

|  |
| --- |
| **Theme Overview** |
| **Lead Subjects** | **Additional Subjects** | **English** |
| * Science
* Design and Technology
 | * Art and Design
* Computing
* Mathematics
 | * Classic Poetry
* Mystery / Adventure / Fantasy Stories
* Explanations
 |
| **Visits** | **Visitors** | **Experiences** | **Events** |
|  |  |  |  |
| **Getting Started…** |
|  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Be Curious** |  | **Be Knowledgeable** |  | **Be Adventurous** |  | **Be Ambitious** |  | **Be Creative** |  | **Be Collaborative** |  | **Be Reflective** |  | **Be Positive** |
| * Engage in first-hand experiences
* Embrace experiences which are remarkable to the individual
* Invoke a sense of awe and wonder
* Develop an appreciation of and responsibility for the environment
* Engage in multi -sensory learning
* Experience contrasts (polluted/unspoilt, light/dark, urban/rural, loud/quiet)
 |  | * Secure strong Literacy/Numeracy Skills
* Develop subject specific language
* Manage, receive, record and apply information
* Nurture a thirst for knowledge
* Apply cross -curricular skills
* Develop Information processing skills
 |  | * Work within one's own comfort zone and outside it
* Work in the real world with first-hand experiences
* Work practically
* Work on a large scale
* Experience exhilaration, challenge and achievement
* Develop problem-solving skills
 |  | * Develop responsibility for one's own learning
* Link with experts
* See possibilities
* Strive for improvement
* Seek opportunities
* Develop an open outlook
* Develop a 'Growth Mindset'
* Develop relevant attributes of learning
 |  | * Choose how to use free time
* Developing hobbies and interests
* Apply skills to new situations
* Explore alternatives in problem solving situations
* Question 'What if...?' 'Why not....?', etc.
* Develop creative thinking skills
 |  | * Work with others in an interactive learning process
* Respect the opinions and differences of others
* Value one's own perceptions and those of others
* Challenging one's own perceptions and those of others
* Work as a team
* Develop empathy
* Develop social skills
 |  | * Make lifestyle choices in response to thoughts
* Identify and use one's aptitudes and interests as a vehicle for learning
* Move towards the understanding of a wide range of feelings (success/failure, apprehension, anticipation)
* Develop awareness of individual strengths and areas of development
* Develop reasoning skills
 |  | * Listen and respond to advice
* Value pupil voice
* Develop self-esteem
* Be listened to
* Manage one's own behaviour
* Develop own opinions
* Secure and articulate preferences
* Consider one's place in the world
* Foster intrinsic motivation
* Develop relevant attributes of learning
 |

|  |
| --- |
| **Science** |
| **Key Learning** |
| **Plants - Functions of Parts of a Plant*** Identify, locate and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
* Explore 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.
* Investigate the way in which water is transported within plants.
* Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
* Know that:
* Roots grow downwards and anchor the plant.
* Water, taken in by the roots, goes up the stem to the leaves, flowers and fruit.
* Nutrients (not food) are taken in through the roots.
* Stems provide support and enable the plant to grow towards the light.
* Plants make their own food in the leaves using energy from the sun.
* Flowers attract insects to aid pollination.
* Pollination is when pollen is transferred between plants by insects, birds, other animals and the wind.
* Seeds are formed after the flowers are pollinated.
* Many flowers produce fruits which protect the seed and/or aid seed dispersal.
* Seed dispersal, by a variety of methods, helps ensure that new plants survive.
* Plants need nutrients to grow healthily (either naturally from the soil or from fertiliser added to soil).

***Notes and Guidance (Non-statutory)****Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction.* ***Note:*** *Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens.* ***Pupils Might Work Scientifically**** By **comparing** the effect of different factors on plant growth, for example the amount of light, the amount of fertiliser.
* By discovering (**research and modelling**) how seeds are formed.
* By **observing** the different stages of plant cycles over a period of time.
* By **looking for patterns** in the structure of fruits that relate to how the seeds are dispersed.
* By **observing** how water is transported in plants, for example, by putting cut, white carnations into coloured water.
* By **observing** how water travels up the stem to the flowers.
 |

|  |
| --- |
| **Science** |
| **Creative Learning Opportunities and Outcomes** |
| **Real outcome*** Working in groups, children should produce a fact book all about plants. It needs to have several different sections including information on roots, stems, leaves, flowers, pollinators, seeds, seed dispersal and plant growth. Remind children to include scientific vocabulary and a glossary to describe the terms. They should use images and information about things they find out and present it in an appealing way. The books will be presented to Year Six to be used as a revision guide so must be scientifically correct.

**Resources: Planning the outdoor area*** + - * NC2014 encourages schools to link growing spaces more closely with the curriculum. The growing of plants within this theme should fit within a whole school plan where each class is responsible for an outdoor or growing area. What and when to plant should be carefully planned as a staff and with the children to ensure a large variety of experiences are encouraged. To support with this, the following sites may be useful:
* The Royal Horticultural Society Campaign for School Gardening website ([here](https://schoolgardening.rhs.org.uk/home))has information about how to organise growing areas throughout the school. Their gardening reward scheme supports schools in identifying where they are working and provides ideas on what can be done next to move forward with the school growing campaign.
* The Kids Garden Club website ([here](http://gardening.afterschooltreats.com/wfdata/frame133-1011/pressrel15.asp)) has ideas for how to devise a sowing calendar.
* The Creative Star Learning website ([here](http://creativestarlearning.co.uk/developing-school-grounds-outdoor-spaces/a-wonderful-wildlife-garden/)) has an article which gives an insight in to what could be achieved easily by schools with little money, time or space.
* Each year group can focus on growing certain plants e.g. tomatoes, pumpkins, sunflowers, lettuce, etc. Teachers need to decide which class is growing what. Each age phase can focus on a different gardening skill or a concept linked to the curriculum

**Nature journals: What do we notice?*** Although it is not statutory at this age phase, children could continue to record a nature journal throughout the year to look at plants growing in the classroom, in the school grounds and beyond and to observe plant structures and functions (seeds, seed dispersal, etc.)
* Ideally children could link to the key learning in this unit by visiting the outdoors once a month and looking at plants in their locality and beyond. They can consider:
* September to November: Introduction to observing plant structures and functions; what are fruits and seeds; the cycle of plant growth through the seasons; harvesting crops; how fruits and seeds are dispersed; tidying up and preparing for winter.
* December to February: What happens over winter? Deciduous / evergreen; bulbs; few signs of new life.
* January to April: Structure of a seed; what plants need to grow; seed germination; signs of spring – bulbs, twigs, soil temperature, buds; preparing for planting.
* May to July: Observing structures of a flower using different varieties; pollination/pollinators and how seeds are formed; wild plants in their habitats; cultivated plants in our school grounds.
* The Open Air Laboratories website has some useful resources linked to seasonal opportunities:
* The spring education pack ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-spring.pdf)) **e**xplores pollination, including how plants attract pollinators, how pollen is transferred and how to label parts of plants and flowers.
* The summer education pack ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-summer.pdf)) focuses on seed dispersal with games and activities that identify the characteristics of seeds and experiment with dispersal strategies.
* The autumn education pack ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-autumn.pdf)) looks at photosynthesis and the role it plays for plants and humans, as well as what happens to leaves during the autumn.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Introducing the importance of plants** **Sort / Group / Compare / Classify*** Why are plants important? Using a Diamond 9 ranking activity, ask children to rank the statements in order of which is the most important and which is the least important. Statements could include: make the world a prettier place to be; can be used as food for humans and other animals; can be used for medicines and natural remedies; can be used to flavour food, e.g. garlic, chillies, herbs; can provide homes/habitats for other creatures; release oxygen from their leaves; provide playing fields and parks for children; can be sold by florists to make money; can be used to make different fabrics e.g. silk, wool, cotton; etc) Either give the children nine statements to sort or challenge them to come up with nine of their own of varying importance. There are no specific correct answers but rather the learning is the discussions that come out of the activity.

**Introducing the role of the parts of a plant*** What is a plant? The plants resource on the Arkive website ([here](http://www.arkive.org/education/teaching-resources-7-11)) is an excellent classroom presentation to introduce the structure and functions of flowering plants. It introduces roots, stems, leaves, flowers, pollination and seed dispersal in a simple way for children to understand. Detailed teachers’ notes also introduce setting up a fair test to test the effects of food, light and warmth on plant growth which can be used later in the unit.
* The images of the different plants in the ‘Useful Plants Education Pack’ on the Open Air Laboratories website ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-useful-plants.zip)) can be used to identify the structure used – petal, leaf, stem, flower, berry, seed, root.

**Explore / Observe / First hand experiences: Roots*** What is the function of a root? How does the structure of a root help it anchor in the ground, and take in water and nutrients? Children will have studied roots in Year One but would benefit from revisiting the task of observing roots in detail using hand lenses and hand held microscopes. The focus should be on the length of the longest part; the area covered by the root system; and the presence of root hairs to increase the surface areas that water (and nutrients) can enter the plant. Using unwanted weeds, children could weigh the root and compare it with the weight of the part of the plant that is above the ground. Detailed drawings would provide progression from the Year One root observations.

**Explore / Observe / First hand experiences: Stems*** How is water transported from root to the plant tip? Children can carry out the experiment on the Naked Scientists website ([here](http://www.thenakedscientists.com/HTML/content/kitchenscience/exp/colour-your-own-flowers/)) to colour their own flowers. In addition to this they can use celery instead of flowers and then peel the ‘tubes’ out of the stem to show where the water travels up it.

**Thinking task*** Is a blade of grass a stem or a leaf? What do the children think? How many different ideas can the children generate within their group? How can they find out? The children would need to be able to mark a section of grass that would not be cut and then observe growth over the course of several weeks. Does this change their initial ideas? Alternatively the children could plant their own plot of grass in a planter outside the classroom and observe it growing over a period of time. Photographs with annotations and measurements can also be added to their nature journals.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Practical investigation: Leaves*** What happens if the leaves are removed from a herb plant such as mint? What if all the leaves were removed? What if leaves from one side were removed? What if leaves from the top or leaves from the bottom were removed? What if the leaves (or half of the leaves) were covered so no sunlight could get to them?
* Children can compare the affects with a control plant which has had all of its leaves left on. Mini herb plants from the supermarket can be used for this. Each group could have three mini plants. One is left to grow under normal conditions and the other two have their leaves changed/removed in some way. Children can watch the plants grow. What happens to them over time? This helps the children to understand that leaves are used for the plant to make its own food from the sunlight.

**Research*** How do plants make their own food? The KS2 Photosynthesis Tree activity from the autumn education pack ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-autumn.pdf)) supports children in learning about the importance of leaves for plants and the process of photosynthesis (the leaves of a plant use light energy to convert gases from the air and water into sugars and oxygen). Children can design a tree hanging to represent the process which can be used to dress trees in the school grounds and share with invited guests or their peer group.

**Explore / Observe / First hand experiences*** Do plants grow towards light?The Planet Science website ([here](http://www.planet-science.com/categories/under-11s/our-world/2012/03/watch-out%2C-plants-are-on-the-move%21.aspx)) has a set of videos to support children in exploring how plants grow towards the light, how they are adapted to climb if other leaves cover them and includes information on how to grow a potato obstacle course to watch how plants grow towards to sunlight. This links with the functions of stems and leaves.
* Teachers should be aware that seeds will grow both in the light and in the dark but as the seedlings develop light is necessary for healthy growth. Seedlings grown in the dark will appear to grow quicker and longer than ones in the light, however, if they keep growing, the plants in the dark grow very leggy and look yellow. They grow tall quickly in the dark because the young seedlings are searching for light. This can be tested by growing a bean seed in a darkened shoe box. Children can put the seedling at one end and a small hole for light to enter at the other. Card divider slots can be added inside the dividers with small holes cut into them to create a simple maze for the plant. It very cleverly finds its way through the maze, searching for the light.
* As background for teachers, the Science and Plants for Schools website ([here](http://www.saps.org.uk/attachments/article/550/SAPS%20-%20Food%20in%20Plants.pdf)) has information on the term ‘food’ in relation to plants.

