

C8 Horizontal Curriculum

Visual and Graphic Arts
Indicative Content
<p>Painting and Drawing: Artistic exercises in Class 8 will continue to consolidate and expand upon the laws of perspective introduced in Class 7. Clear thinking and accuracy of observation will be facilitated through tasks involving scenes requiring the use of one- and two-point perspectives including the construction of shadows. Assignments, designed to practice perspective will include specific topics, landscapes and cityscapes, in black and white and colour. Perspective exercises will also include the 2D construction of cubes, pyramids, cones, spheres and cylinders, and interior perspectives. Veil painting can be a further means by which to deepen the experience of colour perspective, and can be further developed through colour contrast studies. The students will also create pictures which arise from their own imaginations, using these techniques.</p> <p>Aspects of design will be introduced, for example, images for book jackets, posters etc, using collage and painting, including lino and woodcut techniques.</p> <p>Drawings of aspects of human anatomy support the biology main lesson.</p> <p>Clay Modelling: Abstract and figurative studies of atmosphere and temperament. Studies in dramatic gesture – whole body language gestures should be acted out and then modelled, e.g. adult protecting child, dancing, sleeping, embracing. Elements of human anatomy can be modelled, e.g. vertebrae, to support the biology main lesson.</p>
Pedagogical Reasoning
Practising accuracy in perception and thinking can help teenagers form a clear relationship with the world around them. Perspective drawing helps to create opportunities to lead strictly logical rules of construction back into the artistic sphere, and to accommodate the desire of teenagers to express their own ideas in pictorial form. Pupils learn the appropriate and effective use of techniques and make judgements about when to use them.
Consideration for Decolonisation/Contextualisation
Images should be inclusive of a range of people, taking into consideration: gender and family stereotypes, skin and hair colour/type, disability and age.
Suggested ARLOs
Visual and Graphic Arts

Handwork: the treadle machine
Indicative Content
<p>In Class 7 & 8 the content of the handwork curriculum will depend on whether the school offers handwork (with fabric) into the Upper School. As part of the handwork curriculum, pupils should have experience in using commercial patterns and measuring the body, plus technical information about different types of fabric and how it is used. If this is not incorporated into the upper school curriculum, it should be integrated in some way into Class 7 & 8.</p> <p>Sewing:</p>

<p>Project: Using the treadle sewing machine to sew useful and aesthetically pleasing items: kit bags (lined), bag of own design, apron, piece of clothing such as shirt, sweatshirt or pj bottoms</p> <p>Activities Activities/projects can include (depending on upper school curriculum – see above): More complex bags (including zips, outer/inner pockets, leather, various linings, snaps etc) Making a costume for the class play (either with or without a commercial pattern) Garments from commercial patterns</p>
<p>Pedagogical Reasoning Pupils use their full concentration to learn to coordinate their foot, hand and eye movements in order to treadle safely. The experience of “mechanising” their process gives them a sense of the wider influence of industrialisation.</p>
<p>Consideration for Decolonisation/Contextualisation Share with pupils stories about industries that were part of the industrial revolution (such as cotton) which relied on the work of enslaved people. If making garments, ensure a choice of options includes unisex patterns.</p>
<p>Suggested ARLOs Handwork</p>

<p>Media Education</p>
<p>Indicative Content As pupils become adept navigators of the digital world, the curriculum aims to support their development as conscious users of technology, rather than unconscious consumers of it. Alongside further experience with information gathering from analogue sources, pupils explore digital searches in more detail, including the use of specialised portals. Their achievements are demonstrated through the presentation of a longer independent project. Pupils learn about formal and informal correspondence, for example CVs and business letters, but also emails and messaging apps. The class play brings together their work on both audio and visual media, combining literacy, drama, music and imaging. Perspective drawing is further developed, using the golden section and the principles of perspective drawing. Microphones and digital cameras are introduced, and pupils write, produce, shoot and edit short films. As pupils navigate the internet independently, it is vital to develop their sense of responsibility for their own actions online and their ability to live knowledgeably, responsibly and safely in a digital world. See also Physics: Information Technology</p>
<p>Pedagogical Reasoning Children and adolescents need age-appropriate challenges where they can develop their problem-solving skills and experience a sense of achievement in the modern world. The world of media is man-made, it can and must be created by people. Thus, it is very empowering for children and young people to experience their own effectiveness in the media by creatively producing short films. They experience the power – and also the responsibility – to help shape “the media” and use it as an expression of their feelings and ideas. This requires knowing and mastering the tools of communication.</p>
<p>Consideration for Decolonisation/Contextualisation Ensure that pupils have access to a wide range of media, covering the work of other young people, women, LGBTQIA+ people, disabled people and people of colour. Look at the role that technology can play in supporting disabled people to live and work independently, e.g. Augmentative Adaptive</p>

Communication
Suggested ARLOs
Technology, RSE, PSHE, Physics - Information Technology

MFL Complex Literacy
Indicative Content
Texts can include: those where personal destiny is questioned; exciting adventure stories; stories about ideals and human dignity. Independent projects on different cultural, biographical and historical themes (often linked to colonialism and emancipation). Accessing a range of media in the target language (e.g. film, music). Topical themes arising from children’s interests. Contemporary life in other cultures (speaking the target language).
Pedagogical Reasoning
Pupils are beginning to become aware that they have their own biography, and also their own strengths, weaknesses and interests. They are often quite critical and self-critical, therefore identifying weaknesses and focusing on strengthening these and making improvements (e.g. several drafts before a final version of a text). Likewise clear criteria for assessment are needed to provide a degree of objectivity.
Consideration for Decolonisation/Contextualisation
Texts and pictures should represent a wide range of people, skin colours, hair types etc, and should not reinforce stereotypes. Cultural themes should include text and music by a wide range of people, e.g. women, people of colour, LGBTQIA+ people, etc.
Suggested ARLOs
Modern Foreign Languages

Spiritual, Religious, Ethical and Moral Education
Indicative Content
A more global perspective on the world and of the self as a global citizen. Seeing and experiencing the potential of humanity as striving ethical individuals. Contrasting societies and cultures – pre-industrial and industrial. Individual rights. PSHCE: Citizenship - The history of modern revolutions gives an opportunity to explore the emergence of modern political constitutions and the concepts related to the French revolution, including the rights of man. Debating and discussion is formalised and practised around current affairs and relating themes. Bring ethical, moral and social questions themes including drugs, war, ethnicity and race. E.g. The history of drugs through cultural studies and discussion. Link to PSHCE. Continue exploration of religions and worldviews: Shamanism, Atheism, Darwinism, Individualism. Continue with inspirational biographies across the curriculum both historical and contemporary.
Pedagogical Reasoning
A completion point – the end of the Class teacher period in many schools. The middle of adolescence. A growing sense of self. Critical faculties are noticeably sharper and there is an emergence of real reasoning. A point of individualisation and independence. Searching for new authority and new role models.
Consideration for Decolonisation/Contextualisation

Research content widely and across multiple sources. Develop pupil's criticality and encourage searching for prejudice or bias in content and engage in open discussions about representation and diversity. Use content that is diverse in its point of view and in its representation of people, gender, sex, sexuality, religion and ethnicity.

