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| **Theme Overview** |
| **Lead Subjects** | **Additional Subjects** | **English** |
| * History
* Geography
* Art and Design
 | * Computing
* Mathematics
* English
 | * Fairy Tales
* Classic Narrative Poetry
* Recount: Newspapers
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| **Visits** | **Visitors** | **Experiences** | **Events** |
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| **Getting Started…** |
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| **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
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| **History** |
| **Key Learning** |
| **Chronology**Show their increasing knowledge and understanding of the past by:* Making *some* links between and across periods, such as the differences between clothes, food, buildings or transport.
* Identifying where some periods studied fit into a chronological framework by noting connections, trends and contrasts over time.

**Events, People and Changes**Be able to describe some of the main events, people and periods they have studied by:* Understanding some significant aspects of history, e.g. *how the Great Plague of 1665 affected London and beyond.*

**Communication*** Construct informed responses that involve thoughtful selection and organisation of relevant historical information.
* When doing this they should use specialist terms, e.g. *Bills of mortality, plague pits* and vocabulary linked to chronology.
* Produce structured work that makes some connections, draws some contrasts, frame historically-valid questions involving thoughtful selection and organisation of relevant historical information using appropriate dates and terms.

**Enquiry, Interpretation and Using Sources*** Understand some of the methods of historical enquiry, and how evidence is used sources to make detailed observations, finding answers to questions about the past.
* Use some sources to start devising historically valid questions about change, cause and significance e.g. *of the Great Plague*.
* Understand some of the methods of historical enquiry, how evidence is used to make historical claims.
* Use sources as a basis for research from which they will begin to use information as evidence to test hypotheses e.g. *whether the uniform of a plague doctor would work as protection from the disease.*
* Identify some of the different ways in which the past can be represented, and that different versions of the past such as an event *may* exist *(artist’s pictures, museum displays, written sources).*
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| **History** |
| **Creative Learning Opportunities and Outcomes** |
| What was London like in the time before the Great Fire of London in 1666? What other sources can we use to imagine what London might have been like?What was the plague and why was it a problem? Why did plague spread so quickly?What help was available? | Recap the events of the fire, and reasons that it spread so quickly.Examine Visscher's 1616 map ([here](http://www.peterberthoud.co.uk/wp-content/uploads/2012/09/Vesscher-Panorama-1-001.jpg)) of the Thames and London. Describe the details and list interesting features. How many churches can be seen? What might this suggest about the importance of religion in Stuart England? The Telegraph website ([here](http://www.telegraph.co.uk/travel/destinations/europe/uk/london/10404898/3D-animation-see-London-as-it-looked-before-the-Great-Fire.html)) has a 3D animation which recreates what London may have looked like before the Great Fire. Using the nursery rhyme below, explain what the elements represent.***Ring-a-ring o’ roses, A pocket full of posies, A-tishoo! A-tishoo! We all fall down.***Ring-a-ring o' roses – the rash that was an alleged symptom of the plague.A pocket full of posies – posies of herbs were carried as protection and to stave off the smell of the disease.A-tishoo! A-tishoo! – sneezing or coughing was a final fatal symptom of the plague.We all fall down – death.Using source pictures and the story of the Great Fire of London, describe the cramped and dirty living conditions for the majority of the London population. The rats carried the disease by having infected fleas in their fur. What do we know about the preferred habitat of these animals? What might this suggest about the sanitary conditions?Plague doctors were familiar sights, particularly as many legitimate doctors fled at the first sight of plague as they knew it was hopeless.  Being a plague doctor was a badly paid and terribly unpleasant job and not one for people who wanted a long life. Surprisingly they did wear clothing that offered some protection.  Waxed leather coats covered their body which would have been vaguely effective at protecting them against flea bites.  They also wore an unusual bird mask which had sweet-smelling materials in the beak.  This may have been just to mask the awful smell but also may have protected the wearer from airborne disease.  Birds were also thought to be connected with the plague and it was hoped the disease would leave the sick to enter the bird.  Plague doctors would also carry sticks to prod patients and dead bodies. Use the picture of the plague doctor ([here](http://en.wikipedia.org/wiki/File%3APaul_F%C3%BCrst%2C_Der_Doctor_Schnabel_von_Rom_%28Holl%C3%A4nder_version%29.png)) and suggest why they were nicknamed 'quacks'? Look at the source and describe the uniform.  |

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| **History** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| How did people cope with being incarcerated with dying relatives and friends?What were the plague pits and why were they necessary?How do we know about the London Great Plague victims?How many did it kill? | Use the book 'My story: A London Girl's diary 1665-1666 The Great Plague' by Pamela Oldfield. How did Alice survive in her house? What did she need to have before she could leave the city and go to Woolwich? Although this is fiction, what similarities are there between this and the factual source account ([here](http://www.pepys.info/1665/plague.html)) from Samuel Pepys? Where did he intend to go? Are there any differences in the way Samuel and Alice were treated, and why might that be? Discuss what is happening in the pictures from the National Archives website ([here](http://www.nationalarchives.gov.uk/wp-content/uploads/2014/03/the-plague_image-musuem-of-london.jpg)). How might the children feel if the cross was painted on their house door (picture 2)? What might happen to them? Imagine they had been recruited to help collect the dead and dispose of the corpses in plague pits. How would they get bodies from upstairs windows (the doors would be probably nailed shut) and transport and bury them?Examine the London Mortality Bill of 19-26 September 1665 from the Museum of London website ([here](http://web.museumoflondon.org.uk/picturebank/#!SearchResults;query=Mortality/!Asset;oid=object-119092)). These bills were the lists of people who had died in London each week, and their cause of death. Identify how many died from the plague and research some of the other causes of death. Some of them, such as spotted fever, might well have been the plague too. In total, the mortality bills show that 68,956 died of the plague, but the real number is thought to be closer to 100,000. *Below are some of the causes of death and what they are better known as today (be aware of any that might prove sensitive).* Ensure that children are aware that advances in modern medicine mean that diseases that were fatal in the 17th Century can be cured or treated nowadays.

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| **Gout:** Inflammation due to build-up of uric acid in tissue | **Consumption:** Tuberculosis |
| **Jaw Faln:** Lockjaw, also known as tetanus | **Impostume:** A cyst or abscess |
| **Lethargy:** Sleeping sickness (possibly encephalitis) | **Itch:** Scabies |
| **Rising of the lights**: 'Lights' is another word for lungs  | **Meagrom:** Severe headache |
| **Tissick:** Tuberculosis (also known as consumption) | **Stone:** Gall stone |
| **King's Evil:** Tuberculosis of neck (scrofula) | **Strangury:** Urinary disease |
| **Surfet:** Vomiting from over-eating | **Tympany:** Tumour |

If children are to research differences in medical practice between the two periods, consider focusing on dental ailments rather than the list above as research materials are more likely to be age appropriate. |

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| **History** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| Did the plague spread outside of London? What happened at Eyam?Does the plague still exist today? | Find the location of London and Eyam in Derbyshire on a map. Measure the distance between, and work out how long it might have taken a trader to travel there by foot on the poorly made roads. Using the Eyam Museum website ([here](http://www.eyam-museum.org.uk/our-story)) discuss the sacrifice of the people that lived and died in the village. How did they prevent the spread of disease? Use the museum website sources ([here](http://www.eyam-museum.org.uk/resources)) to answer questions about the plague in the village.Using the drama techniques such as ‘Meetings’ and ‘Conscience Alley’ explained in the document ([here](http://www.lancsngfl.ac.uk/nationalstrategy/literacy/index.php?category_id=607)), explore the perspectives of people living in Eyam. Consider both sides of the discussion for quarantining the village and the impact on the lives of individuals. Once the plague was over, the population of London recovered surprisingly quickly. New people came to London to take over jobs left vacant by those who had died. There was a sudden rise in the number of marriages and births. The plague lingered until the last reported case in 1679. The Great Fire of London in 1666 destroyed much of the squalid conditions that the rats liked to live in.The plague still exists today in countries like India and Madagascar, but is affects fewer people than in 1665. |

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| **Geography** |
| **Key Learning** |
| **Locational Knowledge*** Name and locate counties and cities of the United Kingdom *(relevant to your location and to this theme).*

**Human and Physical Geography*** Describe and understand key aspects of **human** geography including types of land use.

**Mapping*** Use a wider range of maps (including digital), and atlases to locate features studied.
* Use maps and diagrams from a range of publications *e.g. recycling/waste site maps and plans from the local Council website.*
* Use maps at more than one scale.
* Recognise that larger scale maps cover less area.
* Recognise patterns on maps and begin to explain what they show.
* Use 4 figure coordinates to locate features on maps.
* Use plan views.
* Recognise some standard OS symbols.
* Link features on maps to photos and aerial views.