**Flowers*** Flowers attract animals to help the plant reproduce. Flowering plants make new plants by producing seeds. How does this happen? The pollen has to be transferred from one plant to another before a seed can form. Pollinators can be bees, birds, butterflies, beetles, moths etc. Before attempting these activities, ask the children to write a sentence or definition for the words nectar, pollen and pollinator. This can be used as an assessment of their initial understanding and of the words they use in their definitions. This can be repeated after the ‘flowers’ activities and used for self-assessment of their understanding.
* Children can be introduced to pollination using either of the resources below.
* The Science World website ([here](https://www.scienceworld.ca/resources/units/pollinators)) has several hands on activities linked to pollinators and pollination.
* The National STEM centre has collated all of the pollination and fertilisation activities for Year Three linked to the NC2014 from the Science and Plants website ([here](http://www.saps.org.uk/primary/teaching-resources)). These can be easily downloaded from the National Stem Centre website ([here](http://www.nationalstemcentre.org.uk/elibrary/resource/10175/reproduction-and-life-cycles-part-1)) and ([here](http://www.nationalstemcentre.org.uk/elibrary/resource/10176/reproduction-and-life-cycles-part-2)).
* The Science and Plants website suggests that a useful real outcome is for children to produce a poster or presentation with text, about the role of flowers. Criteria for a good
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| poster are:* It should convey information about pollination (fertilisation can be left until Year Five) – in pictures, diagrams, words and phrases.
* Information should be well organised and neatly presented.
* Content of the poster should be appropriate for children of their own age.

**Explore / Observe / First hand experiences: Seeds*** Observe plant growth in the real world and record changes of plants both in the classroom and around the school grounds and local area. Allow a small part of the school garden to be wild or plant a meadow area. It will attract wild plants and animals which is great for studying pollinators in action. The Creative Star Learning website ([here](http://creativestarlearning.co.uk/early-years-outdoors/how-to-make-a-seed-bomb/)) has instructions for making seed bombs which enable seeds to be planted everywhere and anywhere.
* **Note:** CLEAPSS health and safety advice advises that seeds sold commercially are often treated with a fungicide which may be harmful if it gets onto the hands and then into the mouth. Always wash hands after handling such seeds or handle them with gloves on or with a plastic bag over the hand. Seeds from a health food store will not have been treated and are safe to handle. Fruit and vegetables are also natural sources of seeds. Further health and safety advice can be obtained from the ‘Be Safe’ booklet for Health and Safety in School Science and Technology for Teachers of 3 to 12 year olds. This document was last updated in Jan 2011 and revised copies are available from the Association of Science Education online bookshop ([here](https://secure.ase.org.uk/membersarea/Shop/layout4.asp?Child=Child&PID=256)).

**Explore / Observe / First hand experiences** and **Modelling*** Download the Seeds and Fruits pack from the Open Air Laboratories website ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-seeds-fruits.zip)). Use the seeds and fruits found at a wildlife site to explore how seeds are ‘packaged’ and how birds have adapted to eat different foods.

**Sort / Group / Compare / Classify*** Compare and contrast a variety of different seeds. What things are the same, what things are different? Ask children to consider whether larger seeds produce larger plants or whether larger seeds germinate quicker.
* Use the Seed Similes activity on the Kids Garden Club website ([here](http://gardening.afterschooltreats.com/wfdata/frame134-1012/pressrel2.asp)) for writing simile poems about seeds, e.g.
* A mustard seed is as tiny as the dot on the letter ‘i’.
* A watermelon seed is as black as a cat's fur on Halloween night.

**Explore / Observe / First hand experiences*** Keep a pet dandelion and observe how it grows from a seed. Are the leaves allows arrow shaped and pointy even from day one? The BBC website ([here](http://www.bbc.co.uk/gardening/gardening_with_children/homegrownprojects_petplants.shtml)) has more information.

**Research / Modelling*** Using various information sources children could design a drama presentation or a dance to show how different seeds disperse. They could present their dance to an audience and provide them with a simple leaflet explaining the different methods of dispersal and suggesting why plants have adapted creative ways of spreading their seeds.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| * The Fruits, Seeds and their Dispersal pack on the Science and Plants website ([here](http://www.saps.org.uk/primary/teaching-resources/223)) focuses on observation and characteristics / features of seeds (linked to their method of dispersal). The ‘Fruit fact files’ has useful documents to use to support children in looking closely at seeds and fruits. It also has advice on constructing a key to fruit dispersal mechanisms and a useful example produced by a primary school.
* The Sultana Game on the Science and Plants website ([here](http://www.saps.org.uk/primary/beyond-the-classroom/224-the-sultana-game-understanding-fruit-and-seed-dispersal)) can be used to support the understanding of fruit and seed dispersal.
* The Science and Plants website ([here](http://www.saps.org.uk/primary/teaching-resources/219-dandelions-across-the-curriculum-at-ks2)) has details about one school’s approach to looking at dandelions. It considers the questions: Do dandelions grow in different habitats? Can we measure their growth to give us useful information about these habitats?

**Practical investigation*** Children could explore how seed pods of some plants explode in order to spread their seeds. This can be modelled using blown up balloons (to represent the fruit pods) containing small objects such as glitter, small beads, small pom-poms, confetti, pieces of foil, etc. (to represent the seeds). The balloons can then be popped using a drawing pin attached to a metre ruler. The children could measure how far the ‘seeds’ spread. Children could design an experiment to see what affects how well their seeds spread. Possible investigations might be:
* Do some ‘seeds’ spread better than others?
* Do lighter seeds spread better than heavier ones?
* Does to shape of the ‘pod’ affect how far the ‘seeds’ spread? (Use different shaped balloons)
* Does the amount of air in the ‘pod’ affect how far the ‘seeds’ spread?
* Do different shaped ‘seeds’ spread better than others?
* Do different ‘wind’ strengths affect how well the seeds spread after the ‘pods’ burst? (Different winds can be simulated using a fan on different speeds. Children can make decisions about the type of ‘seeds’ to use in this investigation – lighter ones which catch the wind being more effective).

**Research: Fruit*** If time allows the following research activity would help develop children’s understanding of the role of fruit in plant life cycles. It could be done as a homework task although it does require children to have access to the internet.
* The ‘Fruit Challenge’ on the Natural History Museum WebQuest website ([here](http://www.nhm.ac.uk/education/online-resources/webquests/launch.php?webquest_id=5&partner_id=hist)) is part of ‘The National Museums Online Learning Project’ which uses real museum artefacts and artworks to inspire learning in the classroom. As a real outcome, the resource asks children to produce a fruit marketing campaign on behalf of a fruit farmer to persuade more people to eat their particular fruit. Using the resource, the children can choose a particular fruit to research to find out where it grows; how it grows; how it produces fruit (pollination and fertilisation); the health benefits of eating it; and recipes it can be used in. They then present their campaign to an audience, for example, a cookery group, parents or peers.

**Introducing requirements for plant growth****Practical investigation: Pumpkin seed science*** 'Sandy Seeds' is a free activity on the Primary Upd8 website ([here](http://www.primaryupd8.org.uk/activity.php?actid=226)). In the activity, children are encouraged to observe the growth of seeds in sand and compost over time by considering the impact of flooding in Bangladesh and how it affected the growing of pumpkin crops. This allows children to make connections with the global issue - even when there is sufficient sun and rain, there are still places in the world where it is difficult to grow crops.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| or* Pumpkin seeds can be a useful alternative to more familiar seeds such as sunflowers when studying plant life cycles. They germinate within 5-8 days normally during April/May, grow quickly and produce large flowers within ten to fourteen weeks. The seeds from pumpkins grown can then be dried and replanted in the spring to continue the life cycle or roasted and eaten. Children could investigate one of the following:
* What do the seeds require for germination? Water? Light? Air? Warmth? Attempt to germinate samples of seeds dry and soaked, on wet / dry cotton wool; in the light / dark; exposed to the air / covered with, for example, cooking oil; in the fridge / at room temperature / near a radiator. Remember to change only one factor at a time.
* Does soaking the seeds help them germinate quicker?
* Investigate the effect of crowding seeds together in soil / spacing them well apart, on the growth of the pumpkin plants.
* Which is the best measure of successful plant growth? Length of roots? Height of shoot? Number of leaves? Weight?
* What’s the difference between male and female pumpkin flowers?

Observing plants over time can provide opportunities to measure and experiment with different plant ‘foods’.*This idea is adapted from the CLEAPSS School Science Service Newsletter 33 Autumn 2005** As a further challenge, children can investigate growing two sets of seedlings; one set with their pots on top of a ‘seedling heat mat’ and one set without the heat mat and see what affect this has on the seed germination time. The heat mats can raise the temperature of the soil by several degrees (children can take accurate temperature readings) which simulates the warm spring sunshine.

**Science challenge: Create / Invert / Design*** The 'Bangladesh – Floating Gardens' PowerPoint on the Practical Action website ([here](http://practicalaction.org/docs/education/practical-action-bangladesh-floating-gardens.pdf)) can be shown to children to demonstrate how science and technology is used to support poorer communities across the world. Children could be challenged to create their own floating garden. Those struggling to devise their own solution can be supported with a set of instructions provided by the site ([here](http://cdn1.practicalaction.org/f/l/4ee7364d-c6cc-487c-8a7b-70601661b3dc.pdf)).
* Bag Gardens are a type of African garden that the organisation ‘Send a Cow’ teaches families how to make in Africa. They can be a useful way of introducing children to growing in a different form and to consider healthy eating and life in an African country. More information can be found on the Lessons from Africa website ([here](http://www.sendacow.org.uk/lessonsfromafrica/resources/bag-gardens)).

**Explore / Observe / First hand experiences*** Children can observe other plants grown in the school garden linked to plant structures. They can consider the question 'What happens if you remove the tendrils from a pea plant?'Grow some sugar snap peas and give them a tent of twigs to scramble over. Remove the tendrils as they are formed from about half of the plants. Compare the growth of these plants with plants that still have tendrils.

**Further opportunities to enhance this unit*** A visit to a botanic garden, garden nursery or market gardener/farmer to explore plant growth and different plant structures and functions would enhance this unit further. Interviewing a bee expert would also add to the experiences provided within this unit.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Key questions*** What makes a plant a plant? (Considering the features of plants).
* What does each feature do to help the plant survive, grow and reproduce?
* What do plants need to grow healthily?
* Do seeds need soil to grow?
* Do plants need soil to grow healthily?
* How much water should we give plants? How long can they last without water?
* Where is the best location to keep our plants? Does a greenhouse help?
* Why do plants need leaves? What happens if we remove all the leaves from a plant?
* Why are plants important?
* What if all plants died out?
* How do plants produce new plants?
* How do plants help their seeds to spread?
* What are pollinators and how do they help plants?
* How do plants change as they grow?