Suggested ARLOs

SMSC

Sustainable Living: Woodwork and Garden Planning

Indicative Content

The Class 8 curriculum is an extension of Class 7, with skills being refined and content covered in a broad way across the two years. As previously, one or more additional crafts can be added to the curriculum. The craft chosen and the level at which it is engaged with will be dependent on the practical skills of the teacher, and the prior learning of the children. Some suggested themes might be ceramics or basic leather work.

Woodwork becomes more complex and refined, continuing to have the two streams: workshop based carving and making of artefacts, and green woodwork outdoors. It can involve a certain amount of recycling and upcycling, e.g. making new handles for broken tools from ash.

Following the astronomy main lesson, extended garden planning can be explored, with an introduction to organic and biodynamic agriculture and the real-life issues of certification and yield. No-dig permaculture techniques can be brought as a contrast. Raising plants in greenhouses allows the pupils to follow a similar seasonal approach to Class 6, but to achieve more professional outcomes with an understanding of how to improve results. It is important for children to explore positive stories of recovering ecology to balance a contemporary focus on the climate crisis. Topics such as the contrast between the small range of varieties of apples available in UK supermarkets and the 2500 UK varieties (7000 worldwide) can be explored. Potatoes are another excellent example. Pupils should encounter world issues in a practical way: what happens to human waste? How is water made fit for drinking? Looking at breeding particular types of fungi to metabolise plastics. How much of the earth's surface can grow food? What are the implications of becoming vegetarian/vegan?

Forestry would ideally involve the thinning of young trees, using directional felling methods. Coppicing as a sustainable forestry practice is also very good, especially if the garden needs hazel poles, fence panels etc. Growing basket willows is a good option if space is limited.

Pedagogical Reasoning

The importance of international trade along the silk roads and sea routes in later Middle Ages and the impact of European colonisation of trade (e.g. spice trade) and local industries, introduction of plantation crops and slavery. Ecological destruction caused by colonisation. Economics of modern subsidised industrial farming, disadvantaging of regional producers and effects of protectionism on agriculture in the developing world, the loss of varieties of apples, potatoes etc.

Consideration for Decolonisation/Contextualisation

The importance of international trade along the silk roads and sea routes in later Middle Ages and the impact of European colonisation of trade (e.g. spice trade) and local industries, introduction of plantation crops and slavery. Ecological destruction caused by colonisation. Economics of modern subsidised industrial farming, disadvantaging of regional producers and effects of protectionism on agriculture in the developing world, the loss of varieties of apples, potatoes etc.

Themes of sustainability in farming, gardening, raw materials, re-cycling, clothing, electronic equipment

and the raw materials they depend on. Up-cycling projects. Cheap seasonal labour with minimal rights and security from economically poorer countries. Consumerism and supermarkets driving down prices for producers. Learning from indigenous people’s ways of life and relationship to the world. Fair trade. Renewable energy should be a practical and not only theoretical topic in schools. Harvesting rain water. Composting.
Suggested ARLOs
Chemistry, physics, biology, Design and Technology, Geography, Social Science, PSHE, SMSC

Narrative and Reading Material
Indicative Content
<p>Reading for pleasure:</p> <ul style="list-style-type: none"> • Youth literature: any youth fiction with literary merit • Historical fiction based in any period from early 19th Century onwards • Historical biographies based in any period from early 19th Century onwards • Non-fiction history books from early 19th Century onwards • Picture and geographical books which give images of landscapes, coastlines, mountains, islands, cities and cultures from around the world (particularly beyond Europe) • Books on landscaping and landscape design, plus, e.g biography of Capability Brown • Non-fiction on other curriculum themes: human biology, minerals and processes, fluids and processes. <p>Taught reading skills: Writing book reports and recommendations: Summarising, explaining why they have enjoyed what they have read.</p>
Pedagogical Reasoning
Further development of historical consciousness, with an explicit multi-cultural and global perspective. Independent research into topics which support the classroom work. Reading for pleasure: the priority should be to inspire extensive and prolific reading, so any literature that pupils enjoy, that has some literary merit, should be encouraged.
Consideration for Decolonisation/Contextualisation
Literature from around the world. Books written from a wide range of viewpoints and perspectives.
Suggested ARLOs
Literacy, Social Science, Geography, Science

French: complex literacy
Indicative Content
Texts can include: those where personal destiny is questioned; exciting adventure stories; stories about ideals and human dignity. Independent projects on different cultural, biographical and historical themes (often linked to colonialism and emancipation). Accessing a range of media in the target language (e.g. film, music). Topical themes arising from children’s interests. Contemporary life in other cultures (speaking the target language).
Pedagogical Reasoning

Pupils are beginning to become aware that they have their own biography, and also their own strengths, weaknesses and interests. They are often quite critical and self-critical, therefore identifying weaknesses and focusing on strengthening these and making improvements (e.g. several drafts before a final version of a text). Likewise clear criteria for assessment are needed to provide a degree of objectivity.
Consideration for Decolonisation/Contextualisation
Texts and pictures should represent a wide range of people, skin colours, hair types etc, and should not reinforce stereotypes. Cultural themes should include text and music by a wide range of people, e.g. women, people of colour, LGBTQIA+ people, etc.
Suggested ARLOs
Modern Foreign Languages

Games and Movement
Indicative Content
Games. Beauty and Agility - resistance and strength Student's bodies are out of proportion - limbs/bones are longer but muscular strength is missing. Gravity and control of movement and limbs is a challenge. Becoming aware of and working on posture. Stamina needs to be developed and trained more intensively - and helps develop the healthy movement that these rapidly growing bodies need. Taking pleasure in all activity and movement, increasing movement appreciation, awareness and confidence. Gymnastics: exercises with rope and rod, rhythmic gymnastics with ribbon, hoop, ball and clubs. Artistry - with balls, clubs, hoops and rods. Floor gymnastics: simple combinations of rolls, headstands, forward somersaults, cartwheels. Gym apparatus (where available): Uneven bars (push-up and swinging, upward circle, mounting and dismounting); parallel bars (push-up and swinging, strength exercises, rolls); horizontal bar (push-up and strength exercises, upward circle, chin-ups, squat through, under swing); rings (swinging with half and full rotation, swinging arms at sides, swing then bend/fall, combinations of swinging, trapeze); vaulting box (squat, turn vault feet first); large trampoline (basic jumps, co-ordinated and rhythmical jumps, simple combinations). Games: running and team games, relays, mat handball, rugby basics, fistball, prellball (like volleyball) - sports with simple rules e.g. basketball, volleyball, handball, floorball. Athletics: 100 m and 200 m sprints, 2000 m and cross-country running, long jump, high jump. Swimming where possible: technique - butterfly, rescue procedure, longer distances. Dancing: in pairs as before - possibly introducing ballroom dancing. Bothmer exercises: The Fall into Space, The Frontal Walk, exercises with rod.
Pedagogical Reasoning
Childhood comes to an end and the transformation can be painful with feelings of insecurity. At this age, children search for ideals and role models, and have a need to feel secure. Aim for them to take pleasure in movement and activity whilst working on posture and building stamina and commitment. They are quick to pass judgement, so there is a need to engage with others and compete with them, becoming aware of themselves whilst doing so.
Consideration for Decolonisation/Contextualisation
Ensure that 'strong' characters in stories and pictures are both girls and boys. Ensure that character descriptions include a range of skin colours and hair types. Take care with games where children choose

each other, that no child is repeatedly unchosen or left until last.
Suggested ARLOs
Physical, Science (bones and mechanics)

