly sticks or plant labels, plant canes and ties, Our Changing World diary
8: How do different varieties of sunflower plants grow and change over time? – Part 2	Measuring equipment, digital camera

Year 3 Module 1: How does your garden grow?	Resources
1: What do we know about plants?	A flowering plant in a pot, e.g. a geranium, sticky notes or index cards
2: What do we know about leaves?	Mini-whiteboards, pens, flip chart or large whiteboard, sets of leaves (different sizes, colours, textures and shapes with 10–12 per set), a class set of one type of leaf (e.g. oak, sycamore, beech, birch), magnifying glasses (one per child), digital camera(s), KWL grid
3: What would happen if a plant lost its leaves?	Plants, e.g. busy lizzie, geranium or primula (two plants for Challenge 1; three plants for Challenge 2; four for Challenge 3), KWL display
4: Are all roots the same?	A plant in a pot which has had its roots removed, a range of seedlings, e.g. peas, broad or runner beans (one set per group with a minimum of one seedling between two pupils), magnifiers (one per child), other examples of plant roots, a pot-bound plant, KWL display
5: Where does the water go?	Prepared carnations and celery, one white carnation, magnifying glasses (one per child), red and blue food colouring, containers, celery with leaves, carnations, (one carnation and one stalk of celery both with the stem divided per group)
6: Why do plants need stems?	Celery, carnations and Challenge diagrams from Lesson 5, magnifiers, sharp knife (teacher use only), large paper, pens, pencils, scissors, glue, camera; access to computers would be helpful, KWL display
7: Where do new plants come from?	Apple, sharp knife (teacher use only), scissors, glue
8: What do flowers have in common?	Three different types of flowers (e.g. snowdrop, peony, wallflower, sweet pea, lily, foxglove, two of each type per group of six pupils), magnifiers, 'sticky cards' (see preparation notes), tweezers, if available
9: What do the bees do?	Props for pollination role play: cut out petal, sepal and antennae card shapes attached to cardboard headbands, containers for the pollen grains, such as a plastic bottles or yoghurt pots for the stamen, small circular objects or spheres to act as pollen grains, such as ping pong balls, Styrofoam balls, Velcro dots, milk bottle lids, woolly hats for the stigma, video camera (optional)
10: How are seeds dispersed?	Collection of seeds, range of reclaimed and modeling materials which may include small boxes, yoghurt pots and other containers, tubes, a range of papers and card, components for technology projects, e.g. wheels, gears, cotton reels, polystyrene balls, fabric, feathers and other trimmings, pipe-cleaners, hooks, Velcro, balloons, plastic bags, bubble wrap, tape, glue, string, scissors and other tools as required
11: Can plants survive without leaves?	Coloured pens/pencils/highlighters (2 colours per pair), the plants from the investigations set up in Lesson 3, children's logs of observations, KWL display
12: Am I the perfect plant?	Large piece of paper, coloured pens and pencils, sticky notes, collage materials (optional), KWL display
Enrichment Lesson 1: How amazing are some plants?	No additional resources
Enrichment Lesson 2: Why are some flowers brightly coloured?	Wool of 6 different bright colours (1 m per group), scissors, A4 card, glue or double-sided sticky tape
Enrichment Lesson 3: How can we save the bees?	Bee Movie (optional), internet access, video camera