**Key vocabulary*** Role, part/structure, flowering plant, root / roots, leaf / leaves, stem / stalk / trunk / branch, flowers, blossom, petal, pollen, transfer, pollination, seed formation, seed, bulb, fruit, berry, seed dispersal (explosion, wind, water, animal), transported, insects / birds / animals.
* Life cycle, grow / growth, reproduce, air, light (dark / light), water (damp / wet / dry), nutrients, soil, room to grow, fertiliser, volume (liquids), temperature (hot / warm / cool / cold).
* Words to describe physical characteristics of plants e.g. yellow, pale, thin, spindly, healthy, features representing good growth.
 |

|  |
| --- |
| **Science** |
| **Key Learning** |
| **Living Things and Their Habitats*** Recognise that living things can be grouped in a variety of ways.
* Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
* Construct and interpret a variety of food chains, identifying producers, predators and prey.
* Recognise that environments can change and that this can sometimes pose dangers to living things.
* Use and make identification keys for plants and animals.

***Notes and Guidance (Non-statutory)****Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Pupils should explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants, Pupils could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.* *Note: Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses. Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks or garden ponds, and the negative effects of population and development, litter or deforestation.***Pupils Might Work Scientifically*** By **using and making simple guides or keys** [sorting, grouping, comparing, classifying] to **explore** and **identify** local plants and animals.
* By **making a guide** [sorting, grouping, comparing, classifying] to local living things.
* By **raising and answering questions** based on their **observations** of animals and what they have found out about other animals that they have **researched**.

  |

|  |
| --- |
| **Science** |
| **Creative Learning Opportunities and Outcomes** |
| **Resources*** The Wildlife Garden Project ([here](http://www.wildlifegardenproject.com/wildlife-gardening.html)) has useful tips on plants that attract wildlife, to pest control for the garden and much more.
* The soil and earthworm survey on the Open Air Laboratory website ([here](http://www.opalexplorenature.org/soilsurvey)) has information and useful resources for investigating earthworms and soil.
* The MegaStar – Tree for life resources on the Open Air Laboratory website ([here](http://www.opalexplorenature.org/crest)) Visit for a project on saving trees within an environment. It provides children with three challenges to consider based around the importance of trees for wildlife and biodiversity:
* Should the Treedwell tree be saved?
* Making decisions on which new tree should be planted in Treedwell.
* How an old tree can be recycled?
* Use local real life examples / contexts which allow children to discuss the morals and ethics of human actions on natural resources. The BBC Bitesize website ([here](http://www.bbc.co.uk/education/topics/zh77hyc)) has a number of clips focusing on the human impact on environments and clips related to living things ([here](http://www.bbc.co.uk/education/topics/z6wwxnb)).

**Real outcome*** Explain to children that they are going to share what they have learned about habitats in a class assembly or sharing afternoon. They will need to share drawings, photographs and create a PowerPoint or display about their learning.
* Children may also wish to join in with the Great Bug Hunt – more information on their website ([here](http://www.thegreatbughunt.com/home.html)). The success criteria include identify a habitat and exploring the bugs that live there, recording their findings including photographs or drawings. The winning entry will be judged on the diversity of the bugs discovered and how innovative and clearly presented the project is.

**Field journals: Observing a variety of living things in their habitats*** It is useful to introduce this at the beginning of the school year to allow children to continue to make observations within their habitat throughout the year (once per month would be a guide). This provides more time for the activities below than in just a half term.

**Explore / Observe / First hand experiences*** How can we remember what we saw and when we saw it?
* Throughout the year the children need to visit a familiar habitat to observe changes over time and also to compare it with another habitat either locally or in the wider environment. Once a month (or once per half term) children can record observations in their habitat in a field journal. The focus should be on becoming more scientific in nature. The learning within the theme is all about children appreciating the **biodiversity and relationships** within an ecosystem. Studying and observing over time, collecting ideas in a journal, comparing different habitats and reflecting back over a period of time will all help to develop this concept.

**Wow starter*** The Planet Earth resource on the Eden website ([here](http://eden.uktv.co.uk/education/inspired-attenborough/article/lesson-6-planet-earth/)) is inspired by the David Attenborough series Planet Earth. There is a useful video clip and a treasure hunt ([here](http://uktv.co.uk/download/eden/Eden_Activities_lesson_6.pdf)) to encourage children to look more closely at their natural environment.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Research*** How many different things live in our school environment? Encourage children to photograph/draw the creatures they can find living in their school environment. When photographing, make images more scientific by adding a ruler to show the scale of the sample and a small whiteboard or a piece of card with the date, location and the identity (if known) of the specimen – these will then be visible in the photograph. Encourage children to think of ways of recording the information on ‘how many' and 'where’ different creatures are found.
* What information can children find out about the creatures from:
* studying them in their natural habitat.
* replicating habitat conditions in the classroom (modelling).
* from books and the internet.
* from local experts.

**Explore / Observe / First hand experiences*** Where do bugs live? Where can we find them? The Minibeasts education pack from the Open Air Laboratories website ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-minibeasts.zip)) has the following challenges from which to select. Challenge one: Search for bugs on soft ground surfaces.
* Challenge two: Search for bugs on human-made hard surfaces.
* Challenge three: Search for bugs on plants.
* Challenge four: Make a Berlese funnel for capturing minibeasts from leaf litter.
* Challenge five: Make a pitfall trap.

Each group could choose two challenges and share their findings with others:* Take part in a real, timed bug count survey and provide valuable data on local species as part of a national project as part of this initial exploration.

**Research*** What can we find today? Consider having a ‘Bug of the month’. Visit the chosen habitat every month and consider one of the bugs/minibeasts found, doing further detailed research into its features and life cycle. This research could become part of the ongoing field journal.

**Explore / Observe / First hand experiences and creative recording*** Encourage children to collect samples of plants throughout the different seasons within their particular habitat. Introduce them to the idea of pressing plants and officially recording them as a herbarium specimen as part of their field journal. Children should be reminded that before pressing the plant to identify it, they should remember to record when it was collected and where it was collected from. The specimens can then be compared and contrasted all year round.
* The Great Plant Hunt website ([here](http://www.greatplanthunt.org/yeargroup-4)) has instructions for making a herbarium specimen and how to effectively press and dry specimens ([here](http://www.greatplanthunt.org/downloaddocument.php?name=Press-Plants-And-Make-Herbarium_Specimens.pdf)). This resource also links with Darwin and how he carefully recorded his many observations for later reflection.
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Spring bulb project*** Following advice from the Museum of Wales website ([here](http://www.museumwales.ac.uk/scan/bulbs/)), children can plant some mystery bulbs in autumn. If planted then, they will be ready for observing throughout spring ready for the learning in this theme. Children can collect data about the date of flowering of the bulbs (both a crocus and daffodil bulb). They can also record the first shoots and the length as they grow, keeping a diary of growth over time. Each child or pair can record information for their own bulb. Children are encouraged to keep records of daily rainfall (mm); temperature of the soil; atmospheric temperature etc. The use of a good data logger here is ideal. A mystery bulb could also be set up for the children to predict the flower from this bulb based on their observations on the known flower bulbs. This is an opportunity to make links with other schools and for children to blog their findings.
* The Museum of Wales website ([here](http://www.museumwales.ac.uk/1762/)) also has a video about growing daffodils. Children can go on to observe lifecycles (lower KS2) including visiting animals and/or bees to aid pollination.

**Create / Invent / Design*** What is a minibeast? Can you design your own?
* The Marvellous Minibeasts – Design a species resource on the Arkive website ([here](http://www.arkive.org/education/teaching-resources-7-11)) provides teachers’ notes and a classroom presentation introducing ‘What is a minibeast?’ and the variety of animals that can be classified as a minibeast from insects, scorpions, beetles and spiders to worms, millipedes, snails and crabs. It introduces minibeasts as invertebrates and then considers other features of this group on animals. The presentation also explores the differences between minibeasts and how they are adapted to survive in their habitat (movement; escaping predators; effective hunting (carnivores); feeding (herbivores); camouflage; attracting a mate). Finally the children are asked to if they can design their own minibeast thinking about how it survives within its chosen habitat. Children can learn how different species of invertebrate are adapted to survive in particular habitats.

**Sort / group / compare / classify: Introducing classification keys*** Liquorice allsorts classification: The Science and plants website ([here](http://www.saps.org.uk/attachments/article/560/SAPS%20Grouping%20%26%20classification%20-%20PartE.pdf)) has an activity linked to making an identification key using sweets first before focusing on real animal features. This works well as an introduction to establish the principles of sorting and making and using a key, before going ahead with more complex material using plants. The Open Air Laboratories website has a useful guide to invertebrates on their website ([here](http://www.opalexplorenature.org/sites/default/files/7/file/biodiversity-invertebrate-guide-2014.pdf)). It can be used as a guide to classification groups, splitting invertebrates into:
* Six legs, body divided into three parts, often have wings – beetles, wasps, bees, butterflies, moths, flies (insects).
* Eight legs – Spiders (arachnids).
* No legs – Snails and slugs (molluscs).
* Many legs - millipedes, centipedes (myriapods).
* Many legs, armoured body (exoskeleton) – woodlouse (crustaceans).
* Encourage children to sort and classify images of creatures living around the school grounds. What features do they use to sort animals? What names can be given to different groups?
* The Animal Classification resource on the EMTAS website ([here](https://www.sgsts.org.uk/SupportForVulnerablePupils/EMTAS/Shared%20Documents/Animal%20Classification.pdf)) is a collaborative sorting activity introducing vertebrates, invertebrates and classification grids. This should be used for classifying rather than as a cloze procedure exercise.
 |

|  |
| --- |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Introducing feeding relationships (other habitats around the world and local habitat)****Research*** What do I eat? The Web of Wildlife resource on the Arkive website ([here](http://www.arkive.org/education/teaching-resources-7-11)) has an excellent introduction to food chains. Children can design a food web for five different habitats (British woodland, British coastal waters, Arctic tundra, Antarctic, African savannah). This would be a good introduction to the feeding relationships between animals and plants in a habitat. Children could go on to design a similar activity linked to their local habitat (pond, hedgerow, woodland). They could make their own species cards with the following subheadings:
* Interesting fact.
* What do I eat?
* Threatened?

And collate some images for each particular species. This could lead to a display on habitats and feeding relationships.**Introduction to predator / prey relationships in a habitat** **Explore / Observe / First hand experiences*** + - * Choose one from the two activities below children’s understanding of food chains needs extending further.
			* Use the Dinner at the Reef resource on the Arkive website ([here](http://www.arkive.org/education/teaching-resources-7-11)) to help children learn about food chains in a marine environment, the predator‐prey relationships and the fine balance of an ecosystem. The resources includes detailed teachers’ notes, a game which models the predator-prey relationships in a marine habitat, information about reef habitat species and extension activities for links with maths and literacy. Species information cards are differentiated for three different abilities and can be used as a focus for secondary research into an unfamiliar habitat, the creatures that live there and more complex food chains and threats to a species.
			* The Food Chains pack on the Open Air Laboratories website ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-food-chains.zip)) includes resources required for three interactive games linked to food chains:
* Matching food chains.
* Foxes and rabbits.
* Web of life.