**Fieldwork*** Observe, measure and record the human and physical features in the local area using a range of methods including cameras and other digital devices.

**Enquiry and Investigation*** Ask more searching questions including, ‘how?’ and, ‘why? as well as, ‘where?’ and ‘what?’ when investigating places and processes.

**Communication*** Identify and describe geographical features, processes (changes), and patterns.
* Use geographical language relating to the physical and human processes.
* Communicate geographical information through a range of methods including graphs and presentations.
* Express opinions and personal views about what they like and don’t like about specific geographical features and situations.

**Use of ICT/Technology*** Use the zoom facility on digital maps to locate places at different scales.
* Add a range of text and annotations to digital maps to explain features and places.
* View a range of satellite images.
* Add photos to digital maps.
* Use spreadsheets, tables and charts to collect and display geographical data.
* Make use of geography in the news – online reports and websites.
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| **Geography** |
| **Creative Learning Opportunities and Outcomes** |
| **Purpose of the unit**In this unit children will learn about the importance of taking care of the environment. They will consider environments at a range of scales from their classroom to the whole world. It will include issues around litter and waste e.g. damage to the environment; reducing the level of resource use; and reuse, as well as recycling, of resources. Children will recognise how people can adversely affect, as well as improve, the environment. They will begin to identify and explain differing views that people have about topical environmental and geographical issues. **Key questions*** What is meant by ‘environment’?
* What do we like/dislike about our environment (classroom, school, home, town, country, world etc)?
* How much waste/rubbish do we all produce?
* What, exactly, is meant by waste/rubbish? Where does all the rubbish go? How does it get there? What are these places like?
* Could more waste be reused or recycled?
* How could we reduce the amount of rubbish we produce in the first place?
* Why should we reduce the amount of rubbish produced?
* How could we persuade others to reduce the amount of waste they produce?

**Activities / Enquiry*** Calculate the amount of rubbish produced by the class in one week. Save and categorise all rubbish produced (provide suitable containers for each type of rubbish). Keep a running total of rubbish produced each day then weigh, graph, chart and present the findings.
* Ask children to bring in any junk mail sent to their household in a week. What is meant by ‘junk mail’? Categorise different types of mail and present findings. How could this be reduced? What usually happens to junk mail in your house?
* Collect or photograph rubbish/litter in the school grounds. *(Note provide suitable equipment and advise children against picking up certain types of rubbish)*. Where was the most litter found? Children discuss how they feel about rubbish in their environment. Categorise rubbish/litter types. How could the amount of litter be reduced? Repeat the exercise another week and see if improvements have been made.
* Investigate where our household waste goes. How does it get there? As a class discuss issues such as: How often are bins emptied? Does it matter?
* Research local waste disposal and recycling centres through your local council website, such as the Lancashire County Council website ([here](http://new.lancashire.gov.uk/waste-and-recycling.aspx)). What types of waste are recycled in each place?
* Research ‘landfill’ and its effects. Where are these located? Why do some people object to new or expanding landfill sites? Where else could rubbish go? Research other aspects of waste disposal e.g. ‘fly-tipping’ and why people do this.
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| **Geography** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| * View landfill sites, waste centres and recycling centres on aerial or satellite images and compare with large-scale local OS maps such as those on Digimap for Schools ([here](http://digimapforschools.edina.ac.uk/cosmo/home)). Why have they been located in specific places? What other types of land use can be seen nearby? Annotate significant features on the map.
* Investigate local waste recovery facilities such as Global Renewables in Leyland, Lancashire ([here](http://www.globalrenewables.co.uk/education/)) and/or use their resources. They also offer a three stage education programme.
* View images or videos about waste and recycling online, such as 'Recycling – what's the best way to sort waste?' from the BBC Learning Zone ([here](http://www.bbc.co.uk/learningzone/clips/recycling-whats-the-best-way-to-sort-waste/2470.html)) or a video showing recycling collection from the Biffa website ([here](http://www.biffa.co.uk/about-biffa/media-centre/video-content.html)) or the images from the Geographical Association ([here](http://www.geography.org.uk/resources/adifferentview/imagesandactivities/)).
* Research the hypothesis 'We are never more than six feet away from a rat' online. Is it true or is it likely to be an exaggeration? What type of environment does a rat require? Where do most rats live? Investigate what other vermin rubbish might attract if it is not cleared away.
* What other sorts of waste are produced nationally and globally? How do industries/countries try to reduce different types of waste?
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| **Art and Design** |
| **Key Learning** |
| **Exploring and Developing Ideas*** Explore the roles and purposes of artists, craftspeople and designers working in different times and cultures.
* Question and make thoughtful observations about starting points and select ideas to use in their work.

**Drawing** * Experiment with ways in which surface detail can be added to drawings, e.g. *use grades of pencil, biros, charcoal and chalk.*
* 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.
* Experiment with different grades of pencil and other implements to achieve variations in tone.
* Begin to show an awareness of objects having a third dimension.
* Create textures with a wide range of drawing implements, e.g. *use oil and chalk pastel.*

**Painting*** Experiment with different effects and textures including blocking in colour, washes, thickened paint creating textural effects.
* 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.

**Printing*** Create printing blocks using a relief or impressed method.
* Create repeating patterns.
* Print with two colour overlays.

**Evaluating*** Annotate work in journal.
* Compare ideas, methods and approaches in their own and others’ work and say what they think and feel about them.
* Adapt their work according to their views and describe how they might develop it further.
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| **Art and Design** |
| **Creative Learning Opportunities and Outcomes** |
| **Exploring and developing ideas**Linked to the history learning opportunity, explore the use of the image of the skull. This has long been used to represent ideas linked with death, such as decoration on the front cover of the Bills of Mortality. In some places, skulls were collected and displayed in crypts such as Holy Trinity Church in Rothwell. Many artists have been inspired by the image of a skull; Damien Hirst has developed a skull motif in print and in 3-D. Children can discuss the feelings this image evokes and why artists are fascinated by it. Jean Basquait also uses skull imagery and Escher’s intricate drawing ‘Eye with Skull’ is an excellent example of drawing. Extensive drawing will help children manipulate improved images for printmaking. The children’s drawings can be developed into prints using a variety of techniques such as using Quickprint foam. The BBC Learning Zone website illustrates the use of Quickprint foam ([here](http://www.bbc.co.uk/learningzone/clips/7733.html)).**Drawing and painting*** Use photographs of skulls or skeletons (which may be used in science) to make a series of drawings in sketchbooks.
* Use full range of drawing materials; grades of pencils, charcoal and chalk to make careful drawings, smudge to help create 3-D effects.
* Work on a larger scale, perhaps with charcoal and graphite sticks, using skull motif.
* Look at the work of Jean Basquait and experiment bringing vibrant colour into their next drawing of the skull, perhaps with oil pastels.
* Look at Escher’s ‘Eye with Skull’ and draw own eye using mirrors and grades of pencil in sketchbooks, try to include a skull.
* Develop drawings in watercolour.

**Printing*** From drawings develop a simplified printing motif of a skull.
* Draw simplified image onto Quickprint foam using a sharp pencil.
* Plan and discuss ways in which this image could be translated or rotated and repeatedly printed. This may also be an opportunity to reinforce mathematical learning about 90° and 180° turns.
* Plan and discuss colour choices for print or background; perhaps print on monochrome drawing of a church or plague mask etc.
* Use rollers and printing ink to print image repeatedly; make individual and/or group prints.
* Clean inking plate by washing and experiment with two colours or work with a partner using alternate colours. Discuss and plan rotation again.
* When dry, work into print with pastel or watercolours if desired.

**Evaluating*** Use sketchbook 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.
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| **Science** |
| **Key Learning** |
| **Animals – Teeth and Digestion*** Describe the simple functions of the basic parts of the digestive system in humans.
* Identify the different types of teeth in humans and their simple functions.
* Construct and interpret a variety of food chains, identifying producers, predators and prey.
* Describe how teeth and gums have to be cared for in order to keep them healthy.

***Notes and Guidance****Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them understand their special functions.***Pupils Might Work Scientifically*** By comparing the teeth of carnivores and herbivores.
* By suggesting reasons for differences.
* By finding out what damages teeth and how to look after them.
* By drawing and discussing their ideas about the digestive system and comparing them with models or images.
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| **Science** |
| **Creative Learning Opportunities and Outcomes** |
| **Human teeth**This theme is about structure and function but also provides an opportunity to link with keeping teeth and gums healthy.**Wow launch*** Give the children disclosing tablets to chew. These stain plaque on the teeth a different colour. If this is done after lunch, the children can observe where plaque has built up on their teeth. They can then use their toothbrushes brought from home to see how well they clean their teeth and gums and whether they can remove the dye / plaque.