Equations, Rules and Laws
Indicative Content
<p>Thorough consolidation of the topics introduced in Classes 6 and 7. An expansion on the subject material will take the student deeper into the experience of abstract thinking.</p> <p>Commutative, associative and distributive laws of algebra. Problems using linear equations. Dissolving complex brackets. Simultaneous equations. Translating word problems into algebraic equations and vice-versa.</p> <p>Base 2 number system: binary numbers, binary addition, relevance to computing.</p> <p>Statistics - mean, median, mode. Graphs of more complicated curves.</p> <p>Balance sheets and mortgages.</p> <p>The student will be required to clearly articulate their thinking by presenting the route to a solution, on paper, in a clear and sequential manner, thereby fostering reflection, independence and self-discipline.</p>
Pedagogical Reasoning
The curriculum content is the logical progression in complexity of what has been learned in Class 6 and 7.
Consideration for Decolonisation/Contextualisation
<p>Highlight the arabic origins of the word and practice of al-jabr.</p> <p>Arab, middle-Eastern and Indian cultures with advanced mathematics (Baghdad, Grenada etc).</p> <p>Include biographies of famous mathematicians of different sexes, races, etc. E.g. Mary Jackson, Katherine Johnson and Dorothy Vaughan (Film: Hidden Figures)</p> <p><i>Alan Turing: The Enigma</i>, Andrew Hodges (Vintage Digital, 2012)</p>
Suggested ARLOs
Maths, Visual and Graphic Art

Platonic Solids
Indicative Content
<p>Three dimensional shapes (platonic solids) and calculating volume. Euler's Law.</p> <p>Locus of line and plane.</p> <p>Geometrical cones. rotation of shapes. Advanced properties of a circle.</p> <p>Exact spatial perception drawing including golden section.</p>
Pedagogical Reasoning
Geometry is giving form to thought, mentally bringing form into movement. Class 8 geometry is a progression from the two dimensional shape of class 6 and 7 to the more complex, but still logical and lawful, process of the mental modelling of three dimensional space.
Consideration for Decolonisation/Contextualisation
Explore mathematical theories and thinkers from around the world.
Suggested ARLOs

Maths, Visual and Graphic Art

Physics: Electricity and Magnetism

Indicative Content

The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme.

Building on elements established in Class 6, this block shows how the electrical process can be combined into a circuit. The aim is to understand electricity as a relationship between electrical potential and current, not as a flow of substance.

Exploring the sensations of touching copper and zinc plates to the tongue. Using these to create a battery of copper and zinc plates, beakers with warm saline solution, and wires, and creating an electrical circuit to light a bulb. Use various calibres of steel wire with a 12v battery to modify the voltage. Use various lengths and calibre of wire to examine resistance. Observe the filament of a light bulb and infer the conditions inside the bulb.

Magnetism:

Building on Class 6: Magnetic fields. Declination and inclination of the earth's magnetic field.

Electro-dynamics: sources of current, cells and dynamos and their use in electrical appliances. Electro-magnets and their applications in motors, fuses, heaters etc. The dangers of electric current.

The history of the generation of electricity to the present day: coal-fired, atomic, renewables.

Pedagogical Reasoning

An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.

Consideration for Decolonisation/Contextualisation

Biographies of a range of people, including women and people of colour. Understanding the impact of electronics on globalisation and innovation (e.g. the production of electronic goods in Japan, China and South Korea). New industries require new and often rare raw materials (e.g. copper, coltan, uranium etc) and the impact of this on developing economies. Coal and oil fired energies and the petro-chemical industries. Green energy and technologies.

Suggested ARLOs

Physics Class 6-8

Physics: Sound

Indicative Content

The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme.

Acoustics: Beginning with everyday experiences of sound in relation to distance, volume and pitch, explore the boundaries of what we can hear. Building on work from Class 6, examine the acoustic

properties of different materials. Using, for example, a tuning fork and Chlandni plates, measure and record different frequencies. How gramophones reproduce sound. Nature and usage of ultrasonic sound waves. The nature and usage of echoes in the animal kingdom and as used by humans, e.g. bats, dolphins, radar. speed of sound in air and other media. Acoustics in buildings and musical instruments. Wavelengths.
Pedagogical Reasoning
An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.
Consideration for Decolonisation/Contextualisation
Biographies of a range of people, including women and people of colour. New industries require new and often rare raw materials (e.g. copper, coltan, uranium etc) and the impact of this on developing economies.
Suggested ARLOs
Physics Class 6-8

Physics: Information Technology
Indicative Content
The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme. From semaphore to the smart phone: signalling; morse code; binary numbers and their relationship to switches; Alexander Graham Bell and the telephone; Heinrich Rudolf Hertz; Alexander Stepanovich Popov, Guglielmo Marconi; radio and television, Logie Baird; radar; Microphones and sound recording devices, e.g. gramophones, tapes, cds and digital formats. Telephones to mobiles to smartphones. History of the computer from early calculators through punched cards, valves and transistors, microprocessors and beyond, to the internet and the world wide web. Biographies including Ada Lovelace, Charles Babbage, Alan Turing.
Pedagogical Reasoning
An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.
Consideration for Decolonisation/Contextualisation
Biographies of a range of people, including women and people of colour. Understanding the impact of electronics on globalisation and innovation (e.g. the production of electronic goods in Japan, China and South Korea). New industries require new and often rare raw materials (e.g. copper, coltan, uranium etc) and the impact of this on developing economies.
Suggested ARLOs
Physics Class 6-8, Media Education

Physics: Mechanics
Indicative Content
<p>The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme.</p> <p>The relationship between inclined planes, shape, friction and velocity.</p> <p>An introduction to the phenomenon of gravity. Using the body to explore principles of levers by lifting different weights, and then using mechanical levers.</p> <p>Winches and pulleys. Block and tackle and their uses. Wedges, screws, and gears. Combinations of these to make machines.</p> <p>The bending properties and resistance of different materials, the implications of this and the usage.</p>
Pedagogical Reasoning
<p>An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.</p>
Consideration for Decolonisation/Contextualisation
<p>Biographies of a range of people, including women, disabled people, LGBTQIA+ people, and people of colour.</p>
Suggested ARLOs
<p>Physics Class 6-8</p>