The resources also includes links to the Woodland Trust’s Food Chain game ([here](http://www.naturedetectives.org.uk/download/game_ancient_tree.htm)) and a link for the To The Waterhole game on the Collaborative Learning website ([here](http://www.collaborativelearning.org/tothewaterhole.pdf)). As a real outcome, children could make various different food chain mobiles to display in the outdoors or around the school to educate others.**Science investigations: pattern seeking surveys*** This provides an opportunity for children to practice their planning and testing/ skills and to support children in raising and answering questions based on their observations.
* Select from:
* Do (woodlice) prefer the light or the dark, dry or damp conditions?
* How much does a (woodlouse) eat in a day?
* Can (woodlice) hear sounds or sense vibrations?
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| * What happens when a (woodlouse) meets another (woodlouse)?
* What happens if a (woodlouse) is surrounded by shallow water?
* Are (woodlice) attracted by bright light?
* Can (woodlice) smell? (Use cotton buds with fragrances such as vinegar, lemon juice, perfume oils).

Children can select the minibeast they would like to study and the pattern seeking survey or investigation they would like to carry out.* For a simplified worm survey the Earthworm education pack ([here](http://www.opalexplorenature.org/sites/default/files/7/file/education-packs-soil-earthworms.zip)) on the Open Air Laboratories website is a useful support. If required, here are also links to other useful areas of their website and the Earthworm Society website ([here](http://www.opalexplorenature.org/education-packs-wildlife)) which provide further information on the different species of earthworms in the UK, their habitats and the different foods they eat.

**Modelling*** Children could make their own 'ecosystem in a jar'. There is a simple set of picture instructions on the Ikea website ([here](http://www.ikea.com/ms/en_GB/ikea_family/how_to/terrarium.html)). The Science Magazine website ([here](http://sciencemagazine-sheilabastian.blogspot.co.uk/2013/11/ecosystems-plastic-bottles-aquatic-terrestrial-gravel-water-habitats-birdseeds-environment-larvae-potato-plant-pupa-cocoon-metamorphosis-moth-spider-trap-web-weaving-web-leaf-curtains-mosquito-bottle-beetle-rolled-big-ball-feed-decay-grasshoppers-snail-geckoes-flies-fish-experiment.html)) has information on how to make an aquatic and a terrestrial ecosystem in one.

**Improving environment for birds, butterflies or bees or another local animal*** Children can choose one of the following to develop the idea of positive human impact on the environment. This could link with Year Three learning on flowers for pollination and the role of pollinators.
* Visit a local nature reserve, wetland, town garden, etc. to discover the positive human impact on the environment.
* Use the Butterflies and blooms resource on the Arkive website ([here](http://www.arkive.org/education/teaching-resources-7-11%20Butterflies%20in%20blooms)) to explore the relationship between butterflies and birds feeding on nectar helping to move pollen trapped on their bodies to other plants (pollination). Without the butterflies / other insects / birds the plants would not be able to reproduce as effectively. Without the plants the butterflies would not be able to feed effectively. Children could make the summer bloom wheel for the habitat described and then they can use this idea to produce a similar wheel for British species in their local habitat.
* Children could conduct a butterfly survey using resources from the Butterfly Conservation website ([here](http://butterfly-conservation.org/110/recording-schemes.html)).
* The Open Air Laboratories website ([here](http://www.opalexplorenature.org/beehotels#/0)) has information about building a bee hotel, bee identification and links to downloadable resources and a survey.
* The British Beekeepers Association website ([here](http://www.bbka.org.uk/learn/bees_for_kids)) has information on who to contact in the local area to get involved with bees and further ideas for learning about bees in the Teachers section.
* Children can explore which plants attract bees or butterflies. Plant some in the school grounds, deciding where best to put them.
* The Save Our Bees information and activity pack on the National Stem Centre website ([here](http://www.nationalstemcentre.org.uk/dl/4cca4faa117f10801f830656f93c6c7c39b359b4/30499-Save%20our%20bees_FULL.pdf)) contains many useful website links and activities.
* Looking for patterns: Conduct a survey of how many bees / butterflies visit flowers in a set time. Are certain flowers or colours visited more frequently? Make some model flowers – which colours are visited more often? Add sugary fluid/orange segments and / or perfume – does this make a difference? This activity is also included in the Year Three learning on plants so there is potential to work together to explore the relationships in an ecosystem.

Other real outcomes and resources which could be used as alternatives include:**Real outcome: A tour guide*** Explain to the children that they are to become tour guides planning routes around the school. They should devise ‘Eye Spy / Identi Kits’ and become specialists on specific
 |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| habitats and provide information on a sample of the species that live there.* Who will they invite on their trail?
* Which habitats will they visit?
* Which mini-beasts / plants will they provide information on?
* How will the information be presented?

**The great plant hunt*** Use the Darwin's Collectors resource from page 92 of the Great Plant Hunt teachers' handbook on their website ([here](http://www.greatplanthunt.org/downloaddocument.php?name=TGPH-Complete-Teachers-Handbook.pdf)).
* Ask children to consider what plants live in the different habitats around school? They should become the experts and report their findings to others.
* In the Great Plant Hunt resource children are introduced, via photographs and video clips, to real scientists whose job it is to study plants from around the globe. They are also introduced to the work of Charles Darwin and his contributions to science. The resource provides an opportunity to introduce the children to the importance of protecting habitats. The resource links to the work of the Millennium Seed Bank at Kew Gardens. This focuses on preserving seeds in the event of a habitat being destroyed or a species becoming extinct in the wild. They are also given the opportunity to observe how plant specimens are preserved and information about them logged in a herbarium.
* The resource suggests taking the children on a Darwin inspired ‘thinking walk’ in the school environment and then visiting a contrasting location to highlight adaptations of different plants to different conditions.

**Sort / Group / Compare / Classify*** The Great Plant Hunt resource suggests children collect a variety of plants from two different habitats and compare and contrast their features and compare the different conditions within the two habitats. Information about different adaptations for different habitats is given on page 87 of the Teachers’ Handbook.
* Children should record measurements and observations carefully. This could provide useful information for the children to use to inform visitors on their trail. The resource provides an excellent opportunity to begin discussing the importance of plant conservation.
* Comparing different habitats provides an excellent opportunity to collect data about differing light and temperature levels using data logging equipment. Images of different habitats are available on The Great Plant Hunt website.
* Children are encouraged to make their own herbarium using the plant specimens they have found in the different habitats. The children can be creative in how they us this information to inform the visitors on their trail.
* Children should apply their understanding of classification that they developed during the 'Liquorice Allsorts' activity to the plant specimens they have collected.

This theme can just focus on plants in the local environment or could include identifying different plants and animals within one or two habitats.**Key questions*** How can we remember what we saw and when we saw it?
* How many different things have we found that live in our school environment?
 |

|  |
| --- |
| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| * What can we find today?
* What is a minibeast / bug?
* How are animals / plants adapted or suited to live in our school grounds / local area?
* Why does it like it there?
* What does it eat?
* Does anything eat it?
* How many different living things are there in the world?
* What makes an animal an animal?
* Are they all the same?
* How are animals different?
* How many different animals are there?
* How do scientists group them/identify them?
* Why are some species under threat while others are not?
* What happens if we remove a species from the food chain?
* What threats are there to different habitats / ecosystems?
* How can humans help?

**Key vocabulary*** Words related to: life processes - nutrition, habitats, feeding.
* Relationships: environment, habitat, condition, organism, carnivore, herbivore, omnivore, predator, prey, producer, consumer, food chain, key, classify, classification key, positive human impact, negative human impact.
* Words which have a different meaning in other contexts: producer, consumer, key, condition.
* Vertebrates and invertebrates: insects, minibeasts, mammals, reptiles, fish, birds, amphibians.
 |

|  |
| --- |
| **Design and Technology** |
| **Key Learning** |
| **Evaluation of Existing Products*** Investigate similar products to the one to be made to give starting points for a design.
* Draw/sketch products to help analyse and understand how products are made.
* Research needs of user.
* Identify the strengths and weaknesses of their design ideas in relation to purpose/user.
* Decide which design idea to develop.
* Investigate key events and individuals in design and technology.

**Focused Tasks - Structures*** Develop vocabulary related to the project.
* Create shell or frame structures.
* Strengthen frames with diagonal struts.
* Make structures more stable by giving them a wide base.
* Measure and mark square section, strip and dowel accurately to one centimetre.

**Design*** Plan a sequence of actions to make a product.
* Record the plan by drawing using annotated sketches.
* Begin to use cross-sectional and exploded diagrams.
* Use prototypes to develop and share ideas.
* Think ahead about the order of their work and decide upon tools and materials.
* Propose realistic suggestions as to how they can achieve their design ideas.
* Consider aesthetic qualities of materials chosen.
* Use CAD where appropriate.

**Make*** Prepare pattern pieces as templates for their design.
* Cut slots.
* Select from a range of tools for cutting shaping joining and finishing.
* Use tools with accuracy.
* Select from techniques for different parts of the process.
 |
| **Design and Technology** |
| **Key Learning (contd.)** |
| * Select from materials according to their functional properties.
* Plan the stages of the making process.
* Use appropriate finishing techniques.

**Evaluation (of their Finished Product)*** Consider and explain how the finished product could be improved.
* Discuss how well the finished product meets the design criteria of the user.
 |
| **Design and Technology** |
| **Creative Learning Opportunities and Outcomes** |
| **Project Focus: Structures (A Product, for a Stated Purpose and a Stated User) Through an I*terative* Process** |
| **Develop a challenge around product / purpose / user*** This will engage the class and fit with other contexts of learning such as:
* Planters for growing plants outside – possibly raised beds for elderly users.
* Miniature windowsill sized planting boxes for raising seeds / growing herbs etc.
* Containers for known items, with particular purposes e.g. protection, secrecy, portability, storage.

**Process for planning a project for your class*** Think:
* Product - what could we make?
* Purpose - what is it for?
* User - who is going to use it?

This will make the 'challenge' for the project, e.g. design, make and evaluate a **product** to **purpose** for **user**.* In what context will this project be set?
* Plan what products for evaluation/resources/tools/materials you are going to offer the children, taking account of previous experiences and current learning readiness. Ensure all appropriate risk assessments have been undertaken. Make sure prior learning from design and technology and other subject areas is in place. If not, plan specific learning opportunities prior to the project – focused tasks.
* Plan for inclusion of vocabulary development. Consider whether this will be taught before beginning the project or during the course of the project.
* Plan the questions you will ask the children to encourage the iterative process.
* Consider the six principles for guiding and evaluating practice for design and technology (available from the School Curriculum Principles for Design and Technology document on the DATA website ([here](https://www.data.org.uk/for-education/curriculum/dt-national-curriculum-for-england-2014/))). What is the balance for this project? Where are the children being encouraged to make their own choices and decisions? How much are they being encouraged to be innovative? Projects over the year/key stage should have a good balance.
 |
| **Design and Technology** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Project ideas:**

|  |
| --- |
| **Strand: Structures** |
| **Product: A planter / raised bed** | **Purpose: Growing plants (for use in science)** | **User: KS2 child** |
| **Evaluation of existing products*** Investigate similar products to the one to be made to give starting points for a design.
* Draw/sketch products to help analyse and understand how products are made.