*Before attempting this activity parental permission* ***must*** *be sought. Contact the local dentist or school nurse to find out how disclosing tablets can be obtained.***Research*** Ask an expert. Children could complete a KWL grid for teeth and digestion and then interview a dentist or a dental nurse. Ask them to summarise in bullet points what they have found out during the visit.

**Explore / Observe / First hand experiences*** How many teeth do we have? Is it the same for everyone? Can the children predict how many teeth they have on the top and bottom jaw? Is the number on the top the same as on the bottom? Without sticking fingers in mouths ask the children to look in hand mirrors to find out the different types of teeth they have and their position in the mouth. Dental mirrors can be used if disinfected in between users. Let the children attempt to count their teeth.

**Modelling: Why do we have teeth? What do the teeth do?*** Provide the children with a variety of tools to represent the jobs of different teeth and encourage them to observe and describe the action of each. Suggested tools are tweezers, scissors, forks, plastic building bricks and suggested foods are bananas and plain biscuits. The children should attempt to model the action of eating and chewing the banana and/or the biscuit using the different tools on each; water can be added to represent the saliva in the mouth.
* Which tool best matches the functions of which tooth type – incisor, canine, molar? Can the children decide which teeth are represented by the different tools and observe and describe the action of each? *This activity has been adapted from an idea in the Assessing Pupil Progress Standards Files for Primary Science ‘Manushree Year Three.’*

**Recording*** Label a diagram of the teeth with the different types.
* Annotate with words to describe their different functions which can also be linked to their position in the mouth.
* Use knowledge of what they have learned so far and record in their own words rather than copying from a diagram.
* If children record their thinking and understanding this can be used as an ongoing assessment task.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Caring for our teeth****Sort / Group / Compare / Classify*** How can we care for our teeth and gums? Using the statement cards from the 'Plaque Attack' activity on the SGSTS website ([**here**](https://www.sgsts.org.uk/SupportForVulnerablePupils/EMTAS/Shared%20Documents/Plaque%20Attack.pdf)), ask the children to sort them into the Venn diagram provided, identifying whether they are good for teeth, bad for teeth or whether they cannot decide. This will extend the discussion on how to look after teeth and gums. A visit to the dentist, for example, is important but if you don’t look after your teeth a dentist can’t repair all the damage so other things might be considered more important, such as brushing teeth and gums at least twice a day.

**Explore / Observe / First hand experiences*** To explore the effect of acidic drinks on our teeth, use a fresh, uncooked egg and leave it for several days soaked in vinegar with another egg soaked in water to act as a control. What do the children notice? This can lead to **a fair test practical investigation** using different liquids to soak eggs in, pure fruit juice being a good example.
* Children could also explore soaking eggs first in mouthwash or covering half an egg in toothpaste before placing it in vinegar.
* Sugary drinks are also harmful to our teeth because the bacteria feed on the sugar left on our teeth and excrete an acid. Acidic bacteria faeces is usually enough to encourage children to clean their teeth more often!

**Toothpaste challenge*** Watch the clip on 'Developing a new toothpaste' from the BBC Bitesize website ([**here**](http://www.bbc.co.uk/education/clips/zfr3cdm)).
* Use your internet search engine to locate ‘recipes for making your own toothpaste’ using salt, glycerine, baking powder, peppermint (or equivalent) flavouring and water.

**Practical investigation*** Which toothpaste is the best? Ask children to come up with some ideas for what makes good toothpaste.
* Sort them by which feature is the most important and why? Suggestions usually include: colour, taste, how much it foams and whether it is good at cleaning.
* Can the children design an investigation to test one of these ideas? There could be a class vote on which one to carry out or, to encourage more challenge and independence, groups of children could select their own investigation, with the teacher acting as facilitator.
* Use shop bought toothpaste samples to test, with a variety of brands, flavours and price ranges. As an alternative, the children could bring the toothpaste they use at home.
* **Testing taste**: complete a survey to identify which is the most popular tasting toothpaste.
* **Testing foaming**: mix a standard amount of each toothpaste with a standard amount of water and shake for a standard amount of time. (This is best done in measuring cylinders of the same size). Which ones produce the highest amount of froth?
* **Testing cleaning properties**: rub a standard amount of black shoe polish onto ceramic white tiles and scrub using different toothpastes each time, but with a standard scrubbing technique. Children could use photographs to record the ‘stain’ remaining after a certain time or number of scrubs OR they could count how many scrubs are required to remove the stain completely.
* **Testing colour**: why do the children think that some colours are more suited to toothpaste than others? People love the colour or brown chocolate but would they like brown toothpaste?
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Research*** Hot seat or write to a dental hygienist with questions about caring for your teeth.
* Find out why fluoride is added to toothpaste.
* Find out how teeth were looked after in the past.

**The teeth of other animals****Sort / Group / Compare / Classify*** What are the teeth like of other animals?
* Which is the most important tooth for each of these animals and why? Lion, horse, elephant, panda, human. Children can watch the video clip on types of teeth in different animals from the STEM explained site on YouTube ([**here**](https://www.youtube.com/watch?v=HdOj1-GiEfk)) to help them make their decisions. It is the discussion that this generates rather than an exact answer that is important.
* How does this give us information about what they eat?

**Research*** How are the teeth of carnivores and herbivores similar or different? Why? Compare the teeth of a cow or sheep with the teeth of a tiger or crocodile. What can they find out? Let the children decide the best way to present this information to others.

**Questioning*** Why do you think animals have tooth problems less frequently than humans? What if we didn’t have teeth? What if all teeth were the same shape?

**Research*** How can we help pets or dogs to maintain healthy teeth? Research products on the market or devise an advert for a dog chew tooth care product ensuring the use of scientific vocabulary.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Introducing digestion and the digestive system*** What happens to our food once it enters our mouths?
* What happens in our bodies between eating our food and going to the toilet (from chewing to pooing)?

**Initial assessment*** What happens to our food once inside our body? Give the children an outline of a human body and ask them to draw what happens in between putting food in our mouths and when we go to the toilet? If they draw their ideas individually then this can be used as an assessment of their initial understanding.

**Research*** Shared memory – introducing parts of the digestive system. Tell the children that they are now going to draw the digestive system (what happens to our food after we have eaten it) as a group. Organise the children into groups of four with one child as the artist and the other three as 'describers' and give them an outline of the body. Place a picture of the digestive system *(use a simple digestive system picture showing mouth, oesophagus, stomach, small and large intestine)* somewhere where the class cannot see the image, such as behind a flipchart. The children in each group take it in turns to visit the picture, look at it for twenty seconds then return to the artist and explain what they have seen. The artist tries to draw what the person explains. After a minute, the next person goes to look at the picture and brings back some more information which they again describe to the artist. The children keep taking it in turns until the whole picture is complete. Before starting the task children have to organise their group: who will go first, second, etc? Where will they look? Who will scribe/draw? Who will be the group organiser? Once the children have completed the task, they can have the actual picture back to compare with their group attempt. Can they improve their version in a different coloured pencil (or even have a second attempt at drawing and labelling). This will help to show the learning moving on.
* Jigsawing – Using the groups from the previous activity, ask children to find something out about one of the organs of the digestive system. Children could use books from the school library or appropriate websites such as the University of Manchester site ([**here**](http://www.childrensuniversity.manchester.ac.uk/interactives/science/bodyandmedicine/digestivesystem/)). They have a fixed amount of time to do some research and each person must bring back two facts to add to their group poster. As the group are splitting up and then coming back together, materials for the research can be effectively differentiated. As an extension, the children could also find out how long the average human intestine is and compare the length of this with a person’s height.
* Vocal vocab – practise using the language. As a class, identify all of the key vocabulary learnt so far e.g. *mouth, tongue, saliva, oesophagus, move, muscle, etc.* These may have been collated on a class display linked to the digestive system. Allow children some time to make as many sentences as they can, using the different words. Model some examples as they come up with them so everyone hears the terminology being used correctly. At the end of the session allow five minutes for children to write as many sentences as they can individually. This can then be used for assessment.