Year 3 Module 2: Rock detectives	Resources
1: What different types of rock are there?	A collection of rocks (e.g. sandstone, sand, granite, chalk, limestone, marble and pumice), magnifiers, microscopes, weighing scales
2: Which rock is which?	A collection of rocks, including samples of sandstone, granite, chalk, limestone, marble, pumice
3: How are rocks used around our school?	No additional resources
4: Are all rocks as hard as one another?	A collection of rocks (e.g. sandstone, sand, granite, chalk, limestone, marble and pumice), magnifiers, microscopes, coins, nails, images of different types of rock (magnified)
5: Are all rocks waterproof?	A collection of rocks (same as those tested in Lesson 4), water droppers/pipettes, magnifiers, stopwatches or simple timers, lump of hardened clay
6: How do rocks change over time?	Magnifiers, digital cameras and other recording equipment
7: How is soil made?	Sets of numbered soil samples; sandy soil, heavy clay soil, chalky soil, loam rich soil (including organic material), local soil, peat compost, magnifiers and microscopes
8: Why do some soils hold water?	Soil samples, plastic beakers, funnels, water jugs, timers/stopwatches
9: What is a fossil anyway?	Fossil kit/collection containing replica fossils of a variety of types, e.g. starfish, trilobite, ammonite, including fossilised wood and plant matter, reference books and other secondary sources of information, magnifiers and microscopes
10: How are fossils formed?	Fossil kit/collection containing replica fossils of a variety of types, including fossilised wood and plant matter, reference books and other secondary sources of information, magnifiers and microscopes, sticky notes
11: Where and how are fossils found?	Fossil kit/collection containing replica fossils of a variety of types, including fossilised wood and plant matter, reference books and other materials
Enrichment Lesson 1: Who was Mary Anning and how did she become a famous fossil hunter?	Appropriate texts or web-based information about Mary Anning's life and the more important fossils she discovered

Year 3 Module 3: Can you see me?	Resources
1: What do we need to see?	A tent or small space made as dark as possible, torches, a collection of objects (a few different shapes but with differing colours, including black, white and reflective. Cut-out card may work best here but small toys, buttons or stones can be used.), boxes (shoebox sized) with a removable lid and with a hole cut/made in the top
2: Which is the shiniest?	A small plastic mirror (reflective tiles could be used) and a torch per group, pieces of black card (A5), a collection of objects, both shiny and not shiny, e.g. a piece of smooth and a piece of scrunched up kitchen foil, a clear and/or black plastic CD/DVD case, CD or DVDs, pieces of white and black card, some 2p coins, if possible some new ones as well as some very old and grubby ones (old ones can be soaked in vinegar/cola to clean or rubbed with dirt to make grubby)
3: How can we make things easier to see at night?	A collection of reflective and non-reflective materials that can be stuck to thick pieces of card approx 5 cm by 15/20 cm, e.g. strips of 10–15 cm long material, ribbon or tinsel, sequins, buttons, pieces of card, plain pieces of A4 paper, a large cut-out or drawn image of Ted (or animal chosen for activity) big enough for all of the class to be able to stick some of their strips on – probably 1 m tall
4: What do mirrors do?	Small plastic mirrors (at least 10 cm by 5 cm), ideally one each but at least one between two children, plain paper, coloured pens, torches (probably only 4 or 5 needed), pieces of metal, some flat, some not, some polished, some not, e.g. new silver 5p/10p/20p coins (not flat/polished), old silver coins (not flat/not polished) a CD (flat/polished), an old steel spoon (not flat/ not polished), crumpled kitchen foil
5: How can I make a shadow?	Torches, plastic combs with large teeth (Afro comb) or pieces of card with five or more slots cut into it to form a simple comb shape, transparent objects, e.g. pieces of clear Perspex, piece of clingfilm or overhead transparency film, translucent objects, e.g. baking parchment, tracing paper or a fine, thin material such as tights, opaque objects
6: Can you change the shape of a shadow?	Sticks of wood (pencils, craft lolly sticks or dowel), different-shaped opaque objects to make a shadow, e.g. simple shapes such as circles, triangles or squares, torches, large sheets or roll of paper big enough to draw the outline of a Year 3 child
7: Can you change the size of a shadow?	Different-shaped 3D opaque objects, including at least one that has a different profile in different directions, e.g. a cylinder has a circular and rectangular profile depending upon where you look, pieces of black card in regular shapes (square, circle, triangle), torches or a strong light source, e.g. overhead projector or light box, mini whiteboards (optional), 30 cm rulers and half or full metre rulers or tape measures
8: What makes the best sunglasses?	A pair of sunglasses, a selection of flat transparent and opaque materials, e.g. clingfilm, various transparent pieces of plastic, tracing paper, opaque cloth such as leather/wool, net curtain, black card, (material should be easy for children to cut), torch or bright light source, data loggers with a light meter (optional), thick card, scissors, glue/sticky tape, sequins/coloured card/buttons (for decoration), blank postcard per child
9: Making sunglasses	A pair of sunglasses, the materials from Lesson 8 that the children tested for their sunglasses, thick card, scissors, glue/sticky tape/sequins/coloured card/buttons (for decoration). A number of pairs of sunglasses (you may wish to ask the children to bring in their own)
Enrichment Lesson 1: Are you safe in the sun?	A real or fake hand-held microphone for the class to use, sugar paper, scissors and glue
Enrichment Lesson 2: How can we keep the gerbils in the dark?	A set of different materials that could be used to block light (can be various paper/card or cloth which let different amounts of light through, as long as they range from some that block all light to some that hardly block any). It is suggested that each group have between 5 and 8 different materials. A shoe box or similar sized box with a hole cut in the top (for the torch to shine in), and then a hole in the side (to place the material being tested)