**Questions*** Why is it this size?
* Who might use it?
* Where might it be kept?
* What is it made from?
* How does it stand up?
* How are the pieces joined together?
* Are there any splinters / sharp edges?
* How has it been strengthened? Is it stable?
* Does it allow air in / water out?
* Is it going to look right in its final position?
 | **Focused tasks**Teach any skills not already in place including:* Develop vocabulary related to the project.
* Create shell or frame structures.
* Strengthen frames with diagonal struts.
* Make structures more stable by giving them a wide base.
* Measure and mark square section, strip and dowel accurately to one centimetre.
 |
| **Design, make and evaluate*** Discuss what the structure needs to achieve – how is it to be used, where is it to be sited, who is going to use it etc. Children might wish to consider how garden designers choose the shape, size and materials for planters. The RHS flower shows at Chelsea ([here](https://www.rhs.org.uk/shows-events/rhs-chelsea-flower-show)) and Tatton Park ([here](https://www.rhs.org.uk/shows-events/rhs-flower-show-tatton-park?utm_medium=cpc&gclid=CJfqk87qrcUCFcISwwod0aEAKQ)) are both held in the summer and their websites may provide further ideas.
* Prepare a design brief outlining the requirements. Children could work in pairs as designer and client, sharing ideas for their product and how they could achieve the purpose. Agree design criteria.
* Ensure children use annotated sketches and where appropriate cross sectional and /or exploded diagrams to record their ideas as they develop.
* Children should develop simple card prototypes or CAD prototypes of their ideas to discuss with their user/client before deciding which product idea to take forward.
* Children should plan the making process considering the stages of making and their choice of appropriate tools and skills they learnt through focused tasks.
* Encourage the children to work with accuracy.
* Products should be continually evaluated and tested against the design criteria, improving or adjusting where necessary. The final product should be evaluated against the agreed design criteria in discussion with the client/user.
 |

 |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Art and Design** | **Exploring and Developing Ideas*** Select and record from first hand observation, experience and imagination, and explore ideas for different purposes.
* Annotate work in journal.

**Drawing*** Use journals to collect and record visual information from different sources.
* Draw for a sustained period of time at an appropriate level.
* Make marks and lines with a wide range of drawing implements e.g. charcoal, pencil, crayon, chalk pastels, pens etc.
* Experiment with different grades of pencil and other implements to create lines and marks.
* Experiment with different grades of pencil and other implements to draw different forms and shapes.
* Begin to show an awareness of objects having a third dimension
* Experiment with different grades of pencil and other implements to achieve variations in tone.
* Apply tone in a drawing in a simple way.
* Create textures with a wide range of drawing implements.

**Painting*** Experiment with different effects and textures in paint, work on a range of scales e.g. thin brush on small picture etc.
* Create different effects and textures with paint according to what they need for the task.

**Textiles*** Develop skills in stitching, cutting and joining.
* Match the tool to the material.
* Experiment with paste resist.
 | The learning within this theme offers children the opportunity to develop their skills of observational drawing, focusing particularly on flowers and plants. School gardens provide excellent outdoor drawing opportunities. Additionally, children could create drawings in the style of the Impressionists. Show a selection of paintings as a stimulus. The National Galleries Scotland website has a number of useful images of paintings on their website ([here](https://www.nationalgalleries.org/whatson/exhibitions/impressionist-gardens/highlights-19260)). The BBC Bitesize website ([here](http://www.bbc.co.uk/education/clips/zvb9jxs)) has a short clip ‘Painting in Monet’s Garden’ which could also be used. Using their improved understanding of form and anatomy of plants they could develop their sketches into 3-D sculptures using wire and fabric. Seed heads and flowers such as lilies have interesting form for children to replicate.**Drawing*** Make a series of observational drawings in sketchbooks of flowers, plants or gardens.
* When creating their drawings, children should have the opportunity to use a full range of materials including different grades of pencils, charcoal, chalk, oil pastels or chalk pastels.
* Demonstrate to children how to smudge their work to help them create 3-D effects.
* Children should discuss each piece as it has been created. They could draw the same individual flower using different mediums and identify which they prefer and why.
* Allow children to experiment drawing on different shaped paper e.g. circles, or paper which has been given texture or colour effects prior to drawing.
* Using the outdoors, children can work collaboratively on a larger scale work selecting materials appropriately using experience they have gathered from their individual work.

**3-D*** Children are going to create a 3-D sculpture of a flower using the wire. Show pictures of wire sculptures including those of the artist Haley
 |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Art and Design (contd.)** | **3-D*** Plan, design and make models from observation or imagination.
* Create surface patterns and textures in a malleable material.

**Evaluation*** Annotate work in sketchbook
* Review what they and others have done and say what they think and feel about it.
* Identify what they might change in their current work or develop in future work.
 | Harmon on her website ([here](http://www.haleyharmon.com/sculptural-wall-art/)), Elizabeth Berrien on her website ([here](http://www.wirelady.com/berrienwirebotanypage.html)) and Teresa Leung on her website ([here](http://teresa-leung.com/category/wire-art/flower/)). Ask children to discuss what the pictures are representing and what they are made from. Do they think that the wire makes a good model of a flower? Why or why not?* Provide children with wire in a range of thicknesses and a range of tools from which to choose, e.g. scissors, pliers, tubes, brushes, rulers etc. Allow children to experiment with the tools on the wire to see the effects it creates. They should consider how they can manipulate the wire to twist, bend and fasten. What different effects can be created with the different thicknesses of wire?
* Children should select one of the flowers from their drawings as a stimulus for their sculpture. How might they create this? Do they want it to stand in a vase or to be more of a flat sculpture? What thickness of wire and tools will be most effective?
* From their drawing, children should use the wire to create flower forms, sculpting petal by petal using an appropriate thickness of wire. They could also use coloured wire for details such as the stigma or stamen.
* Children should take photographs of their finished sculpture and annotate for their journal.

**Textiles*** Consider the use of fabric to enhance the flower sculptures. How might this be used and applied to the wire sculpture? Children can experiment with a range of fabrics and the wire and tools such as scissors, glues, finer wires, stitching equipment etc.
* Provide children with a piece of plain muslin or canvas fabric. They can use this with a paste resist technique to match the colours of the petals on their flour (using their journal to ensure they are selecting the correct colours).
* Paste resist is a technique which uses a mixture of flour and water which is applied to fabric and allowed to dry to create a mask for dye or paint. When the paste is removed, the original fabric colour is left behind. In the
 |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Art and Design (contd.)** |  | case of flowers with striped petals, for example, children can create the lighter stripe using the paste and then paint over in a colour or selection of colours to create the effect of the petal. More details of this technique can be found on the Thinly Spread website ([here](http://thinlyspread.co.uk/2011/08/19/paste-resist-batik-get-crafty-something-for-the-weekend/)).* Once children have created their fabrics, they can use appropriate tools to cut their petals correctly and attach them to their flowers. They could choose to do this with glue, stitching, stapling, trapping fabric between two pieces of wire or any other method.

**Evaluating*** Use journals to refer back to original ideas to incorporate as work progresses.
* Give children time to evaluate their work and that of others, describe what they like or might change next time, what materials they preferred using, what advice they may give another artist.
 |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing** | **Images, Video and Animation****Skills*** Acquire, store and retrieve images from cameras, scanners and the internet for a purpose.
* Select specific areas of an image, copy and paste to make repeating patterns.
* Be able to resize various elements in a graphics or paint package.
* Use various tools in paint packages or photo manipulation software to edit/change an image, e.g. applying different special effects.
* Use the ‘print screen’ function to capture images.
* Explore the use of graphics and paint packages to design and plan an idea.
* Use a range of devices to capture still and moving images for a purpose. These could include digital cameras, video cameras, iPads, microscopes and webcams.
* Discuss and evaluate the quality of their own and others’ captured images and make decisions whether to keep, delete or change them.
* Independently download and save images and video onto a computer.
* Independently upload images and movies from digital cameras and other devices to a computer and save in a relevant location.
* Be able to ‘resize’ images (pixels, resolution, aspect ratio and dimensions).
* Be able to use basic tools in a software package to change images according to purpose.
* Import music, stills or video into video editing software for a specific project.
* Arrange, trim and cut clips to create a short film that conveys meaning.
* Add simple titles, credits and special effects, e.g. transitions.
* Storyboard, then use captured images to create a short animated sequence which communicates a specific idea.

**Knowledge and Understanding*** Recognise the features of good page design and multimedia presentations.
 | Creating digital assets such as presentations, films, websites, apps or newspapers, provides teachers with lots of options for linking to learning in other subjects. This type of activity is generic to provide teachers with flexibility to make it appropriate for their own children and to accommodate the different software tools and hardware devices that schools may have. The key learning statements covered depend on which activity is chosen.**Possible activities*** Linked to learning opportunities in science, children can prepare a graphic of a plant and label the features and functions. Software such as Microsoft Word, Textease CT, Apple Pages or Microsoft PowerPoint could be used for this. Apps such as Explain Everything would also allow the children to add the functions easily as a narration.
* Linked to learning opportunities in English, children can create movies or presentations for their fantasy or mystery stories. They can prepare suitable graphics, sounds and/or music for their films. Common software used to create movies is Microsoft MovieMaker or Apple iMovie. Suitable apps would be Apple iMovie and Loopster Common software/apps used for presentations include Microsoft PowerPoint, Apple Keynote, Google Slides and Prezi or SonicPics.
* Linked to learning opportunities in English and online safety, children can make a movie trailer for their mystery stories using Apple iMovie (trailers option). The Horror template would be the most suitable trailer to use for this activity. The children will need to write a storyboard script for their trailer and then film it. They can choose to use still images or saved videos (which can be manipulated before use) or film new clips.
* Linked to learning opportunities in English, children can make a newspaper, booklet or comic for their mystery stories. The children need to consider relevant design features and making the publication suitable for their audience. Children could create images in other software tools and then insert them into their newspapers or comics. Software tools that are commonly used in schools for these activities include Microsoft Publisher or Word, Apple Pages and Comic Life.
 |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing****(contd.)** | * Consider how design features meet the needs of the audience e.g. poster, newspaper, menu, instructions.
* Understand that some tasks and problems require a variety of software tools to accomplish them.
* Understands what is meant by internet services.
* Understand that evaluation and improvement are vital parts of the design process and that ICT allows changes to be made quickly and efficiently.
* Demonstrate this through editing their work.
* Has an awareness of internet services.
* Recognise that IT can automate manual processes e.g. find and replace and understand the advantages and disadvantages of this.
* Compare and contrast the impact of using different sounds, words and images from a variety of electronic sources.
* Develop an increasing sense of audience and talk.
* Understand that images, 3D representations, sounds and text can be subject to copyright and abide by copyright rules when creating a presentation.
* Understand that presentations and projects need to be analysed and evaluated and suitable changes suggested to improve it.
* Understand that internet services such as those that provide images, sounds, 3D representations and graphic software can be used to achieve specific goals and tasks.
* Understand that a digital image can be captured from different devices and it can be stored and developed.
* Begin to understand how images from different sources (stills, video, graphics, animation) are used to enhance a presentation or communicate an idea.
* Begin to understand the meaning of ‘resizing’ i.e. the differences between pixel size, resolution and image dimensions and the need to maintain aspect ratios.
* Understand that planning is a vital part of the design process.
 |  |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing****(contd.)** | **Online Safety****Skills*** Know what to do and who to tell if they discover something inappropriate or offensive on a website, at home and in school.

**Knowledge and Understanding*** Understand the risks posed by the internet relating to content e.g. violent and biased websites.
* Understand what acceptable online behaviour is.
* Understand what unacceptable online behaviour is.
* Understand the school’s acceptable use policy.Understand the risks posed by the internet relating to contact e.g. bullying, grooming.
 | **Introduction**One element of online safety that is often overlooked is commercialism. The learning within this theme looks at adverts and their impact. Teachers need to emphasise why children shouldn’t click on adverts and what to do if they see something that concerns them. **Possible activities**The Media Smart website ([here](http://www.mediasmart.org.uk/resources/beadwise)) has a number of teaching resource packs which can be used to support this work. It provides teacher notes, activity sheets and even media to support these lessons. It is important to use the resources that are appropriate to the age group. The teacher notes for module one can be found ([here](http://www.mediasmart.org.uk/docs/beadwise/Module1_TeacherNotes.pdf)). Note that this site needs a login to get to the resources.Topics one to three of the module introduce adverts and their impact on the audience. * Topic 1 - Advertising and you
* Topic 2 - What’s in an ad?
* Topic 3 - Play the amazing ads game!