**Modelling***(credit to Sue Martin for the following idea)** Create a model of the digestive system from food to faeces. Teacher can demonstrate the method and as children replicate it their aim is to photograph the important parts of the system. These photographs can then be annotated in a follow up lesson with children’s understanding written in their own words and used as an assessment with any misunderstandings addressed.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| * Resources:
* One Weetabix and half a banana to represent the food that is eaten.
* Tools to represent the teeth *(such as those used in the modelling activity in the teeth section of this theme).*
* Small cardboard bowl to represent the mouth.
* Piping bag/greaseproof paper cone to represent the oesophagus.
* Re-sealable sandwich bag to represent the stomach.
* Pop sock to represent the intestine.
* Plastic bag grip/clothes peg which is used to split the ‘intestine’ pop sock into the small and large intestine.
* Large plastic bowl to represent the blood stream.
* Scissors to make valves in the stomach and at the end of the intestine.
* 20ml of water to represent the saliva.
* 20ml of three different colours of water (using green, red, yellow food colouring) to represent different digestive juices.
* Method:
* Use the tools to ‘eat’ and ‘chew’ the cereal and fruit in the disposable cardboard bowl which represents the mouth. This is quite hard to do due to the texture of the food. In the mouth we produce a liquid, saliva, which is the first chemical, or enzyme. This helps to start the breakdown of the food, making it easier to chew and swallow. The children can add some clear liquid/water to their ‘mouth’ to see how it helps to breakdown and begin to change the food.
* ‘Swallow’ the food by tipping it into the greaseproof paper cone. Children think it will fall through the hole in the bottom but in fact it needs squeezing down the tube (oesophagus) to the stomach. The action of muscles moving the food down the oesophagus is known as peristalsis.
* Allow the ‘food’ to enter the re-sealable bag ‘stomach’. Here more digestive juices are added to the partially broken down food to help it break down further. Add the three coloured liquids to the bag and then carefully seal the bag. (In reality these represent the stomach acids, bile and pancreatic juices. These are not all ‘emptied’ in the stomach in the actual digestive system but this is a ‘near enough’ representation for the benefit of learning in lower KS2). Act out the churning of the stomach by squeezing and massaging the bag. The contents will look a little like sick! That is what sick is, partially digested food which has come from the stomach.
* Next, a valve (hole) is made to represent the valve in the bottom of the bag ‘stomach’ where the partially digested food enters the intestines. The intestines are represented by a pop sock (separate the lower part of the sock (large intestine) from the upper part (small intestine) using a bag clip, elastic band or a couple of clothes pegs. The small intestine is the place where nutrients will be absorbed into the bloodstream. Once the children put the food from the stomach into the small intestine they can observe some of the liquid flowing through the sides of the stocking material into the large plastic bowl. This represents nutrients (carbohydrates, proteins and fats) passing through the wall of the small intestine into the bloodstream. Avoid squeezing the pop sock at this stage. Nutrients are now in the blood stream. It is worth pointing out that other chemicals can pass into the bloodstream too – the body does not only select chemicals that are good for it e.g. drugs, alcohol.
* From the small intestine, any undigested food (fibre) passes into the large intestine, where water is reabsorbed into the body. Children can open the clip/band and squeeze the stocking to remove the water and represent its reabsorption. What is left in the small intestine represents poo. Introduce children to the correct term, faeces, and ask the children to expel it from the large intestine by cutting the toe off the stocking and squeezing the waste material out.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Activities*** Digestion Top Trumps: the University of Manchester have created a set of Top Trumps cards linked to digestion which are on their website ([**here**](http://www.ls.manchester.ac.uk/documents/ourcommunity/schools/Olivia%20Cranmer%20-%20Digestive%20organs.pdf)). Some of the language and organs (e.g. pancreas) go beyond the statutory requirements of the 2014 National Curriculum, but could be used to extend learning and provide further information than the above tasks.
* The digestion interactive game for kids on the Interactive Human website ([**here**](http://interactivehuman.blogspot.co.uk/2008/05/digestion-interactive-game-for-kids.html)) has slightly more complicated explanations than those required for lower KS2, but does have a good explanation of absorption, going beyond ‘stomach juices’ to provide a little more detail. It is useful in providing consolidation of the key vocabulary.

**Further resources*** The National Stem Centre website ([**here**](http://www.nationalstemcentre.org.uk/elibrary/list/7130/year-4-animals-including-humans)) has a set of lesson plans, activities and interactive resources which can further support the learning in this theme. The website is free but requires users to register.
* The Children's University of Manchester website ([**here**](http://www.childrensuniversity.manchester.ac.uk/interactives/science/teethandeating/)) has some excellent interactive activities and is introduced by a real scientist who describes the job they do.
* The ‘Sparkling Smile’ resource on the SGSTS website ([**here**](https://www.sgsts.org.uk/SupportForVulnerablePupils/EMTAS/Shared%20Documents/Sparkling%20Smile.pdf)) is a collaborative game to reinforce learning.
* The BBC Bitesize website ([**here**](http://www.bbc.co.uk/education/topics/zcyycdm)) has a variety of short video clips on teeth and digestion which can be found in the Human body section.
* For schools that subscribe to the Primaryupd8 website ([**here**](http://www.primaryupd8.org.uk)), the news article and teaching materials on 'Munching Termites' has been linked to the learning within this theme.

**Real outcome - science webpage*** Produce a science webpage for the school website, or an information booklet, to explain what happens to our food once it enters our mouth: 'From Chewing to Pooing!' It must contain information on:
* The different types of teeth we have.
* The job of the different teeth and their role in eating food.
* Information about baby and adult teeth.
* A section on foods for healthy teeth.
* Information about the tongue and saliva.
* An explanation of the digestive system from food to faeces.
* Advice on the best way to clean teeth and gums.
* Some research and investigations into toothpaste technology.
* The information source must:
* Display information in an attractive way including titles, section headings and relevant images.
* Use scientific vocabulary and terminology and explain the terms to the audience.
* Ensure information is correct and interesting to read.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| **Key questions*** Why do we have teeth?
* What do the teeth do?
* How many teeth do we have? Is it the same for everyone?
* Why do we lose teeth?
* How can we care for our teeth and gums?
* What are the teeth like of other animals?
* How does this give us information about what they eat?
* How are the teeth of carnivores and herbivores similar or different? Why?
* What happens to our food once it enters our mouths?
* What happens in our bodies between eating our food and going to the toilet?

**Key vocabulary*** Eat, chew, breakdown, saliva, swallow, feed, feeding, healthy, unhealthy, function, producer, predator, prey, dentist, toothpaste, dental care, hygienist, teeth, gums, incisor, molar, canine.
* Digestive system, mouth, tongue, oesophagus, stomach, small intestine, large intestine, faeces.
* Words which have different meanings in other contexts, e.g. diet, root, activity, decay, evidence, conclusion.
* Other words which might arise through discussion / research but are not essential, e.g. peristalsis, digestive juices, churn, energy, nutrients, absorbed, blood, liver, bladder, anus.
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| **Science** |
| **Key Learning** |
| * Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
* An adequate and varied diet is beneficial to health (along with a good supply of air and clean water).
* Regular and varied exercise from a variety of different activities is beneficial to health (focus on energy in versus energy out. Include information on making informed choices).

***Notes and Guidance (Non-statutory)****Children should continue to learn about the importance of nutrition.* **Children Might Work Scientifically*** By comparing and contrasting the diets of different animals (including their pets).
* By deciding ways of grouping them according to what they eat.
* By researching different food groups and how they keep us healthy.
* By designing meals based on what they find out.
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| **Science** |
| **Creative Learning Opportunities and Outcomes** |
| Healthy lifestyles in lower KS2 is more about understanding a balanced diet of foods chosen from different food groups and about making healthy choices. The effect of exercise on our bodies is explored in depth in upper KS2. **Real outcome**Plan an outdoor event for another class to inform them about healthy lifestyles. Devise a healthy, balanced picnic for your guests. Provide your guests with information in the form of a display or booklet to inform them about healthy eating. Include information in it about:* The importance of nutrition.
* The different food groups.
* The proportions of the different food groups we should aim to have to be healthy.
* Your research in to healthy recipes for meals for breakfast, lunch and dinner.
* Your research in to the diets of different animals to ensure they remain healthy.

**Research*** Children could add an extra element to their picnic. It must use produce that has accumulated the least amount of food miles. What healthy foods can they source that come from local or British suppliers? Which fruits and vegetables are in season in Britain?