Physics: Light
Indicative Content
<p>The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme.</p> <p>Observation of shadows and images. Images on planes and reflections in flat and curved surfaces.</p> <p>Degrees of reflectivity of surfaces. The camera obscura and/or the pinhole camera.</p> <p>See also Media Education, where cameras, stop motion animation etc are included.</p>
Pedagogical Reasoning
<p>An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.</p>
Consideration for Decolonisation/Contextualisation
<p>Biographies of a range of people, including women, disabled people, LGBTQIA+ people, and people of colour.</p>
Suggested ARLOs
<p>Physics Class 6-8, Media Education</p>

Physics: Thermo-dynamics
Indicative Content
<p>The length and sequencing of many of the physics blocks for Class 7&8 can be determined by the teacher. Each theme can be taught separately in one class, spread across both, and/or combined with another physics theme.</p> <p>Differential conduction; insulation and its uses.</p> <p>The expansion of gases, liquids and solids, and the principle of the thermometer.</p> <p>Changes of state of liquids, solids and gases. Evaporation. Convection and radiation. Conduction and insulation.</p> <p>Engines, from weaving to the combustion engine. Richard Arkwright and the spinning jenny; Newcomen and the first mine pump; James Watt and the steam engine; Richard Trevithick and the locomotive; Abraham Darvev and Andrew Carnegie and the production of steel; Rockefeller and oil – the production of oil into tar, petroleum, paraffin, benzol and petroleum; the development of the combustion engine and the petro-chemical industries.</p> <p>Biographies, e.g. Edison, Tesla, Siemens, Verena Holmes.</p>
Pedagogical Reasoning
<p>An introduction to the principles informing the phenomena of energy sources and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.</p>
Consideration for Decolonisation/Contextualisation
<p>Biographies of a range of people, including women, disabled people, LGBTQIA+ people, and people of colour. New industries require new and often rare raw materials (e.g. copper, coltan, uranium etc) and the impact of this on developing economies. Coal and oil fired energies and the petro-chemical industries. Green energy and technologies.</p>
Suggested ARLOs
Physics Class 6-8

The Chemistry of Food
Indicative Content
<p>How human beings manipulate processes in nature (e.g. through harvesting, storing, fermenting etc). and produce foodstuffs that are different to the original.</p> <p>Harvesting and processing of cereals and the chemistry of bread baking: corn, milling, investigating the nature of flour, making dough, using sourdough and using yeast. Producing starch from potatoes, making glue. Using iodine to test for starch.</p> <p>Sugars: sugar in nature, cultural history of sugar, transformation of starch to sugar through acid (and impact on dental health).</p> <p>Enzymes: fermentation, anaerobic and aerobic respiration, alcohol.</p> <p>Photosynthesis, and glucose as a product of the interaction between sunlight and plants. Carbon and nitrogen cycles.</p> <p>Protein: animal proteins and connections with nitrogen.</p> <p>Fats and oils: plant oils and animal fats, fat/oil and its connection to warmth and fire, cheese making (i.e. controlling fermentation and solidification to get different types of cheese).</p>

From fat to soap production (saponification) using lye as a base. Cellulose and its uses – paper etc.
Pedagogical Reasoning
Human nutrition: looking at human nutrition connects the human being to the living world around her, from which she can never be separated. Therefore, all the life forces in nature are therefore in the human being. The relationships between diet, health and energy, and our relationship to the natural world. Demonstrating that most of the energy we use is from plant sources, whether it was millions of years ago, or has travelled up a food chain more recently. This content will demonstrate the similarity between plant and animal processes, and that we depend on plants for both sugars (and hence starches and fats), and proteins. Pupils develop a greater understanding of the plant world, on whom we depend for our very existence, for the building blocks of our physical bodies, and for the energy required for all life processes.
Consideration for Decolonisation/Contextualisation
Spend a little time exploring the healing power of plants, through Phytotherapy, Ayurvedic Medicine and Traditional Chinese Medicine, (but only if time allows). Explore breads from around the world. Explore energy sources – windmills, watermills etc.
Suggested ARLOs
Biology Classes 6-8, PSHE, RSE

Physics: Hydro-statics and Aero-mechanics
Indicative Content
Archimedes principle. Hydro-static buoyancy. Pressure and compression e.g. of air vs water. Pressure and depth, and the application of this for e.g. diving, submarines, aquatic mammals etc. Specific weight, and its practical uses e.g. Plimsol line. Pressure and its uses for hydraulic tools. Pumps. Flow forms in water. Vortices, resistance and aero-dynamics.
Pedagogical Reasoning
An introduction to the principles informing the phenomena of energy sources, forces and applications: the physics of modern industrial life. One of the developmental tasks of adolescence is to be qualified for the society that they are a part of, which includes an understanding of how technology works and how fundamental technology has become to modern life.
Consideration for Decolonisation/Contextualisation
Biographies of a range of people, including women, disabled people, LGBTQIA+ people, and people of colour.
Suggested ARLOs
Physics Class 6-8

Physics: Meteorology
Indicative Content
Air moisture content and cloud formation at the dew point. Cloud types. Wind and wind scales. Areas of high and low pressure, weather fronts. Weather data recording and weather forecasting, and its

history. Cyclones. Trade winds. Monsoons. Consequences of extreme weather phenomena. Examples of weather phenomena such as Le Mistral, rain shadow. Climate zones, e.g. maritime, continental, tropical, arctic, subarctic etc.
Pedagogical Reasoning
The emergent intellectual properties of Class 8 pupils allow them to grasp the complexities of the processes behind visible phenomena. There is a metaphorical analogy between rapidly changing weather and adolescent emotions. The topicality of climate change and extreme weather events makes this a particularly appropriate theme.
Consideration for Decolonisation/Contextualisation
Discussion of the link between insulation from and exposure to the extremes of climate and the ecological impact of this. The impact of the capacities of economies to produce the causes of and insulate themselves from the effects of climate change, e.g. compare European vs Bangladeshi coastal and flood defences.
Suggested ARLOs
Physics Class 6-8

The human skeletal system.
Indicative Content
Mobility in terms of bones, muscles, tendons and ligaments. Movement and its applications, uses and risks. The spine and its muscles. The arms and hands as instruments of communication and expression. Fine motor skills. Uprightness and learning to walk. Locomotion – the hip, knee, ankle and foot. The skull.
Pedagogical Reasoning
From puberty to adolescence the rapid growth of the skeleton sensitises young people to this process in their body. At a time when their skeletons are undergoing a significant growth spurt, they learn about the processes involved, and are given the opportunity to maintain a positive relationship to their changing selves through a sense of awe and wonder at how bodies work and what they can do.
Consideration for Decolonisation/Contextualisation
Illustrations, blackboard drawings etc should represent a range of body shapes and sizes, skin tones, hair types and colours etc.
Suggested ARLOs
Biology Classes 6-8, PSHE, RSE