Year 3 Module 4: The power of forces	Resources
1: How can you make it start to move?	Table tennis balls, drinking straws, cotton wool balls, rubber bands, A4 sheets of strong card (e.g. from cereal packets), spinning tops, clockwork toys
2: What's making it move?	Four different windmills, varying in size and materials (for Challenge 2), paper, pins, wooden sticks, stopwatches
3: How well can an object slide on different materials?	Sheet, boards for ramps (e.g. mini whiteboards), rulers, object to slide on ramp, e.g. 100 g weight, materials to cover ramps e.g. felt, foam, fabric, sandpaper, tin foil, plastic, carpet, rubber matting, large open space, e.g. hall
4: Which materials are magnetic?	Sand or sawdust in a large container (e.g. a sand or water tray or stacking tray), small magnetic objects (e.g. paperclips, coins, cans, keys, cutlery), small non-magnetic objects (e.g. marbles, cubes, beads), sorting circles, large magnet, magnetic fishing rods (made using a garden cane, string and a magnet), fishing nets, digital camera
5: What can magnets do?	Bar magnets per pair, paperclips, rulers, a range of magnetic objects of different weights (e.g. keys, cutlery, scissors, cans, tins), paper, measuring scales
6: How strong are the magnets?	Six magnets of assorted strength per group (ensure that there are some small strong magnets), paperclips, rulers, a range of magnetic objects of different weights (e.g. keys, cutlery, scissors, cans, tins), paper, measuring scales
7: How do magnets affect each other?	Bar magnets with poles labelled, a good range of different types of magnets, e.g. bar, horseshoe, round, or disc with the poles unmarked or covered, iron filings, petri dishes
Enrichment Lesson 1: Why do things slow down?	Commercial spinners, stopwatches, sample material to spin on (for plenary) e.g. sandpaper, metal baking sheet, cork tile, carpet
Enrichment Lesson 2: How fast can you complete a lap?	Per pair: bar magnet, stopwatch, thin rigid card, small magnetic objects, e.g. paperclips of different sizes, coins (not all coins are magnetic as the metals used to make coins have changed, but coins made after 1992 should be magnetic)

Year 3 Module 5: Amazing bodies	Resources
1: What would you need to survive?	No additional resources
2: What do we need to eat to stay healthy?	Local restaurant menus
3: How does an adventurer stay healthy?	No additional resources
4: Why do we have a skeleton?	Internet access for research
5: Can you design a new vertebrate species?	Tracing paper, paperclip
6: How do muscles help us move?	Chicken leg, large space, e.g. hall, small weights e.g. bottles of water, bench, access to internet and relevant text books
7: Do our bodies affect how well we do things?	No additional resources
8: How good are we at different activities?	Spreadsheet program, equipment for measuring length, e.g. rulers, tape measures, metre sticks, trundle wheel, balls or bean bags, stopwatches
Enrichment Lesson 1: What food will you need to take to the Arctic?	No additional resources
Enrichment Lesson 2: What lived in the past?	No additional resources