**Sort / Group / Compare / Classify*** Using a Diamond 9 ranking grid, rank the statements such as *eat a varied and balanced diet; never eat sugary foods, get a pet to encourage you to get more exercise, do some kind of exercise every day, try a variety of sports that are fun and keep you active, eat an apple a day, clean your teeth at least twice a day, visit the dentist regularly, only take medicines that are meant for you and given by a responsible adult* and ask them to rank them in order of importance. What do we need to stay healthy? As an extension, children could generate their own statements of varying importance. There are no specific correct answers; rather the learning is the discussion that comes out of the activity.
* Provide the children with pictures of foods from each of the different food groups. Can they sort out which ones we should eat more of in our diets and which ones we should eat in moderation. The Collaborative Learning website ([here](http://www.collaborativelearning.org/food.pdf)) provides lots of colourful pictures about a huge variety of healthy food. The activity provides ideas for sorting activities and a bingo game based on foods being part of different food groups.
* Some useful resources to support the different food groups’ part of this unit are ‘Eating’ ([here](http://www.nationalstemcentre.org.uk/elibrary/resource/1942/eating)) and ‘Check Your Plate ([here](http://www.foodafactoflife.org.uk/Activity.aspx?siteId=15&sectionId=64&contentId=58)) from the National Stem Centre website and The ‘Love Your Lunch’ (**here**) from the Food a Fact for Life website.
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| **Science** |
| **Creative Learning Opportunities and Outcomes (contd.)** |
| As an additional opportunity to enhance learning, or as an alternative to the ideas above, there are some resources on the National Stem Centre website ([here](http://www.nationalstemcentre.org.uk/elibrary/resource/7111/mission-x-train-like-an-astronaut)) which focus on designing a diet for an astronaut including useful resources on the eatwell plate and nutritional labelling on food packaging. These activities include:**Activity 1: Food fit for spaceflight**How can I provide the next team of astronauts with a healthy, varied and nutritionally balanced menu that is appetising, appealing, easy to eat and creates the fewest amount of crumbs whilst in a micro-gravity environment?**Activity 2: Reduced gravity, low-fat**Exploring invisible fat in food and its link to obesity. Children explore astronauts’ diets from the NASA website ([here](http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts131/main/index.html)) and discuss what astronauts on a mission will be eating and whether the fat content is a low or a reduced fat menu.**Activity 3: Energy of an astronaut**Explore the energy required by an astronaut in space and the important role food and nutrition plays in supporting this.**Activity 4: Hydration station**Investigating the importance of maintaining proper hydration levels. This activity also looks at the content of a variety of soft drinks available on the market and the sugar content of each compared to their ability to aid hydration.All resources, including additional lesson ideas are provided at the above weblink.**Key questions*** How do we keep healthy?
* Why is it important to keep healthy?
* What choices can we make for a healthy lifestyle?
* How can we group the type of foods we eat?
* How do the different food groups help to keep us healthy?
* What are the diets of different animal like?
* Can you design a healthy meal/menu?

**Key vocabulary*** Food/feed/feeding, growth, activity, healthy, unhealthy, nutrition, exercise, choice, balanced diet, lifestyle, adequate and varied diet, the right types and amount of nutrients.
* Food groups: vegetables, meat, fish, sugars and starches, fruit, fats etc.
* Words which have different meanings in other contexts: diet, activity, evidence, conclusion etc.
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| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing** | **Data Handling****Skills*** Create frequency diagrams and graphs to answer questions.
* Create and use a branching database to organise and analyse information to answer questions.
* Begin to identify what data should be collected to answer a specific question.
* Collect data and enter it into a database under appropriate field headings.
* Use a database to answer straightforward questions by searching, matching and ordering the contents of a single field.
* Based on the data collected, children should raise their own questions and translate them into search criteria that can be used to find answers to specific questions.
* Compare different charts and graphs, e.g. in tables, frequency diagrams, pictograms, bar charts, databases or spreadsheets and understand that different ones are used for different purposes.
* Select and use the most appropriate method to organise and present data.

**Knowledge and Understanding*** Understand that there are different types of data.
* Understand the need to structure information properly in a database.
* Know, understand and use the vocabulary: file, record, field, sort and search.
* Recognise similarities and differences between ICT and paper-based systems.
* Talk about the advantages of using IT to sort, interrogate and classify information quickly.
 | **Overview**This unit is the main data handling unit for computing in Year Four. There is a further opportunity to revisit data collection and analysis in the second half of the summer term through using tools such as branching databases to support the classification of animals and plants in science. The computing within this unit will link well with the mathematics learning opportunities. The main database work can focus on data from the Great Plague (history) while the branching database activities can link to recycling (geography).**Activities**Once the children have learnt about the different materials that can be recycled, they can use their knowledge to form a branching database. The database will look at sorting the different types of materials that can be recycled. Examples of software that schools often use to support work on branching databases are Flexitree, 2Question, Textease Studio CT and Microsoft PowerPoint. There is an example of a branching database on the CLEO website ([here](http://www.cleo.net.uk/resources/displayframe.php?src=841//files/Bird_Box/branchdb.html)). Linked to the history learning opportunity, there are several good sources of information pertaining to the deaths from the plague that can be used to source the data for this work, for example:* History Learning Site - data for London ([here](http://www.historylearningsite.co.uk/london_deaths_1665.htm)).
* Eyam Museum website ([here](http://www.eyam-museum.org.uk/resources)). The teacher resource pack has a document that contains the deaths per month for 1665 - 1666.
* Children and Youth in History website - Bills of Mortality ([here](http://chnm.gmu.edu/cyh/primary-sources/159)).

Children will have had some experience of using databases from KS1 but much of the key vocabulary (e.g. database, record, sorting, field...) will be new to them and may need to be embedded first. It is also important to discuss the advantages of using IT over paper-based methods and the different types of data that can be used. The key learning provides a structure for the work which needs to link with the mathematics and history elements.  |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing (contd.)** | * Understand that effective yes / no questions are key to organising data efficiently in a branching database.
* Understand that there are different types of data, e.g. numeric, alphabetic, date, alphanumeric.
* Know that ICT can enable the creation of a variety of tables and graphs that are used for different purposes.
* Understand some graphs and charts are more appropriate and easier to read than others.
* Begin to make choices about how to present data to solve a specific problem.

**eSafety****Skills*** Use technology responsibly.
* To create appropriate passwords.
* Keep passwords and personal data safe.
* Recognise acceptable behaviour.
* Recognise unacceptable behaviour.
* Be able to create a ‘secure’ password, e.g. combination of letters, symbols and numbers in accordance with the school’s eSafety policies and procedures /Acceptable Use Policy.
* Know what to do and who to tell if they discover something inappropriate or offensive on a website, at home and in school.
 | Children can then interrogate the data using questions such as:* What type of graph is the most appropriate for representing this data?
* Which month in 1665 was worst for plague deaths in Eyam?
* Which week/month in 1665 was the worst for plague deaths in London?
* What type of graph is the most appropriate one to compare plague deaths in London in different months?
* Is it easy to compare data from Eyam and London graphically? If not why?

For database work such as this, Microsoft Excel, Textease Studio CT and 2Investigate are commonly used.Anti-Bullying week occurs in November. This is a good opportunity to support online safety work on cyberbullying. Work on data also provides an opportunity to look at the storage of data online and copyright.**Resources*** Jigsaw movie on cyberbullying and grooming from the Thinkuknow website ([here](https://www.thinkuknow.co.uk/parents/Primary/Conversation-Starters/Go-to-the-movies/jigsaw/)).
* Information about Cyberbullying from the Thinkuknow website ([here](https://www.thinkuknow.co.uk/parents/Primary/Risks/Cyberbullying/)).
* Sharing personal information (song) from the CBBC website ([here](http://www.bbc.co.uk/cbbc/clips/p014pfyk)).
* Microsoft Password checker ([here](https://www.microsoft.com/es-xl/security/pc-security/password-checker.aspx)).
* Password security information from the Get Safe Online website ([here](https://www.getsafeonline.org/protecting-yourself/passwords/)).
* Password Rap from the Netsmartz website ([here](http://www.netsmartz.org/netsmartzkids/passwordrap)).
* School Acceptable Use Policy.
* The SMART Crew ‘Chapter 5: Be careful when meeting up’ from the Childnet website ([here](http://www.childnet.com/resources/the-adventures-of-kara-winston-and-the-smart-crew/chapter5)).
* ‘Beware of Computer Hackers!’ clip from the BBC Learning Zone website ([here](http://www.bbc.co.uk/learningzone/clips/beware-of-computer-hackers-e-safety/9456.html)).