Above and Beyond (Astronomy)
Indicative Content
Astronomy: Students have already learned about the compass directions and the relationship of the sun to weather and climate in the different regions of the earth, and have experienced a wide range of mythological understandings of the sun, moon and stars and their constellations and their use in navigation. They have also learned in history about the shift between geocentric and solar systems. Now they learn to conduct accurate observation by eye and using telescopes. They learn in as concrete way as possible about the cycles of the moon and the earth's transit around the sun and the effects of the tilt

<p>in the earth's axis and the seasons. Lunar and solar eclipses help to show this. the other planets in our solar system can be described and the possibilities and risk (costs, military use) of space travel should be discussed. Astronomy is complex, particularly phenomena such as light years, time-space, black holes, Big Bang theory etc., which the students have frequently heard about, though there are limits what most students (and teachers) can comprehend. It is advisable to spread astronomy over class 7 and 8 and stay within the limits of what is observable.</p>
<p>Pedagogical Reasoning</p>
<p>The exploration of geographical space reaches beyond the earth to space and with it the perspective that our planet is a body in space, among others. At this age the students intellect can begin to actually grasp the dislocation of terra firma into a turning sphere in space bound by gravity to the sun yet also locked into an intricate dance with the moon and other bodies in our solar system. They may know this fact beforehand but being able to visualise and bodily sense the enormity of it all can only really begin now. Though complex and remote the astronomical has a profound impact on our lives as the source of rhythms that shape our lives.</p>
<p>Consideration for Decolonisation/Contextualisation</p>
<p>A decolonizing aspect is to realise that all human cultures at all times have considered astronomical phenomena, often with great accuracy and using complex models and exact observations of long periods of time. Our western materialistic view has lost the mythical meaning of our inner connection to the sun, moon and planets. In a materialistic and nationalistic world the conquest of space becomes a matter of national prestige and commercial exploitation. It is important to enable students to share the grandeur of the earth as blue planet turning in space with its unique (as far as we know) atmosphere that permits life- seen from the perspective that astronauts experience.</p>
<p>Suggested ARLOs</p>
<p>Geography, Social Science, Literacy, Visual and Graphic Art</p>

<p>Regional/continental geography</p>
<p>Indicative Content</p>
<p>In Classes 7 & 8, a case study type approach is taken, whereby the four remaining inhabited continents are explored in relation to: Major geographical features, climate, land use, variety of cultures and transport systems and trade links within the continent and between continents. In class 8 there should be greater emphasis on modern and industrial aspects (coal, oil, minerals , environmental destruction, climate change, conflicts related to access to water, e.g. damming the Nile) Human geography: cultures and places. Exploration of indigenous cultures in relation to their environment (e.g. people of the Asia steppes, Tuaregs in North Africa, Inuit in the Arctic, Aborigines). Different types of traditional societies and their economies, artefacts and dwellings (nomads, pastoralists, farmers, forest dwellers, oasis dwellers, specialist such as metal workers, potters, fisherfolk, miners, navigators and traders). Pre-European empires, cities, trading centres, technologies. Changes to these lifestyles through colonialism, modernisation and urbanisation. The impact of major religions such as Islam, Buddhism, Hinduism, Confucianism. Relationships today between East and West, North and South.</p>
<p>Pedagogical Reasoning</p>
<p>The focus returns to the human being and human relationships to the natural world and the impact of technology, agriculture, mining, exploitation of resources to show how human beings on the one hand</p>

<p>can live in balance and harmony with their environment and on the other the disastrous effects of human egotism. In a particular self-orientated stage of puberty this focus can offer an 'objective' perspective on the human being and her powers. Experiencing the earth as a precious, fragile and beautiful place is an important experience at the age.</p>
<p>Consideration for Decolonisation/Contextualisation</p>
<p>The traditional curriculum indication of 'exotic/strange peoples in strange lands' was frankly racist and reflected a Euro-centric view of ethnography. The main risk in this theme is transporting naïve, patronizing (e.g. child-like) and sentimental images of indigenous people. People have always been wise and foolish, brutal and kind, caring and destructive (hence the importance of understanding the impact of technology and the major thresholds these bring). Modern indigenous people are learning in ways which combine science, technology with traditional knowledge to find ecological and cultural solutions. Explore map representations by Early European explorers which interpreted the world in a European centric way as a means for denoting power, dominance and cognitive superiority. Care is needed to use imagery that illustrates the sophistication of indigenous peoples and not the traditional misrepresentations used over the decades/century.</p>
<p>Suggested ARLOs</p>
<p>Geography, Social Science, Literacy, Visual and Graphic Art</p>

<p>A World History Begins: Mid-19th century to the present</p>
<p>Indicative Content</p>
<p>Symptomatic events, innovations and biographies from a number of themes:</p> <ul style="list-style-type: none"> • The abolition of slavery and the American civil war; • The liberation of peasants/emancipation of serfs (e.g. Russia and Japan); • The emergence of an urban proletariat, the rising middle class and the invention of monarchy and nobility. • Factories, assembly lines and patriarchal capitalists (e.g. child labour, female labour, emergence of trades unions, workers movements and uprisings) • Colonial uprisings and anti-colonial resistance • The emergence of a state with responsibility for e.g. education, tax; • The emergence of democracy and civil rights, • The World Wars, the Cold War, Eastern Bloc revolutions (1989), 9-11. • Human beings and technology: <ul style="list-style-type: none"> • raw materials and energy (e.g. cotton, coal, steel, electricity); • travel and communication (e.g. ships, canals, railways, automobiles, motorways, bridges, aeroplanes; from telegraph to smartphone). • The effects of industrialisation on the environment (e.g. the oil, coal and/or chemical industries; air, ground and water pollution) <p>The service industry and information economy and the automation of work</p>
<p>Pedagogical Reasoning</p>
<p>To bring historical consciousness to an awareness of identity and biography through telling stories of how people experienced and experience the recognisably recent world, showing the many factors that play into modern and late modern society. Understanding how human activity tipped the balance from how the world shaped human culture, to how human culture shapes the world. To give a sense of the shift in the focus of history away from the West and back to the East. To experience the emergence of</p>

the post-colonial world through biography.
Consideration for Decolonisation/Contextualisation
Inclusion of the voices of: non-European people First and indigenous peoples Women Disabled people LGBTQIA+
Suggested ARLOs
Literacy, Geography, Social Science, Visual and Graphic Art