The final topic allows the children to use the knowledge they have to create their own adverts. The topic of this could be online safety for children in primary schools. If the teacher chooses to make the adverts using IT (e.g. as a movie), then this would also cover the computing element of the lesson. |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Mathematics** | **Number - number and place value*** Count from 0 in multiples of 4, 8, 50 and 100.
* Describe and extend number sequences involving counting on or back in different steps.

**Number - multiplication and division*** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
* Derive and use doubles of all numbers to 100 and corresponding halves.
* Solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), including positive integer scaling problems and correspondence problems in which n objects are connected m objects.

**Geometry - properties of shapes*** Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.
* Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

**Measurement*** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
* Understand perimeter is a measure of distance around the boundary of a shape.
* Measure the perimeter of simple 2-D shapes.
* Continue to estimate and measure temperature to the nearest degree (˚C) using thermometers.
 | Linked to learning opportunities in science, children could explore counting sequences using leaves on the stem of a plant or the petals on a flower.To explore a doubling sequence, the root systemcould be used as a context. Imagine if the primaryroot split into two secondary roots and eachsecondary root split into two further roots and thiscontinued, how many root tips could there be in theroot system? The science content of this unit relies on children investigating plants and observing changes over time and under different condidtions. Childrenmay be required to measure the length of stems and roots, the volume of water taken in by plants, the mass of a plant, the length of time taken between different stages of the life cycle, the distance different seeds spread during seed dispersal and/or the temperature of the soil or area in which a plant is growing. Children could investigate the following statements:* If half of the leaves are removed, the rate of growth of the plant will halve.
* If the shoot of a plant grows four centimetres in two weeks then after four weeks it will be eight centimetres.
* The longer the roots the more water the plant will take in.

When sorting, children should make decisions about the suitability of the table or diagram being chosen. Similarly, when gathering data from their observations, the method used to record should be chosen carefully, as should the method of presenting the data. Children should explain why they are selecting a certain representation for the data.Linked to learning opportunities in computing, whendesigning pages for multimedia presentations, childrencould explore which shapes would be best to model thedifferent types of content on a page e.g. oblongs tomodel the size and position of a block of text or animage.  |

|  |
| --- |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Mathematics (contd.)** | * Know the number of seconds in a minute and the number of days in each month, year and leap year.
* Compare durations of events [for example to calculate the time taken by particular events or tasks].

**Statistics*** Use sorting diagram to compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects.
* Interpret and present data using bar charts, pictograms and tables.
* Solve one-step and two-step questions [for example, ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables.
 | Further investigations could involve finding out how many oblongs of given dimensions could fit on a page, each of the oblongs being used to define the sections/parts of the page e.g. text, image. During this learning, children would be expected to use the language of shape properties accurately, including horizontal, vertical, perpendicular and parallel.Linked to learning opportunities in computing, when exploring the resizing of images, children could relate this to multiplication by scaling up by a whole number. If children want to make the side of a given image three times longer, they can consider what they would have to measure before and after to make sure they were right. It is important that if linking the scaling to mathematics, that only the length of one side is taken into consideration to avoid any confusion about area.Linked to learning opportunities in design and technology, children will be required to measure accurately both lengths (including perimeters) e.g. of a window box to ensure enough room for the roots of the plant to grow.When strengthening frames, children should be encouraged to use diagonal struts. This could be used to reinforce children’s understanding of what diagonal means - a diagonal is a line joining any two vertices which are not next to each other on the shape. Children could identify whether the angles in their frame are greater or less than a right angle, including angles created when diagonals are added. Children can answer questions such as:* The right angle at two of the vertices has been

split into two different angles. Which angle isthe greater one?* The right angles at two of the vertices have been

split into two equal angles of what size?When drawing diagrams children should measure accurately. They should be encouraged to use correct mathematical language to describe lines (vertical, horizontal, perpendicular and parallel), angles (right angle, greater than, less than) and shapes appropriate for Year Three. |

|  |
| --- |
| **English** |
| **Key Learning** |
| **Unit** | **Classic Poetry**  | **Mystery / Adventure / Fantasy Stories** | **Explanations** |
| **Outcome** | * Performance of a poem.
* Written responses to poetry.
 | * A mystery, adventure or fantasy story.
 | * An explanation linked with the theme.
 |
| **Possible Duration**  | * 1-2 weeks.
 | * 3-4 weeks.
 | * 2-3 weeks.
 |
| **Key Learning****Reading**  | * Use knowledge of root words to understand meanings of words.
* Use intonation, tone and volume when reading aloud.
* Listen to and discussing a range of poetry.
* Recognise some different forms of poetry e.g. *narrative, free verse.*
* Identify, discuss and collect favourite words and phrases which capture the reader’s interest and imagination.
* Prepare poems to read aloud, showing understanding through intonation, tone, volume and action.
* Discuss their understanding of the text.
* Explain the meaning of unfamiliar words by using the context.
* Draw inferences around characters thoughts, feelings and actions, and justify with evidence from the text.
* Develop and agree on rules for effective discussion.
 | * Use suffixes to understand meanings e.g. *–ation, -ous.*
* Listen to and discuss a range of fiction, poetry, plays, non-fiction.
* Sequence and discuss the main events in stories.
* Retell a range of stories, including less familiar fairy stories, fables and folk tales e.g. *Grimm’s Fairy Tales, Rudyard Kipling Just So Stories.*
* Identify and discuss themes e.g. *good over evil; weak and strong; wise and foolish; mean and generous; rich and poor.*
* Identify, discuss and collect favourite words and phrases which capture the reader’s interest and imagination.
* Discuss their understanding of the text.
* Make predictions based on details stated.
* Raise questions during the reading process to deepen understanding e.g. *I wonder why the character…*
* Draw inferences around characters thoughts, feelings and actions, and justify with evidence from the text.
 | * Use knowledge of root words to understand meanings of words.
* Listen to and discuss a range of explanations.
* Read a range of explanations.
* Analyse and evaluate texts looking at language, structure and presentation.
* Read books and texts for a range of purposes e.g. *enjoyment, research, skills development, reference.*
* Use point and evidence to structure and justify responses.
* Discuss the purpose of paragraphs.
* Identify a key idea in a paragraph.
* Evaluate how specific information is organised within a non-fiction text e.g. *text boxes, sub-headings, contents, bullet points, glossary, diagrams.*
* Navigate texts in print and on screen.
 |
| **Key Learning****Writing**  | * Explore and collect words with prefixes *super, anti, auto*.
* Read and analyse poetry in order to plan and write their own versions.
 | * Explore and identify main and subordinate clauses in complex sentences.
* Use inverted commas to punctuate direct speech (speech marks).
 | * Explore, identify and create complex sentences using a range of conjunctionse.g. *if, while, since, after, before, so, although,* *until.*
 |

|  |
| --- |
| **English** |
| **Key Learning (contd.)** |
|  | * Identify and discuss the purpose, audience, language and structures of poetry for writing.
* Generate and select from vocabulary banks e.g*. noun phrases, powerful verbs, technical language, synonyms for said* appropriate to text type.
* Proofread to check for errors in spelling, grammar and punctuation in own and others’ writing.
* Use appropriate intonation, tone and volume to present their writing to a group or class.
 | * Read and analyse narrative in order to plan and write their own versions.
* Identify and discuss the purpose, audience, language and structures of narrative for writing.
* Discuss and record ideas for planning.
* Create and develop settings for narratives.
* Create and develop plots based on a model.
* Generate and select from vocabulary banks e.g*. noun phrases, powerful verbs, synonyms for said* appropriate to text type.
* Group related material into paragraphs.
 | * Use perfect form of verbs using *have* and *had* to indicate a completed action e.g. *I have washed my hands. We will have eaten our lunch by the time Dad arrives. Jack had watched TV for over two hours!*
* Read and analyse non-fiction in order to plan and write their own versions.
* Identify and discuss the purpose, audience, language and structures of non-fiction for writing.
* Discuss and record ideas for planning.
* Generate and select from vocabulary banks e.g*.* technical languageappropriate to text type.
* Group related material into paragraphs.
* Proofread to check for errors in spelling, grammar and punctuation in own and others’ writing.
 |
| **Suggested Texts**  | * A Child’s Garden of Verses by Robert Louis Stevenson.
* Different versions of The Spider and the Fly by Mary Howitt, such as:
* A print version of the text on the University of California at Berkeley website ([here](https://www.ocf.berkeley.edu/~aathavan/poems/The%20Spider%20and%20The%20Fly%20A%20Fable.htm)).
* A selection of animated versions on YouTube ([here](https://www.youtube.com/watch?v=MoYB7vZZgQs)), ([here](https://www.youtube.com/watch?v=-EJDP6va9uc)) and ([here](https://www.youtube.com/watch?v=ndL_qEIqZ60)).
* iF Poems app - more information on the Apple iTunes store ([here](https://itunes.apple.com/gb/app/if-poems/id474446630?mt=8)). *Please note that this is not a free app.*
 | * The Enchanted Wood by Enid Blyton.
* The Magic Faraway Tree by Enid Blyton.
* The Hidden Forest by Jeannie Baker.
* The Famous Five by Enid Blyton.
* The Secret Seven by Enid Blyton.
* The Thing in the Basement by Michaela Morgan.
* The Mystery Series Collection by Paul Moxham.
* The Matchbox Mysteries by Sally Gardner.
* We Are Not Alone by Paul Cookson – poem to create interest for mystery genre.
 | * Plant by Dorling Kindersley Eyewitness series.
* Talk for Writing Across the Curriculum by Pie Corbett.
* Writing Guides: Explanation Texts by Huw Thomas.
* Explanation on the BBC Bitesize website ([here](http://www.bbc.co.uk/bitesize/ks2/english/writing/explanation/read/1/)).
* How plants spread seeds from the BBC website ([here](http://www.bbc.co.uk/gardening/gardening_with_children/didyouknow_seeds.shtml)).
* Seed dispersal from the BBC Bitesize website ([here](http://www.bbc.co.uk/education/clips/znvfb9q)).
* Seasonal environmental education packs from the Open Air Laboratories website ([here](http://www.opalexplorenature.org/education-packs-seasonal)).
* Fruits, seeds and their dispersal from the Science and Plants for Schools website ([here](http://www.saps.org.uk/primary/teaching-resources/223-fruits-seeds-and-their-dispersal)).
 |