Online safety work provides an opportunity to use IT to review pupil learning. Possible ways to review the learning are to create leaflets, presentations, films, animations, songs, raps or posters. |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Computing (contd.)** | **Knowledge and Understanding*** Know how to use technology responsibly.
* Understand the need to keep personal information and passwords private in order to protect themselves when communicating online.
* Know how to respond if asked for personal details or in the event of receiving unpleasant communications, e.g. saving the message and showing to a trusted adult – according to the school’s eSafety policies and procedures / Acceptable Use Policy.
* Understand the risks posed by the internet relating to contact e.g. bullying, grooming.
* Know a range of ways to report concerns about contact.
* Understand what acceptable online behaviour is.
* Recognise that cyber bullying is unacceptable and will be sanctioned according to the school’s eSafety policies and procedures / Acceptable Use Policy.
* Know how to report an incident of cyber bullying if and when it occurs, according to the school’s eSafety policies and procedures / Acceptable Use Policy.
* Understand the risks involved in arranging to meet and subsequently meeting anybody from the online world in the offline world.
* Understand the need for certain rules of conduct particularly when using live forms of communication, e.g. chats and forums in the school’s VLE, taking turns to speak when video conferencing.
* Know the school’s rules for keeping safe online and be able to apply these beyond school.
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| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Mathematics**  | **Geometry – Position and Direction*** Describe positions on a 2-D grid as coordinates in the first quadrant.

**Geometry – Position and Direction*** Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.
* Use place value, known and derived facts to multiply mentally.
* Multiply two-digit and three-digit numbers by a one digit number using formal written layout.
* Choose an appropriate strategy to solve a calculation based upon the numbers involved.
 | Linked to the history learning opportunity, look at the map of London from 1593 ([here](http://freepages.genealogy.rootsweb.ancestry.com/~genmaps/genfiles/COU_files/ENG/LON/Norden_london_1593.htm)) which was prior to the Great Fire of London. Use the key at the bottom to find the places that are numbered. Can you find them all? Why is it difficult? What would make it easier? Map makers use a system of vertical and horizontal lines on a numbered grid. By using these numbers, or coordinates, we can identify places more easily.Sequences can be explored through thinking about how disease was spread through the rat population and also the human population. Bubonic plague was spread by fleas carried in the fur of rats. If one rat carrying the disease came into contact with another rat, there would be two rats carrying the disease. If these two rats each came into contact with another rat, then there would be four rats carrying the disease. If this continued, what sequence would be created? *1 rat, 2 rats, 4 rats, 8 rats, 16 rats, 32 rats etc.* which is a doubling sequence. Would this be realistic? No because rats live together in large numbers so the disease would have spread amongst the rats much more quickly. Investigate the sequence that would arise if one rat came into contact with two other rats, and each subsequent rat came into contact with another two rats: *1 rat, 3 rats, 9 rats, 27 rats, 81 rats etc.* which is a trebling sequence.Other sequences could be investigated in which rats come into contact with a different number of other rats. This would lead to children using multiplication to calculate the next number in the sequence. The early terms of the sequence may require a mental strategy, whereas later on in the sequence a written method may be more appropriate. Children should make decisions at each stage of the sequence as to the most efficient method to calculate the next number. For example, after 81 rats in the trebling sequence, children may use a mental method of partitioning the 81 into 80 and 1, multiplying each part by 3 (using place value and known facts, 8 x 3 = 24 so 80 x 3 = 240) then recombining the answers to give 243 rats. At this stage, a child may choose to employ grid method of multiplication to work out 243 x 3. |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Mathematics (contd.)** | **Statistics*** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
* Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
 | Look at a sample page ([here](http://chnm.gmu.edu/cyh/primary-sources/159)) from London’s Bill of Mortality for 1664-65. How could the information about how people died in that week be presented as a graph? What difficulties are there in presenting the information as a bar chart? *There are lots of different causes of death. The numbers for each cause are relatively small except for plague which is exceptionally high. The scale of the graph would be difficult to create.*One possible way to present the data would be to compare deaths from plague to all other causes – just two bars on the graph. Children would have to calculate the total of all the other causes of death, either by adding them together or using knowledge of inverse operations and the information near the bottom of the page.Information from the History Learning Site ([here](http://www.historylearningsite.co.uk/london_deaths_1665.htm)) could be narrowed down and presented as a graph to demonstrate how the death toll rose quickly and then began to decrease. Children could explore potential reasons why. When presenting information as a graph, children would use bar charts or line/time graphs to identify the trend in the rise and fall of the plague. The numbers within the data and the subsequent scale of the graph are typical of the Year Four expectations for number and place value.The Eyam Museum website ([here](http://www.eyam-museum.org.uk/resources)) contains a teachers’ pack of resources, one of which is the Plague Victims in Chronological Order. Information on the first page only could be interrogated and used to create graphs, but also to try and spot patterns in the information, particularly of surnames. This could then lead to children suggesting how the plague affected individual families. Predictions could be made regarding the number of victims each month from April 1666 to December 1666. Linked to the geography learning opportunities children can select an appropriate graphical method to present the information about the rubbish/waste produced each day and interpret the findings. |
| **Additional Curriculum Links** |
| **Subject** | **Key Learning** | **Creative Learning Opportunities and Outcomes** |
| **Mathematics (contd.)** | * Use a variety of sorting diagrams to compare and classify (numbers and geometric shapes based on their properties and sizes)

**Number – Addition and Subtraction; Multiplication and Division*** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method.
* Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.
* Add and subtract numbers with up to four digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.
* Use place value, known and derived facts to multiply and divide mentally.
* Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
* Divide numbers up to three digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
* Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, division (including interpreting remainders), **integer scaling problems** and harder correspondence problems such as n objects are connected to m objects.
 | Linked to the geography learning opportunities children can select an appropriate sorting diagram to best sort the different types of mail to identify ‘junk’ mail; rubbish/litter types to determine how litter can be reduced.Linked to the geography learning opportunities on calculating the amount of waste/rubbish that is produced by a class in a week, children could then scale this up to get a figure for the school; all the schools in the town etc.Linked to the geography learning opportunities on using scales on maps to calculate real distances from measurements taken from the map. |