Use of language: literature
Indicative Content
A phenomenology of language: Literary and poetic analysis and writing: meter and rhyme structures and conventions; literary devices. Use of language to create a range of moods e.g. epic, lyric, dramatic Jargon, cliché, euphemism, slang and swear words.
Pedagogical Reasoning
Puberty is a time at which young people often lose their relationship to their inherited, learned language. The language centres of the brain are restructured. Mastering these different aspects can help them to structure language creatively, but also appreciate the complexity and subtlety of linguistic expression. Understanding the meta-level of language helps them connect to higher levels of experience, and to understand that concepts can be expressed in many different ways (e.g. in different languages, or in the same language at different times)
Consideration for Decolonisation/Contextualisation
Consider examining value judgements about people and their use of language. Examine the historical background to powerful derogatory language. Explore the reclamation and appropriate use of derogatory language by different groups of people.
Suggested ARLOs
Literacy

Age-related Learning Opportunities for Visual and Graphic Arts C8	Relevant Learning Descriptors
<ul style="list-style-type: none"> Children should have the opportunity General To practice stretching watercolour paper using a board and tape. To continue to develop veil painting techniques using the layering of a single colour, a series of cool colours, a series of 	<p>Mature, Independent Drawing and Painting</p> <p>Pupils can prepare their own materials appropriately for the activity. They can use a range of techniques to create work with a sense of perspective, including colour perspective and the laws of one- and two- point perspective. Pupils can work with a wide range of media, including watercolour, gouaches, oils, pastels, pencils and</p>

<p>warm colours, and the full spectrum.</p> <ul style="list-style-type: none"> • To explore applying the laws of one- and two-point perspective to construct drawings of cubes, pyramids, cones, spheres and cylinders. • To apply the laws on one- and two-point perspective using vanishing points both within and outside the frame to create real and imaginary cityscapes and landscapes using watercolours, gouaches, oils, pastels, pencils and charcoal. • To explore elements of design in relation to posters, book jackets and repeat patterns and incorporate the use of collage, colour contrast, lino and wood cuts into the execution of the designs. • Clay Modelling • To explore the representation of atmosphere and temperament both figuratively and in abstract forms • To explore the modelling of body language and dramatic gesture 	<p>charcoal, demonstrating a good level of understanding of the medium’s potential and limitations, and a good level of control in application. They can apply their aesthetic knowledge and understanding and their practical skills to design projects, for example book jackets, posters etc.</p> <p>Mature, Independent Clay Modelling Pupils can represent atmosphere and temperament in both figurative and abstract form. They can model human forms which represent whole body language and dramatic gesture, e.g. adult protecting a child, lovers embracing etc.</p>
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Age-related Learning Opportunities for Handwork C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <ul style="list-style-type: none"> • To safely and rhythmically operate a treadle sewing machine • To explore the technical aspects of how the treadle machine works and the various parts • To explore different types of fabric/material, including animal, plant and synthetic fibres • To explore the role of the sewing machine and its significance in the industrial revolution, particularly in the UK context • To draft a simple pattern, cut it out and sew it 	<p>Mature, Independent Handwork: Pupils can talk about how a treadle sewing machine works, and how to use one safely. They can sew various seams, and can choose between machine and hand sewing to make or repair a simple garment. Pupils can draft a simple pattern, or select an appropriate commercial pattern, cut it out and sew it accurately and precisely, press it, and finish the garment to a high standard.</p>

Age-related Learning Opportunities for Literacy C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <ul style="list-style-type: none"> • To practise presenting, reciting and performing to a wider audience, including their own work • To learn the language and structures of formal debate, and explore taking part • To experience a rich and ambitious vocabulary: exploring new words in a range of contexts and investigating etymology and morphology • To practice reading and writing across the curriculum at length, in depth, for different purposes and in different structures and genres • To practice drafting, redrafting, editing, proofing and 'publishing' their work for a real or imagined audience • To read a wide range of texts for interest and pleasure: different text-types and genres, literature from their own and other literary heritages, and that ranges from historical to modern. • To have time to read, both self-selected and directed material, in school and at home, independently and with others, and to discuss and write about what they have read • To explore formal and non-formal language structures, devices and vocabulary • To begin to read critically and reflectively, exploring a wide range of technical terms for literary analysis • To compare and contrast reading and information from a variety of sources, discussing orally and in writing their preferences, views and opinions. 	<p>Mature, Independent Literacy</p> <p>Students can present an independent research project to a wider audience, answering questions and responding to comments about their work. They perform in a full length play to an audience of friends, family and the wider public. Students take part in structured debates, presenting arguments that both tally and disagree with their own opinions. They are able to code-switch appropriately in both spoken and written language, using standard English consistently and competently in their writing and having a secure control of complex grammatical structures. Students are highly competent and developed writers who have a recognisable voice and use writing as a tool for thinking. They communicate clearly, effectively and imaginatively, selecting and adapting tone, style, register and structure for different forms, purposes and audiences. Students write with an audience in mind, manipulating and controlling their writing to achieve an intended effect on their reader. They use ambitious vocabulary for purpose and effect. Students are enthusiastic and reflective readers, who can access a wide range of texts to pursue their interests. They can explain and discuss their understanding of what they have read and evaluate evidence from a variety of sources. Students can identify and give explicit explanation for the effect of text on the reader, analysing the impact of authorial techniques and devices with accurate technical vocabulary. They are able to question and admire aspects of content, form and function, comparing ideas and perspectives and how these are conveyed.</p>

Age-related Learning Opportunities for Social	Relevant Learning Descriptors
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<p>Science C8</p>	
<p>Children should have the opportunity</p> <ul style="list-style-type: none"> • To explore themes in modern world history through the study of symptomatic events, innovations and biographies. • To explore a number of perspectives of significant historical events from the early 19th to the late 20th century. • To explore the impact of technical innovation on both humanity and ecology. • To understand and evaluate different historical sources. • To encounter disciplinary vocabulary, exploring the etymology and morphology of new and challenging words. 	<p>Mature, Independent Social Science Pupils have a chronologically secure understanding of a number of themes from modern world history. They can create relevant, structured and evidentially supported accounts, exploring the reasons for and the results of historical events, situations and changes. Pupils can explain a range of diverse experiences, beliefs and perspectives of people from across societies, understanding contrasting arguments and interpretations. They can discuss how human development, culture and innovation has come to shape the world, making connections, drawing contrasts and analysing trends over time. Pupils can recognise the historical usefulness of different sources, such as oral history, images, historical documents, artefacts and archaeological evidence. They understand the difference between primary and secondary historical sources.</p>