|  |
| --- |
| **English** |
| **Classic Poetry – Creative Learning Opportunities and Outcomes** |
| **Creating interest*** Generate ideas about the insects which can be found in a garden e.g. *worm, spider, fly, wasp, beetle, woodlouse.*
* Introduce a range of verbs e.g. *wriggle, crawl, fly, buzz, scuttle, scurry, wander.* Ensure the children understand the meanings of these words; explore them through movement where necessary.
* Involve the children in switching the tenses of the verbs from present tense to past tense e.g. *wriggle - wriggled; fly - flew; float – floated.*
* Link each insect with a verb to create a simple poem e.g. *the worm wriggled, the wasp buzzed, the beetle scuttled and the fly flew!*
* Experiment with creating different combinations in present and past tense including determiners a / an / the, e.g. *worms wriggle, the worms wriggled; beetles scurry, a beetle scurried; flies fly*, *a fly flew.*
* Model the labelling of the words using the correct terminology e.g. **a** (determiner) **worm** (noun) **wriggled** (verb).
* Remind children of a traditional nursery rhyme such as Mary, Mary, Quite Contrary. Say the words aloud together.
* Explain that this is a nursery rhyme which is ‘traditional’ and has been passed down through generations.
* Explain that this unit focuses on classic poetry which has also been passed down through generations.
 | **Learning outcomes** * Children will be able to generate ideas.
* Children will be able to alter present to past tense verbs.
* Children will be able to select appropriate determiners linked to nouns.
* Children will be able to identify word classes e.g. determiner, noun and verb.
* Children will be able to recite nursery rhymes and/or learn orally.
 |
| **Reading** **Grammar:** Warm ups throughout the reading phase – use knowledge of root words to understand meanings of words.**Reading and responding** * Through shared reading, explore a traditional poem.
* View and listen to performances of the same poem, for example, The Spider and the Fly on YouTube ([here](https://www.youtube.com/watch?v=MoYB7vZZgQs)), ([here](https://www.youtube.com/watch?v=-EJDP6va9uc)) and ([here](https://www.youtube.com/watch?v=ndL_qEIqZ60)) or on the iF poems app.
* Generate, discuss and agree on rules for effective discussion. Create prompts and display to support children in taking part in group discussion.
* Use book talk to explore and evaluate each version, supporting the children in expressing and justifying their preferences. Capture ideas through short writing opportunities e.g. a poetry review of each version with likes, dislikes, recommendations (with reasons) and star ratings.
* Model reading part of the poem and encourage children to join in using their voices effectively with intonation, tone and volume. Continue reading the poem as a class or independently with a partner if appropriate.
* Ask children to identify words and phrases which interest them. Capture these on strips of card. Ask the children to stand up and pair up, swapping ideas and saying why the language interests them.
* Focus on new vocabulary collected, discussing words and phrases which need clarification.
* Create cards with words/phrases and separate definition cards for children to match in pairs or use active learning to find a partner e.g. *parlour – a room for entertaining guests; in vain – without success.*
 | **Learning outcomes** * Children will be able to discuss and explain a range of words based on a root word.
* Children will be able to listen to, view and read a poem.
* Children will be able to evaluate poems presented in different forms and justify preferences.
* Children will be able to read poems using intonation, tone and volume.
* Children will be able to identify vocabulary which interests them.
* Children will be able to match vocabulary with definitions.
* Children will be able to use the context to determine meanings of new vocabulary.
* Children will be able to read poetry and use images or text maps to summarise the content of verses.
 |
| **English** |
| **Classic Poetry – Creative Learning Opportunities and Outcomes (contd.)** |
| * Return to the poem to determine meanings through reading the words and phrases in context. Children could spot, highlight and write their own definition as a short writing opportunity.
* Model reading a verse, illustrating with key images and vocabulary to summarise the content before children continue reading and illustrating this, and/or other poems.
* To explore the poem further, use a drama technique such as freeze frame to create a tableau for each verse. As the teacher reads each verse of the poem, the children ‘come to life’ in role.
* Model the use of ‘think and feel’ bubbles to record inferences. Respond orally in role, before writing. Following the teacher’s model, the children repeat the process for other sections of the poem.

**Reading and analysing** * Examine the structure of the verses, identifying and highlighting lines of the poem which rhyme. Ask questions about the structure of the poem: *Do you hear any repeating patterns in this poem*? *Can you predict what word the poet might have used here?*
* Create a text map of the poem to support learning by heart.Use drawings, key vocabulary, and arrows to sequence the ideas or events.
 | * Children will be able to use drama techniques to explore characters.
* Children will be able to respond in role orally, and in writing.
* Children will be able to analyse the structure of a poem.
* Children will be able to create a poetry map with key vocabulary, images and actions.
 |
| **Gathering content** **Grammar:** Warm ups throughout the gathering content phase -focus on exploring and collecting words with prefixes *super-, anti-, auto-*.* Model how to prepare a poem for reading aloud to an audience e.g. allocating verses, highlighting lines, words or punctuation. Children work in groups to prepare a reading of the poem (or a section of it).
* Use the poetry text map created to support the learning of the poem.
* Provide opportunities for children to rehearse several times and develop with props, images and/or actions in readiness for performance.
 | **Learning outcomes*** Children will be able to use prefixes to establish meanings of words.
* Children will be able to learn a poem using a map, props, images and actions.
 |
| **Presentation*** The performance of the poem could take place later within the theme, following the narrative and non-fiction units. This would provide time for children to frequently return to the poem, over time, to rehearse, improve and prepare for a final performance to an audience.
* Select an appropriate audience e.g. whole school, another class, parents, audience away from school or poetry performance competition within school.Alternatively, record using ICT.
 | **Learning outcomes*** Children will be able to practise, improve and prepare a poem for performance.
* Children will be able to perform a poem to an audience.
 |
| **Outcome** * A range of short pieces of writing linked to the poem.
* A whole class or group performance of the poem.
 |

|  |
| --- |
| **English** |
| **Mystery / Adventure / Fantasy Stories – Creative Learning Opportunities and Outcomes** |
| **Creating interest*** Introduce a selected word and develop word families from the root word e.g. *lone, alone, lonely, loneliness, lonesome.*
* Use dictionaries to find definitions.
* Explain that, although this is a narrative unit, we will begin by looking at a poem. Share the poem *We Are Not Alone* by Paul Cookson.
* Explore different versions of the poem such as the version on the BBC Bitesize website ([here](http://www.bbc.co.uk/education/clips/zv78q6f)) and on YouTube ([here](https://www.youtube.com/watch?v=EfJLqhNVqHc)).
* Compare the different versions, providing opportunities for children to express and justify their preferences. Ask questions such as: *How did the poem make you feel? What did it remind you of? What do you think was the poet’s purpose?* Capture the children’s ideas through a short writing task such as a poetry review.
* Model reading the same poem again. Ask the children to join in using intonation, tone and volume.
* Ask children to identify words and phrases which interest them and capture these on strips of card. Using these, ask the children to stand up and pair up with others to discuss, swap ideas and say why the language interests them.
* Explain that in this unit, choosing language which will have an impact on the reader is going to be a major focus.
 | **Learning outcomes** * Children will be able to generate vocabulary and collect favourite words and phrases.
* Children will be able to listen, enjoy and respond to a written and oral version of a poem.
* Children will be able to describe the effect of words and phrases.
 |
| **Reading** **Grammar:** Warm ups throughout the reading phase – focus on exploring and identifying main and subordinate clauses in complex sentences.**Reading and responding** * Introduce The Enchanted Wood by listening to the opening section of the audiobook (e.g. up to 02:33) on YouTube ([here](https://www.youtube.com/watch?v=yqM39qymUus)).
* Listen again and, through discussion and questioning, establish the characters and events. Use a grid to focus discussion in groups with children jotting notes, then capture on working wall as a class grid e.g.

|  |  |  |  |
| --- | --- | --- | --- |
| **What characters are in the story?**  | **Where are they and where are they going?** | **What are the children looking forward to?** | **Other details (anything else we know)** |
|  |  |  |  |

* Explore further sections of the early part of the text through reading and/or listening.
* Model focusing on words and phrases which capture interest. Highlight the word or phrase in the text and discuss further e.g*. freckles of sunshine; roughly made beds; warm milk; a whole loaf.*
* Consider words or phrases one at a time. Ask children to discuss them in pairs or small groups to develop understanding and then refer back to the context of the story. Provide further opportunities for children to explore words and phrases in this way independently, and continue vocabulary discussion as necessary during this phase.
* Read to the end of chapter one (some of this may be done away from the English session).
 | **Learning outcomes** * Children will be able to identify main and subordinate clauses in complex sentences.
* Children will be able to listen to a story opening and use book talk to establish characters and events.
* Children will be able to identify words and phrases which capture interest.
* Children will be able to discuss words and phrases in context of a text.
* Children will be able to predict and generate ideas about characters and events from evidence in the text.
* Children will be able to use drama to develop understanding of characters and events.
* Children will be able to write in role as a character e.g. diary or eyewitness account.
* Children will be able to discuss themes using appropriate vocabulary.
 |

|  |
| --- |
| **English** |
| **Mystery / Adventure / Fantasy Stories – Creative Learning Opportunities and Outcomes (contd.)** |
| * Focus on the final paragraph e.g. *At bedtime, all three stood by the window, looking out on the dark, whispering wood … What would they find in the Enchanted Wood?*
* Ask the children to make simple predictions about what might be in the wood.
* Introduce an evidence bag with quotes on from the text e.g. *whispering trees; trees which were darker green than normal; brown stream that chattered to itself; leaves rustling in a different way.*
* Use evidence from the text to make further predictions and capture as a short writing opportunity.
* Read chapter two (some of this may be done away from the English session).
* In role as one of the characters, each child describes the events as if they are an eyewitness. They should begin their descriptions with the phrase ‘I can see …’ Model writing in role as a character following the drama e.g. *diary entry or letter to a friend to retell events.*
* Explore characters by using a zone of relevance activity. Model how to select vocabulary linked to different characters e.g. *good, evil, weak, strong, wise, foolish, kind, mean, friendly, unfriendly etc.* Justify opinions by using a speaking into writing frame e.g*. I think the elves are kind because ... I think the robber is foolish because …*
* Read chapter three (some of this may be done away from the English session).
* Model raising questions about the text read so far using a question hand with *who, what, where, when, why and how*, before children raise their own questions.
* In small groups, children ask and answer their questions, and summarise using knowledge of the text so far, by taking it in turns to sit in the storyteller’s chair.
* Provide an opportunity for children to sequence the events and retell the story orally and in writing. Create a story map to support the process. This can be added to as more of the text is read.
* Explore other key events through shared reading and discussion e.g. meeting the folk in the Faraway Treein chapter four.
* Use drama techniques such as role play, garden fence gossip (role playing the conversations of neighbours over the fence discussing what they’ve seen and heard), and hot seating to draw inferences around characters thoughts, feeling and actions and justify with evidence from the text.
* Use a range of short writing opportunities to capture responses in role which draw on evidence from the text e.g. *retelling aspects of the story in the first person; diary entries; letters in role.*
* Continue reading the text or listening to an audio version alongside the unit. The audio version of The Magic Faraway Tree, which is the sequel to this book, can be found on YouTube ([here](https://www.youtube.com/watch?v=WJxaPjd2KWA)).