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| **English** |
| **Key Learning** |
| **Unit** | **Fairy Tales**  | **Classic Narrative Poetry**  | **Recount: Newspapers** |
| **Outcome** | * Innovated narrative based on a model.
 | * Learn a poem by heart for performance.
 | * Newspaper report.
 |
| **Possible Duration**  | * 3-4 weeks.
 | * 1-2 weeks.
 | * 2-3 weeks.
 |
| **Key Learning****Reading**  | * Listen to, read and discuss a fairy tale.
* Retell a fairy tale.
* Identify, analyse and discuss themes e.g. *safe and dangerous, just and unjust.*
* Explain the meaning of key vocabulary within the context of the text.
* Make predictions based on information stated and implied.
* Draw inferences around characters’ thoughts, feelings, actions and motives, and justify with evidence from the text using point and evidence.
 | * Listen to, read and discuss a classic narrative poem.
* Identify, discuss and collect effective words and phrases which capture the reader’s interest and imagination.
* Explain the meaning of key vocabulary within the context of the text.
* Demonstrate active reading strategies e.g. generating questions, finding answers, constructing images.
* Prepare a poem to read aloud, showing understanding through intonation, tone, volume and action.
* Learn a poem by heart and rehearse for performance.
 | * Read books and texts for a range of purposes and respond in a variety of ways.
* Listen to, read and discuss a range of newspapers in print and on screen.
* Demonstrate active reading strategies e.g. *generating questions, finding answers.*
* Analyse and evaluate texts looking at language, structure and presentation.
* Analyse and evaluate how specific information is organised within a newspaper text.
* Navigate texts to locate and retrieve information in print and on screen.
* Explain how paragraphs are used to order ideas, and how they are linked.
 |
| **Key Learning****Writing**  | * Create sentences with fronted adverbials for when e.g. *As the clock struck twelve, the soldiers sprang into action.*
* Use commas to mark clauses in complex sentences.
* Use inverted commas and other punctuation to indicate direct speech e.g. *The tour guide announced, “Be back here at four o’ clock.”*
* Read and analyse a fairy tale in order to plan and write their own versions.
* Discuss and record ideas for planning e.g. *chunk a plot.*
 | * Explore, identify, collect and use noun phrases e.g. *The crumbly cookie with tasty marshmallow pieces melted in my mouth.*
 | * Identify, select and effectively use pronouns.
* Explore, identify, collect and use noun phrases e.g. *The stranger,* ***dressed in red and yellow****…*
* 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 e.g. *text map, non-fiction bridge, boxing-up text types to create a plan.*
* Organise paragraphs in a newspaper report.
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| **English** |
| **Key Learning (contd.)** |
| **Unit** | **Fairy Tales**  | **Classic Narrative Poetry**  | **Recount: Newspapers** |
| **Suggested Texts** | Fairy Tales set in 1600s* The Pied Piper from Short Stories Short ([here](http://www.shortstoriesshort.com/story/the-pied-piper/)).
* The Pied Piper from Yankeeweb ([here](http://www.yankeeweb.com/library/storytime/grimmbros/grimmbros_41.html)).
* The Pied Piper from Read Room ([here](http://www.readroom.com/rroom/booksread/piedpiper/piedpiper.pdf)).
* The Pied Piper from Lancashire Grid for Learning ([here](http://www.lancsngfl.ac.uk/curriculum/literacy/lit_site/html/fiction/Pied_Piper/start.htm)).
* Puss in Boots by Phillip Pullman.
* Puss in Boots film (2011).
* Puss in Boots from Storynory ([here](http://www.storynory.com/2007/09/10/puss-in-boots/)).
* Puss in Boots YouTube clips ([here](https://www.youtube.com/watch?v=OvEKFas9SC4)) and ([here](https://www.youtube.com/watch?v=c0k95ZnmU6k)).
 | * The Pied Piper of Hamelin illustrated version by Robert Browning and Kate Greenaway.
* The Pied Piper YouTube clip ([here](https://www.youtube.com/watch?v=54lZYdjeojQ)).
* The Pied Piper from Lancashire Grid for Learning ([here](http://www.lancsngfl.ac.uk/curriculum/literacy/lit_site/html/fiction/Pied_Piper/pages/master_frame_verse.htm)).
* Old Possum's Book of Practical Cats by T.S. Eliot with illustrations by Rebecca Ashdown.
* Macavity the Mystery Cat by T.S. Eliot, recited by Michael Rosen on the BBC Schools website ([here](http://www.bbc.co.uk/schools/teachers/offbyheart/video/michael_rosen_macavity.shtml)).
 | * First News ([here](http://www.firstnews.co.uk/)).
* BBC News ‘Hamelin: German town hit by new plague of rats’ ([here](http://www.bbc.co.uk/news/world-europe-18203263)).
* Fairy Tale News by Colin and Jacqui Hawkins.
* The Fairy Tale Times by Sherill B Flora and J. Browning Wroe.
* Extra! Extra!: Fairy-Tale News from Hidden Forest by Alma Flor Ada *(be aware of American spellings).*
* Sesame Street News Flash - The Pied Piper YouTube clip ([here](https://www.youtube.com/watch?v=wljPHtQ3dXM)).
* The Pied Piper: News report from the Makewaves website ([here](https://www.makewav.es/story/68268/title/piedpiperofhamelin)).
* Talk for Writing across the Curriculum: How to teach non-fiction writing 5-12 years by Pie Corbett.
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| **English** |
| **Fairy Tales – Creative Learning Opportunities and Outcomes** |
| **Creating interest*** Listen to a soundtrack and/or view a clip of the opening of the focus fairy tale e.g. *The Pied Piper DVD version, Walt Disney’s The Pied Piper or Puss in Boots.*
* Raise questions using who, what, where and when about the clip and answer in pairs, small groups then whole class.
 | **Learning outcomes** * Children will be able to raise and answer questions.
* Children will be able to identify the characters, setting and events, and predict further.
 |
| **Reading** **Grammar:** Warm ups throughout the reading phase - focus on using fronted adverbials for ‘where’. **Reading and responding** * Read three different openings to the same fairy tale e.g. *The Pied Piper* or *Puss in Boots,* and involve children in identifying new words and phrases. Clarify and discuss any new vocabulary encountered to aid understanding of the text. Extend with use of dictionaries and thesauruses to build a store of words for further use and display on working wall.
* Continue to read and explore the next events of one version of the fairy tale and use a film version if available.
* Model prediction of events and character behaviour using images from a film version and/or short sections of the text.
* Retell the key events in the fairy tale.
* Clarify understanding of the text using point + evidence e.g. in The Pied Piper tale *‘I think the Pied Piper is angry because the mayor didn’t pay him the money. I think this because it says he used an angry voice.’*
* Draw inferences around a range of characters in the fairy tale and provide opportunities for children to explore via drama e.g. interviewing characters in role, freeze framing or hot seating. Follow-up with short writing opportunities in role as a character e.g. *think, say, feel* bubbles, diary in role or role on the wall.
* Independently read other versions of the same fairy tale. Discuss any new vocabulary, clarify and collect.
 | **Learning outcomes** * Children will be able to identify and clarify new vocabulary.
* Children will be able to predict events and character behaviour.
* Children will be able to identify a point and back up their thinking with evidence from a text.
* Children will be able to infer character thoughts, feelings and speech.
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| **English**  |
| **Fairy Tales – Creative Learning Opportunities and Outcomes (contd.)** |
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| **The Pied Piper**  | **Extract the basic plot**  | **New tale** |
| Hamelin is infested with rats.  |  |  |
| Mayor offers a reward for anyone who can rid the town of rats.  |  |  |
| Pied Piper offers to get rid of the rats and does so by piping a tune. |  |  |
| Rats disappear.  |  |  |
| Mayor is not happy that the Piper only played a tune and won’t pay. |  |  |
| Pied Piper gets his revenge by piping his flute to take the children of Hamelin away.  |  |  |

**Reading and analysing** * Model chunking the fairy tale into key events using a plot pattern e.g.
* Discuss the themes across the texts, e.g. *revenge.*
* Create a class checklist of features for use during the writing phase.
 | * Children will be able to retell using key points.
* Children will be able to discuss themes using evidence from the text.
* Children will be able to identify key events in a fairy tale and create a plot pattern.
 |
| **Gathering content**  **Grammar:** Warm ups throughout the gathering content phase - focus on the use of inverted commas for speech. * Using the plot pattern created, extract the basic plot details and model innovation for a new tale.
* Develop ideas based on the model and use *think, say, feel* approaches to add detail to the new plot.
* Develop the use of what characters will say using drama and link to writing speech in the new tale.

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| **The Pied Piper**  | **Extract the basic plot**  | **New tale** |
| Hamelin is infested by rats.  | Town is in trouble – infested by animals/insects or other problem. |  |
| Mayor offers a reward for anyone who can rid the town of rats.  | Head of town offers a reward for someone to help.  |  |
| Pied Piper offers to get rid of the rats and does so by piping a tune. | Someone comes along and offers to help rid the town of the problem.  |  |
| Rats disappear.  | Animals/insects/problem disappears. |  |
| Mayor is not happy that the Piper only played a tune and won’t pay. | Head of town is not pleased by how the problem has been solved.  |  |
| Pied Piper gets his revenge by piping his flute to take the children of Hamelin away.  | Revenge is taken by the helper.  |  |