<p>Age-related Learning Opportunities for Media Education C8</p>	<p>Relevant Learning Descriptors</p>
<p>Children should have the opportunity</p> <p>Media Content</p> <ul style="list-style-type: none"> • Use research, including a wide range of digital and print media to inform and present independent work • Explore a range of digital search options, including specialist portals <p>Media Form: Writing</p> <ul style="list-style-type: none"> • Explore formats and styles for formal and informal correspondence, including word processing software, emails and messaging apps <p>Media Form: Sound and Language</p> <ul style="list-style-type: none"> • Take part in a class play, either on stage, behind the scenes, or both <p>Media Form: Image</p> <ul style="list-style-type: none"> • Use the principles of perspective including 	<p>Mature, Independent Media Awareness Pupils can carry out independent research using a wide range of print and digital media, selecting an appropriate method and mechanism. Pupils can use a word processing app to produce documents in a range of formats and styles, e.g. a CV or a formal business letter. They can adjust their style appropriately for a digital or more informal medium, e.g. emails and messaging apps. Pupils play an active role in the class play, on the stage and/or in a backstage role creating scenery, managing sound/lighting, or working on costumes etc. Pupils can use their knowledge of the principles of perspective and the golden ratio to represent three dimensional images in a two dimensional plane. They write, produce, film and edit short films using digital cameras, microphones and editing software. Pupils can select and use an appropriate search engine or portal for a task. They can talk about the results returned to them, identifying how these</p>

<p>the golden section to explore the representation of three dimensional objects in a two dimensional media</p> <ul style="list-style-type: none"> • Explore the creation of short films with digital cameras and editing software <p>Media Carrier</p> <ul style="list-style-type: none"> • Work with cameras and microphones. <p>Online Safety</p> <ul style="list-style-type: none"> • To explore different search engines and portals, and how a person's digital personality will affect the type of information returned to them in a search • To explore how online content can be designed to influence people's thoughts and beliefs, • To explore the potential reputational benefits and risks in how we represent ourselves online. • To explore the importance of respecting boundaries and being considerate of the impact of the sharing of images and content • To explore how relationships, including romantic ones, can safely begin, develop, be maintained, change and end online • To explore the impact of online anonymity and disinhibition • To explore different routes for reporting online bullying both in school and at home • To further explore the importance of self-regulating technology use, and strategies to help with this • To understand that there is online content and/or groups that promotes unhealthy coping strategies (e.g. suicide, eating disorders, self-harm), and to explore strategies for dealing with this • To further explore privacy and security, including two factor authentication, safe and secure online payments, browser settings and the reporting of cyber problems (e.g. identity theft, ransomware etc) • To explore Creative Commons Licensing. 	<p>might have been affected by a number of factors including, for example, their previous search history, sponsored results etc. Pupils can differentiate between genuine news sites and those which aim to mislead, and talk about how anyone could be targeted with information or disinformation intended to influence their beliefs, actions and choices.</p> <p>They can discuss how they represent themselves online, including how this might impact on people's perceptions of them in the future. Pupils can talk about how they can create and maintain boundaries around the sharing of images and content online, and also how to respect the boundaries of other people. They identify strategies for maintaining healthy and safe online relationships, including romantic ones. Pupils can talk about how online anonymity and disinhibition can affect communication, and how unpleasant comments and cruelty can escalate quickly online. They can explain and assess a variety of routes to report bullying both in school and at home. Pupils can identify online content/groups that promote unhealthy coping strategies, and the risks associated with this. They know how to report content that promotes harmful or unhealthy behaviour, and who to talk to if they or someone else are at risk of being influenced by such sites. Pupils can explain how to make secure online payments, and how to keep their financial and identity information secure. They can apply and use the principles of Creative Commons Licensing.</p>
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Age-related Learning Opportunities for Maths C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <p>Number</p> <ul style="list-style-type: none"> • To revise knowledge: ordering numbers, fractions and decimals; converting between decimals, fractions and percentages; showing relationships through ratios; identifying prime and square numbers; calculations with all operations, applied to all forms of number; round any number to a given value • To explore the Base 2 number system: binary numbers, binary addition and the connections to computing • To revise the vocabulary used to describe elements of the number system (e.g. negative, natural and positive rational numbers, integers etc) • To practice translating multi-step problems from words and pictures into mathematical and algebraic equations and vice versa, abstracting information and using decomposition to break down problems into manageable parts, and including problems involving time, length, weight, capacity and volume. • To explore balance sheets and mortgages • To discuss their thinking and methods with the teacher and their peers. <p>Algebra</p> <ul style="list-style-type: none"> • To further explore commutative, associative and distributive law and the expansion of brackets • To explore the factors of the difference between the squares • To explore graphs of straight lines and curves, and using these to solve simultaneous equations <p>Shape, Space and Measure</p> <ul style="list-style-type: none"> • To explore the accurate calculation of the 	<p>Mature, Independent Number</p> <p>Pupils have a sound understanding of the number system, including place value. They can order any whole numbers, decimals and fractions, convert between decimals, fractions and percentages, express the relationship between two numbers as a ratio, identify prime numbers, calculate the square and estimate the square root of a number. Pupils can use a range of strategies to perform both mental and written calculations with integers, decimals, negative numbers, proper and improper fractions and mixed numbers, using all four operations. They can round any number to a given number of decimal places or significant figures. Pupils can use mathematical vocabulary appropriately. They can apply all of their arithmetic skills to multi-step word problems, including those involving time, length, weight, capacity and volume, abstracting the key information and breaking the problem down into logical, solvable steps, and explaining the calculation in their own words. Pupils can complete a simple balance sheet and solve problems involving the calculation of interest on mortgages.</p> <p>Mature, Independent Algebra</p> <p>Pupils can use and interpret algebraic notation, simplifying and manipulating algebraic expressions to maintain equivalence, and solving linear equations. Pupils can draw the graph of a linear equation. They can calculate the gradient and work out the y-intercept of a line from a graph and use these to build the equation of the line.</p> <p>Mature, Independent Shape, Space and Measure</p> <p>Pupils can calculate the volume and surface area of a range of shapes, and compare their densities. They can construct different types of conic section and plot the loci of lines and planes. Pupils can use coordinate axes to enlarge given figures. They can identify and apply circle definitions and properties, including centre, radius, diameter, circumference, tangent, arc, sector and segment, and can construct orthogonal curves. Pupils can use Pythagoras' theorem to solve problems, including</p>