**Reading and analysing*** Analyse a section of the text in which several characters speak. Identify each character’s speech and highlight in different colours. Pose questions such as: *Which character speaks the most?* *How can we tell who is speaking? How can we tell which words they actually say? Can we tell how a character feels from what they say?*
 | * Children will be able to raise questions about the plot.
* Children will be able to summarise key points linked to questions about the plot, characters and events.
* Children will be able to sequence events.
* Children will be able to retell the story orally using a story map.
* Children will be able to use drama techniques to draw inferences.
* Children will be able to write in role using inferences which are drawn from the text.
* Children will be able to identify speech within the text.
* Children will be able to identify key features of the text.
 |

|  |
| --- |
| **English** |
| **Mystery / Adventure / Fantasy Stories – Creative Learning Opportunities and Outcomes (contd.)** |
| * Begin to collect alternative words for ‘said’. Challenge the children to find and collect more words to add to this list from their independent reading.
* Discuss the features of the text, e.g. magical characters, fantasy settings, powerful verbs, carefully chosen adjectives. Create a checklist for the working wall.
 |  |
| **Gathering content** **Grammar:** Warm ups throughout the gathering content phase – focus on inverted commas to punctuate direct speech (speech marks).* View a film clip, such as this one of The Enchanted Forest on YouTube ([here](https://www.youtube.com/watch?v=5DaVhL4PQGY)) to provide a stimulus to develop vocabulary for the beginning of a new story.
* Model the annotation of screen shots with nouns, noun phrases and adjectives. Using further screen shots and working in small groups, children generate nouns, noun phrases and adjectives. Where appropriate, discuss how to strengthen language choice, e.g. by selecting a more powerful verb or a more precise noun. Display these on the working wall for use during the writing phase.
* View several short films linked to the text e.g.
* Clips from The Magic of the Faraway Tree DVD.
* The Land of Dame Tickle on YouTube ([here](https://www.youtube.com/watch?v=Lp_wLLsx63Q)).
* The Land of Ice and Snow on YouTube ([here](https://www.youtube.com/watch?v=JTHWnqOSVqc)).
* The Land of Toys on YouTube ([here](https://www.youtube.com/watch?v=Ou1d1rZIobc)).
* Select one film to use and model chunking the plot e.g.

|  |  |
| --- | --- |
| **The Land of Dame Tickle**  | **Innovation** |
| Characters at the top of the tree. |  |
| Tock goes missing.  |  |
| Characters go to find Tock. |  |
| Meet shopkeeper Dame Tickle. She demands 50 gold pieces to tell where Tock is. |  |
| Meet crossing patrol Dame Tickle. She demands 25 gold pieces to cross the road.  |  |
| Meet teacher Dame Tickle in school. |  |
| Teacher Dame Tickle threatens and brings out the Big Pink Tickling Feather and tickles children. |  |
| Joe gets hold of the feather and tickles Dame Tickle. |  |
| Tock falls out of the cupboard.  |  |
| Children and Tock return back to the Faraway Tree. |  |

 | **Learning outcomes*** Children will be able to punctuate direct speech with inverted commas.
* Children will be able to generate vocabulary e.g. nouns, adjectives and noun phrases.
* Children will be able to view short films and discuss key events.
* Children will be able to chunk a plot after viewing a film.
* Children will be able to develop characters for a new story.
* Children will be able to develop dialogue for new characters.
* Children will be able to plan and sequence events for a new plot.
 |

|  |
| --- |
| **English** |
| **Mystery / Adventure / Fantasy Stories – Creative Learning Opportunities and Outcomes (contd.)** |
| * Model developing new characters for a new story based on the film and plot pattern above.
* Provide a range of ideas for children to choose from; use characters from text and films read and viewed for inspiration, or create own.
* Working in small groups, children further develop characters. They should record their ideas by making notes on large sheets of paper, or on fabric with washable pens. Display these on the working wall.
* Using the whole class planner, innovate on the story, plotting new characters and events.
* Use first lines drama to develop dialogue between new characters; this involves providing children with their first line of dialogue in role as characters then asking them to continue the exchange through improvisation.
* Follow up by using shared writing to capture sections of dialogue with inverted commas. Children follow modelling to write their own sections of dialogue in pairs after rehearsing drama again.
* Model talking the plot and ideas through as a class to firm up the plan before the writing phase. Add or edit details as appropriate.
 |  |
| **Writing** * Use shared writing techniques to model a paragraph or section at a time referring to each section of the plan. Focus on skills – using clauses in complex sentences and inverted commas for dialogue.
* Refer to the language banks created around the screen shots during the gathering content phase.
* Use AFL, marking and feedback to adjust shared writing focus daily.
* Model proofreading to check and improve spelling, grammar and punctuation, before children proofread their own and other’s writing.
 | **Learning outcomes*** Children will be able to write a narrative based on a plan using:
* complex sentences with main and subordinate clauses.
* inverted commas for dialogue.
* paragraphs.
 |
| **Outcome** * Story based on the text read or short film viewed.
 |
| **Presentation** * Create a class anthology of stories. Share the stories with peers in pairs or small groups.
 |

|  |
| --- |
| **English** |
| **Explanations – Creative Learning Opportunities and Outcomes** |
| **Creating interest*** Set up the purpose for the unit.
* Explain that *The Garden Growers w*ebsite has contacted the school to challenge the class to create a large explanation poster and/or a short film on how seeds are dispersed for children in KS1.
* Engage children in a whole class discussion to establish:
* *What do we need to do?*
* *What do we need to learn about?*
* *How will we proceed?*
* After discussion in pairs, groups and then whole class, create a whole class plan for ways forward with notes and ideas to show the ‘big picture’ of the unit.
 | **Learning outcomes** * Children will be able to identify and plan for a specific purpose and audience.
 |
| **Reading** **Grammar:** Warmups throughout the reading phase – focus on creating complex sentences using a range of conjunctionse.g. *if, while, after, before, so, although,* *until. (*All conjunctions will need to have been taught prior to this unit in order to incorporate the full range).**Reading and responding** * Read, view and listen to range of explanations linked to science learning opportunities within this theme e.g.

Plant by Dorling Kindersley – Eyewitness series.* Model reading a section at a time, noting key information on a flipchart. Discuss the meaning of any unfamiliar vocabulary.
* Visit the school library to look for texts linked to the theme for children to read and enjoy in pairs, or as a class.
* Use books found to model navigating texts for information linked to key questions posed.
* Use a true/false quiz linked to texts as a class. Ask children to create their own true/false quiz in pairs to challenge others.
* Provide the children with sections of explanation texts. Ask them to read these and sequence.
* After modelling, ask children to role play their text using speech and actions to create a group drama of the explanation. Repeat with a different explanation text if desired
* Focus on conjunctions explored in the grammar warm ups which are used to show cause and effect e.g. *if, so, although, because.*
* Also explore adverbs and adverbials which link to time (sometimes known as time connectives). They give the reader more information about when the events occur, e.g. *first of all; following this; later on; before the …; after; while the …; since …*
* Model incorporating the adverbials and conjunctions in a demonstration and allow opportunity for oral rehearsal, using
 | **Learning outcomes** * Children will be able to create complex sentences using a range of conjunctions.
* Children will be able to listen and read explanation texts.
* Children will be able to locate explanation texts from a library or selection of books provided.
* Children will be able to identify the key points.
* Children will be able to navigate and find information in a range of explanations from key questions posed.
* Children will be able to identify true and false statements after reading an explanation.
* Children will be able to create true and false statements.
* Children will be able to identify sequence within an explanation.
* Children will be able to role play key points after reading and participate in group drama.
* Children will be able to read an explanation text and role play.
* Children will be able to use conjunctions in an
 |
| **English** |
| **Explanations – Creative Learning Opportunities and Outcomes (contd.)** |
| them within a speaking frame.* Perform the demonstrations and capture or record these using ICT. When playing them back to the children, ask them to listen out for conjunctions and adverbials, putting their thumbs up if they hear them.

**Reading and analysing** * Model evaluating how specific information is organised within an explanation text by boxing up and highlighting key features.
* Children explore explanations in pairs or small groups, identifying the structural features e.g. *text boxes, flow chart, sub-headings, bullet points, glossary, diagrams.*
* Focus on each paragraph or section and how they are organised. Explain that the text is organised in this way to assist the reader.
* Explore the key features of explanations and create a class checklist. The BBC Bitesize website ([here](http://www.bbc.co.uk/bitesize/ks2/english/writing/explanation/read/1/)) has useful information on the features of explanation texts.
* Model ‘boxing up’ an explanation text by drawing boxes around each section and labelling. This can be used as a planning frame for writing.
 | oral explanation. * Children will be able to use adverbials in an oral explanation.
* Children will be able to identify how information is organised within an explanation.
* Children will be able to identify the key features of an explanation.
 |
| **Gathering content** **Grammar:** Warm ups throughout the gathering content phase – focus on the use perfect form of verbs to indicate a completed action.* Return to the purpose for planning and writing, the request from *The Garden Growers* website.
* Explore the BBC website ([here](http://www.bbc.co.uk/gardening/gardening_with_children/didyouknow_seeds.shtml)) for information on how plants spread seeds.
* Provide each group with a different card to read. Each card should name and describe a different method of seed dispersal with definition e.g. *gravity, wind, hooks, animals, pepper pot, exploding or floating.*
* Challenge each group to create a role play or drama representation of their focus to present to the class.
* Following the role play, pose ‘how’ questions about how seeds are spread.
* Depending on the way the question is phrased, responses can be given in role or presented as factual statements e.g.
* *Gravity: How do you spread seeds?* or *How does gravity spread seeds?*
* *Wind: How do you spread seeds?* or *How does the wind spread seeds?*
* Read and view further information on how seeds are dispersed to gather ideas as whole class and in groups. Information texts can be found on the following websites:
* Seed dispersal from the BBC Bitesize website ([here](http://www.bbc.co.uk/education/clips/znvfb9q)).
* Seasonal environmental education packs from the Open Air Laboratories website ([here](http://www.opalexplorenature.org/education-packs-seasonal)).
* Fruits, seeds and their dispersal from the Science and Plants for Schools website ([here](http://www.saps.org.uk/primary/teaching-resources/223-fruits-seeds-and-their-dispersal)).
 | **Learning outcomes*** Children will be able to use perfect form of verbs e.g. *have and had* appropriately.
* Children will be able to research ideas from a range of sources.
* Children will be able to allocate information found into specific sections of an explanation text planner.
* Children will be able to develop their own ideas and place notes on a planner.
* Children will be able to orally rehearse a new explanation using conjunctions and fronted adverbials for when.
* Children will be able to give and receive feedback, and act upon it.
 |

|  |
| --- |
| **English** |
| **Explanations – Creative Learning Opportunities and Outcomes (contd.)** |
| * Write information on sticky notes and display these on the working wall.
* Use the boxed up planner created in the reading phase and model placing the sticky notes in the appropriate sections in order to group the information.
* Within each section, discuss the sequencing of information.
* Provide time for children to develop their own planners in pairs or groups using notes and images. Include conjunctions and adverbials for *when*.
* Model oral rehearsal of the new explanation, before children develop in pairs or groups.
* Support the children in evaluating the oral presentations, modelling ways to suggest improvements. Provide opportunities for children to evaluate oral presentations and act on suggestions to make improvements.
 |  |
|  **Writing** * Use shared writing techniques to model a paragraph or section at a time referring to each section of the plan. Focus on skills – using conjunctions, e.g. *if, so, although, because*, *until* and perfect form of verbs, e.g. *have/had.* Model the use of fronted adverbials to vary sentence openers.
* Provide a bank of paragraph and sentence openings for children to select from e.g. *adverbials for when.*
* Use AFL, marking and feedback to adjust shared writing focus daily.
* Model proofreading to check and improve spelling, grammar and punctuation.
* Explain that the written explanation will now be used to create a short film. Model the presentation of a short section of the class explanation, asking the children to comment on expression, intonation and gesture.
* Provide opportunity for children to practise performing their explanations before using ICT to record.
 | **Learning outcomes*** Children will be able to write an explanation text based on a plan using:
* conjunctions e.g. *if, so, although, because, until.*
* perfect form of verbs e.g. have/had.
* paragraphs/sections with key ideas.
* text type features of explanation.
 |
| **Outcome** * Explanation text presented as a poster.
* A short explanation film.
 |
| **Presentation** * Display of explanation posters.
* Share explanation films with KS1 classes or upload to the school website for parents to view at home.
 |