 | **Learning outcomes*** Children will be able to generate ideas for a new tale.
* Children will be able to say what new characters are thinking, saying and feeling to add details to a plan.
* Children will be able to develop use of speech for use in the new tale.
 |
| **English**  |
| **Fairy Tales – Creative Learning Opportunities and Outcomes (contd.)** |
| **Writing** * Use the new plot pattern created. Use shared writing techniques to model a section at a time with the children.
* Focus on skills – appropriate use of fronted adverbials for ‘where’ and the inclusion of speech using inverted commas.
* Children follow the modelling each day from the whole class focus and use their own plan to inform writing.
* Use AFL, marking and feedback to adjust shared writing focus daily.
 | **Learning outcomes*** Children will be able to write a story, based on a model, which includes:
* Appropriate use of fronted adverbials for ‘where’.
* Use of speech using inverted commas.
* Features of the fairy tale genre.
 |
| **Outcome** * Innovation of a fairy tale with appropriate features.
 |
| **Presentation** * Present the story to an audience. This could include oral telling for a younger audience or assembly.
* Publish as a book for the school library, on the school’s website or using ICT e.g. as a comic strip using *Comic Life -* ([here](http://comic-life.en.softonic.com/)).
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| **English** |
| **Classic Narrative Poetry - Creative Learning Opportunities and Outcomes**  |
| **Creating interest*** Use objects, images and word cards to represent the nouns from the first verse of the poem selected e.g. The Pied Piper: *dogs, cats, rats, babies, cradles, kegs, nests, hats* or Macavity: *cat, street, paw, eyes, head, square.*
* Reveal each item from a box or bag and ask children to identify what they are. View or listen to an oral telling of the relevant verses and spot them in the context of the poem e.g. The Pied Piper YouTube clip ([here](https://www.youtube.com/watch?v=54lZYdjeojQ)) or Michael Rosen’s recitation on the BBC Schools ([here](http://www.bbc.co.uk/schools/teachers/offbyheart/video/michael_rosen_macavity.shtml)).
* Discuss the use of the nouns in context of the poem.
 | **Learning outcomes** * Children will be able to identify nouns within the context of a poem.
 |
| **Reading** **Grammar:** Warm ups throughout the reading phase - focus on exploring, identifying collecting and using noun phrases.**Reading and responding** Model reading the first verse of a poem and identify key vocabulary to discuss.* Underline new vocabulary which needs further discussion and which captures the children’s interest.
* Provide dictionaries for children to investigate new vocabulary in pairs or small groups. Include thesauruses to extend vocabulary and create synonym charts.
* Review as a class, clarifying and explaining vocabulary as appropriate, and add definitions and notes around a large version of the poem to the working wall.
* Develop children’s responses to the poem using an approach such as zone of relevance. Provide a bank of words which may or may not be relevant to the main character. Children place words in the relevant zone justifying with evidence from the text. Record responses in writing.
* Repeat with further verses of the poem.
* Model creating a character circle by identifying a key character and adding key words and phrases from the poem. Children create their own character circle using information gained from reading with key words and phrases from the poem and word banks and synonyms. Focus on using noun phrases to describe the key character and link to the grammar focus.
* Model writing a short descriptive poem with noun phrases to describe e.g. *The Pied Piper, The Great Plague, Macavity.*
* Children create their own descriptive poems.
 | **Learning outcomes** * Children will be able to read and discuss key vocabulary in a poem.
* Children will be able to collect words and phrases and investigate meanings.
* Children will be able to represent key points in a poem using images and key vocabulary.
* Children will be able to create a poem with noun phrases.
 |
| **Reading and analysing** * Listen to or view a poem being performed e.g. The Pied Piper YouTube clip ([here](https://www.youtube.com/watch?v=54lZYdjeojQ)), Macavity YouTube clip ([here](https://www.youtube.com/watch?v=wKQLYNwAC2M)) or Michael Rosen’s recitation on the BBC Schools ([here](http://www.bbc.co.uk/schools/teachers/offbyheart/video/michael_rosen_macavity.shtml)).
* Discuss how the poem is presented through oral telling with images, words and phrases for emphasis.
* Discuss various presentations of the poem e.g. in print, on screen, oral telling without images, oral telling with images.
* Which do the children prefer and why? Record responses in writing as a poem review.
 | **Learning Outcomes*** Children will be able to identify how a poem is presented.
* Children will be able to express their preferences and give reasons.
 |
| **English** |
| **Classic Narrative Poetry - Creative Learning Opportunities and Outcomes (contd.)** |
| **Gathering content** * Prepare a poem to read aloud by text mapping the lines of each verse with pictures and vocabulary (similar to a story map) in pairs or small groups.
* Identify images, props and actions for the poem and annotate poetry map accordingly.
* Rehearse the poem in preparation for performance.
 | **Learning outcomes*** Children will be able to learn a poem by heart in preparation for performance to an audience.
 |
| **Writing (presenting and performing)** * Present poems to other groups or record using ICT for playback and review.
* Model the process of giving constructive feedback. Children propose changes for their own or others’ performance after viewing.
* Children adjust performance in the light of evaluation and rehearse, identifying the improvements.
* Children perform to a wider audience e.g. another class, assembly, venue out of school etc.
 | **Learning outcomes*** Children will be able to perform a poem using intonation, tone, volume and action.
* Children will be able to provide carefully constructed feedback for their own or others’ performances.
* Children will be able to adjust a performance after evaluation and feedback.
 |
| **Outcome** * Oral presentation of a poem learned by heart as a class or a small group.
 |
| **Presentation** * Presentation of a poem to an audience e.g. assembly, other class, recorded for live playback.
* Presentation of poem with noun phrases using artwork or ICT combining words, phrases, images and sounds e.g. *Powerpoint, Photostory3.*
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| **English** |
| **Recount: Newspapers - Creative Learning Opportunities and Outcomes** |
| **Creating interest*** Listen to, or view breaking news linked to a fairy tale, such as ‘Sesame Street News Flash - The Pied Piper’ YouTube clip ([here](https://www.youtube.com/watch?v=wljPHtQ3dXM)) or ‘The Pied Piper: News report’ ([here](https://www.makewav.es/story/68268/title/piedpiperofhamelin)). Alternatively, the teacher could be in role at the news desk to present the scenario.
* Engage children in discussion to explore the genre of news reporting. Pose key questions e.g. What is happening? How is this different to a story? Have you seen anything like this before? What does it remind you of? Record responses in writing.
 | **Learning outcomes** * Children will be able to identify that information is presented via a news report.
 |
| **Reading** **Grammar:** Warm ups throughout the reading phase – focus on identifying, selecting and effectively using pronouns. **Reading and responding** * Model reading a newspaper report from e.g. *First News*. Emphasise intonation, tone and volume. Children evaluate the reading of the text.
* Provide children with a copy of the same text or other newspaper text in pairs.
* Use a true/false game with statements on cards for children to sort into piles to retrieve information from the newspaper reports. Children create own true/false statements for another newspaper article and challenge others to find the information.
* Use the question hand and model raising questions using who, what, where, when, why about a newspaper article read. Model finding answers and identify where this information is found in an article (usually the opening paragraph).
* Children raise own questions and find answers in pairs or small groups linked to a further newspaper article.
* View news reports on screen and compare how these are presented with written newspapers.

**Reading and analysing** * Read a newspaper report such as this one on the BBC News website ([here](http://www.bbc.co.uk/news/world-europe-18203263)), and ‘box up’ each section. This involves physically drawing a rectangle or 'box' around each section of the text and labelling e.g. headline, other headings, photograph, caption, paragraphs.
* Discuss the content of each section and how paragraphs are organised and linked together.
* Investigate language features of a newspaper including headlines, eye-witness reports, use of tenses, ‘over the top’ language and key focus on pronouns.
* Children evaluate further newspaper texts in pairs identifying language, structure and presentation. These could be linked to the fairy tale theme e.g. *Extra! Extra!: Fairy-Tale News from Hidden Forest* by Alma Flor Ada *or The Fairy Tale Times* by Sherill B Flora and J. Browning Wroe.
 | **Learning outcomes** * Children will be able to identify, select and use pronouns.
* Children will be able to read, discuss and retrieve information from a newspaper text.
* Children will be able to read using intonation and expression.
* Children will be able to generate and answer questions with reference to the text.
* Children will be able to analyse the structure of a newspaper report.
* Children will be able to explain how paragraphs are organised in a newspaper report.
* Children will be able to identify the language features of a newspaper report (recount).
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| **English** |
| **Recount: Newspapers - Creative Learning Opportunities and Outcomes (contd.)** |
| **Gathering content** **Grammar:** Warm ups throughout the gathering content phase- focus on exploring, identifying collecting and using noun phrases for application in a newspaper report. * Identify an event to report on. This could be an event from the fairy tale unit.
* Return to the chunked plot and model reorganisation into a timeline of events. Select one key section to report on from the plot which will provide exciting content.
* Focus on the key events and develop ideas through drama e.g. *on the spot reporting*, *interviewing in role on location, eyewitness statements, news desk drama, press conference etc.*
* Use the ‘boxed up’ frame created in the analysis phase. Model adding details to each section to create a plan using notes and bullet points. Children create their own plan individually or in pairs.
* Evaluate and discuss the content for each paragraph e.g. *introduction, re-telling of events, eyewitness statements etc.*
* Investigate the headline for the newspaper using a range of techniques e.g. *alliteration, summary, play on words.*
* Children create own headlines.
 | **Learning outcomes*** Children will be able to develop ideas using drama.
* Children will be able to create their own plan.
* Children will be able to organise ideas into a paragraphs.
* Children will be able to investigate and decide on an appropriate headline.
 |
|  **Writing** * Use the plan created. Use shared writing techniques to model a section at a time. Focus on skills – using appropriate pronouns and noun phrases.
* Children follow the modelling each day from the whole class focus and use their own plan to inform writing.
* Use AFL, marking and feedback to adjust shared writing focus daily.
 | **Learning outcomes*** Children will be able to write a newspaper report with:
* appropriate pronouns.
* noun phrases.
 |
| **Outcome** * Newspaper report.
 |
| **Presentation** * Present news as a broadcast to a live audience or record for playback at a later date.
* Use a website to publish a broadcast e.g. *Making the News* ([here](http://mtn2.e2bn.org/mtn/)).
 |