<p>volume and surface area of a range of geometrical shapes, and the relationship between weight and density</p> <ul style="list-style-type: none"> • To explore conic sections • To explore the locus of line and plane, • To explore the enlargement of given shapes • To explore advanced properties of circles, e.g. orthogonal curves • To further investigate Pythagoras' Theorem • To explore internal and external angles of polygons • To further explore spatial perspective drawing, including the golden section <p>Data Handling</p> <ul style="list-style-type: none"> • To further explore statistics, including the mean, median, mode, and range • To explore probability through investigation of combination and permutation; recording, describing and analysing the frequency of outcomes of an experiment, and enumerating possibilities systematically • To use tables, graphs and diagrams to identify simple mathematical relationships between two variables 	<p>finding the altitude of a given triangle. They can find the internal and external angles of polygons. Pupils can use the principles of perspective drawing to realistically depict three-dimensional objects in a two-dimensional plane.</p> <p>Mature, Independent Data Handling</p> <p>Pupils can find the mean, median, mode and range of a set of numbers. They can record, describe and analyse the frequency of outcomes of simple probability experiments, enumerating these using tables, grids and/or Venn diagrams. Pupils can identify and describe simple mathematical relationships between two variables in observational and experimental contexts, illustrating this using, for example, a scatter graph.</p>
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Age-related Learning Opportunities for Modern Foreign Languages (All) C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <ul style="list-style-type: none"> • To build vocabulary in a systematic and structured way, alongside learning topic specific and contemporary vocabulary in independent work • To work independently on projects focused on different cultural, biographical and historical themes • To read extensively from a wide selection of material. • To access a range of media in the target language, e.g. films, music 	<p>Mature, Independent Fluency</p> <p>Pupils can independently read text at an appropriate level, selecting and synthesising useful information. They produce independent work, written with a reasonable degree of accuracy, and using appropriate vocabulary and language, and can talk about what they have learned. Pupils can use their wide vocabularies (including some informal, colloquial, contemporary and idiomatic language) and understanding of grammar to access information in a wide range of media, including films and contemporary music, and to talk about what they have read, heard and watched.</p>

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<ul style="list-style-type: none"> • To consolidate previously learned grammatical knowledge and understanding • To explore further complex use of language, e.g. gerunds, prepositions and cases, subordinate sentence structures, reciprocal pronouns, remaining tenses of verbs, dative accusative and genitive. • To explore the contemporary culture of a country where the target language is spoken, looking in particular at film, popular music, contemporary fiction and poetry, etc. 	
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Age-related Learning Opportunities for Biology Class 6-8 C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <p>Human Biology</p> <ul style="list-style-type: none"> • To explore the mechanics and physical potential of how their bodies move. • To explore the relationships between bipedalism, the shape of the pelvis and the maximum size of a baby's head. 	<p>Mature, Independent Human Biology</p> <p>Pupils can write about and illustrate the bones and muscles of human limbs, torso and head. Pupils can describe how they move, the mechanics involved and the expressive, aesthetic and physical opportunities our bodies give us. They can describe the connections between skeletal shape, the mechanics of birth, and brain development.</p>

Age-related Learning Opportunities for Chemistry Class 7-8 C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <p>Chemistry</p> <ul style="list-style-type: none"> • To explore the process from cereal to bread, and the qualities of the material at the various stages. • To explore other starches, their properties and uses. • To explore the origins, nature and uses of sugars, and its effects on the human body • To explore the chemistry of sugars; explore fermentation and decay. • To explore the chemistry, production and usage of cellulose and esters, and the uses and abuses of alcohol 	<p>Mature, Independent Tool Use and Equipment</p> <p>Pupils can follow instructions with thought and care, and talk about the risks associated with equipment and activities. They can name and use a range of equipment appropriate to the activity.</p> <p>Mature, Independent Chemistry</p> <p>Pupils can describe and compare a range of starches and sugars, their origins, production processes, and their properties at various stages of refinement. They can talk and/or write about starches and sugars in human diets, how they are used by the human body and the implications for health. Pupils know how to test for sugar and starch, and can demonstrate their understanding practically. In a simple way, they can explain the</p>

C8 Horizontal Curriculum

<ul style="list-style-type: none"> To learn in a simple way about the production of glucose in plants through photosynthesis To discover the origins, nature and uses of protein, and its effects on the human body To explore the qualities of fats and oils To explore the production and qualities of milk, cheese and yoghurt To discover the biographies of eminent food scientists, e.g. Louis Pasteur, Elsie Widdowson <p>Tool and Equipment Use</p> <ul style="list-style-type: none"> To use a range of equipment appropriate to the activity 	<p>processes of fermentation and decay. Pupils can describe in a simple way how glucose is produced in plants through photosynthesis. Pupils can describe and compare the origins, nature and uses of a range of proteins, fats and oils. They can talk and/or write about proteins, fats and oils in human diets, how they are used by the body and the implications for health. Pupils can talk and/or write about some eminent food scientists, their discoveries and the implications of these on modern foods and diets.</p>
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Age-related Learning Opportunities for Physics Class 6-8 C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <p>Hydraulics</p> <ul style="list-style-type: none"> To explore hydraulic phenomena, including the Archimedes principle, hydrostatic buoyancy, pressure and compression, specific weight and the application of these principles in tools and technology. <p>Meteorology</p> <ul style="list-style-type: none"> To observe and learn about different weather phenomena and their consequences. To explore the possibilities and technologies of weather data recording and weather forecasting, and their history. 	<p>Hydraulics</p> <p>Pupils can describe and explain the hydraulic and aero-mechanic phenomena of the Archimedes principle, hydrostatic buoyancy, pressure and compression, specific weight, pumps, suction and aerodynamics. They can describe a number of practical applications of these principles, e.g. hydraulic tools, submarines, plungers etc.</p> <p>Meteorology</p> <p>Pupils can describe a wide variety of weather phenomena, their causes and consequences. They can explain how weather data can be collected and used for forecasting and describe the history and economic advantages of this. Pupils can relate this information to the realities and consequences of climate change.</p>

Age-related Learning Opportunities for Geography C8	Relevant Learning Descriptors
<p>Children should have the opportunity</p> <ul style="list-style-type: none"> To explore in detail the major physical 	<p>Mature/Independent Geography</p> <p>Pupils can describe the major physical geographical features of a particular continent, and explain the relationship of these to human activities in the</p>

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<p>geographical features of two further continents and their impact on land use, cultures, transport systems and trade links</p> <ul style="list-style-type: none"> • To hear, read about and see examples of indigenous communities, their relationships to the environment, and how this has shaped their cultures, economies and world view. • To explore how these traditional cultures have been affected by colonisation, modernisation, urbanisation and globalisation, including the spread of world religions. • To work in groups, researching different aspects of continents and presenting their findings to the rest of the class 	<p>area using a range of techniques and media. Using specific examples, they can show how traditional human societies are shaped in their culture and activities by the environments they are situated in, and how this has changed over time. Pupils can interpret data in different forms, e.g. narrative, numerical, topographical etc</p>
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Age-related Learning Opportunities for Design and Technology, Class 6-8 C8	Relevant Learning Descriptors
	<p>Mature, Independent Tool Use Pupils can use a wide range of woodworking tools safely, effectively and appropriately, assessing the risks involved and demonstrating their understanding of how to mitigate these.</p> <p>Mature, Independent Materials Pupils can select an appropriate raw material, e.g. species of tree, type of seasoned wood, for their project. If available skills and resources allow, children can learn some methods and techniques to transform a material through additional craft teaching.</p> <p>Mature, Independent History and Context Pupils have an understanding of the craft workshop as a place of community practices that mediates appreciation and respect. They can talk about the social, cultural and technological history of many of the tools they use.</p>