



OXLEY

CHRISTIAN COLLEGE



Year 8

CURRICULUM OVERVIEW

Year 8

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Year 8 Art

A semester-long subject taken by all Year 8 students, either in first or second semester.

Rationale

This subject encompasses the creating of two-dimensional artworks through drawing, painting and collage. Students use observation, experience and imagination to develop art works that explore ideas. They gain further understanding of art elements and principles through analysing their own and others art works. Students view and discuss past and present art works, developing analytical skills and appropriate language to describe the way images and forms are organised.

Course Objectives

Students will be able to

- Explore visual arts practices and styles as inspiration to develop a personal style, explore and express ideas, concepts and themes in the production of 2D artworks.
- Explore how artists manipulate materials, techniques, technologies and processes to develop and express their own intentions in the artworks they create.
- Conceptualise, plan and design artworks that express ideas and artistic intention.
- Analyse and interpret artworks to explore the different forms of expression, intentions and viewpoints of artists and how they are viewed by audiences.
- Analyse, interpret and evaluate a range of visual artworks from different cultures, historical and contemporary backgrounds to explore differing viewpoints.

Content

- Painting techniques
- Drawing techniques
- Folio Documentation

Assessment

- Resolved artworks
- Folio Documentation

Year 8 Ceramics

A semester-long optional subject for Year 8 students, either in first or second semester.

Rationale

A range of hand-building skills are introduced and applied to functional and non-functional works. Decorative skills include glazing and under-glaze decoration. Emphasis is placed on creative and imaginative interpretations of set projects. Ideas are researched, recorded and developed through sketches and final drawings.

Course Objectives

- Explore ceramic art practices as inspiration to explore and develop themes, concepts or ideas in ceramic artworks.
- Explore how ceramic artists use materials, techniques, technologies and processes to realise their intentions in ceramic artworks.
- Experiment with materials, techniques, technologies and processes to express ideas, concepts and themes in artworks.
- Develop skills in planning and designing artworks and documenting artistic practice
- Identify and connect specific features of visual artworks from different cultures, historical and contemporary times.

Assessment

- Studio Workbook documenting artistic practice of research, inspiration, design and planning
- Resolved ceramic forms

Year 8 Christian Studies

Rationale

Oxley Christian College Vision: To delight in God's love through inspired learning.

Oxley Christian College Mission: To provide an education for excellence within a Biblical Christian worldview.

A key component of developing a responsive Christian worldview is the development of Biblical literacy. Through analytical and devotional readings of scripture, students are encouraged to live lives openly before God and understand their place in this story. Year 8 students continue their familiarity with the Biblical narrative through reading key verses/passages. In the first semester, they focus on David and the Psalms, and Solomon and the wise words of Proverbs. The second semester will focus on the Kings and Prophets of Hebrew Bible, expressing the need for a Messiah. This semester concludes with the realisation of this need through a study of the life of Jesus, focussing on his role as teacher, especially in the Gospel of Matthew.

Students also engage with the local community through the completion of independent service projects where voluntary service is given as an expression of Christian virtue and practice.

Course Objectives

- Reading and understanding scripture;
- Prayer, reflection and response;
- Promoting service; and
- Critiquing culture in light of a Christian perspective

Content

- Topic 1 – King David and the Book of the Psalms
- Topic 2 – Wise Living: Solomon and the book of Proverbs
- Topic 3 – The Kings and Prophets
- Topic 4 – The Life and Teachings of Jesus

Assessment

- Completion of workbook activities in a thorough manner
- Bible verse – memorisation and meaning
- Unit tests
- Creative presentations and written assignments
- Community service assignments

Year 8 Drama

A semester-long subject chosen by many students, undertaken either in first or second semester.

Rationale

This unit is structured to help each student to develop ideas for drama from a variety of sources: the arts, literature, current affairs and real life characters. They explore the dramatic potential of a range of stimuli, responding in either naturalistic or non-naturalistic forms of expression. They create roles and characters in response to and in collaboration with others, exploring the contexts of characters and situations.

Students improvise, select and structure elements of drama to make short improvisational plays. They experiment with a range of forms, styles and conventions in drama such as Physical Theatre, Melodrama, and Non-naturalism to create dramatic images and to convey meaning.

Using a variety of techniques and processes, students develop a range of performance skills to communicate with an audience. Drama classes seek to help students to develop the ability to use starting points to generate and expressively develop ideas for making and presenting drama.

The units of work allow students to develop the ability to make informed judgments about the values and purpose of drama. They describe, analyse, interpret and evaluate drama. Students use appropriate terminology to critically discuss and investigate the works.

Course Objectives

- Explore the dramatic potential of a range of stimuli.
- Use observation, experience or research to create drama.
- Develop characters and situations from starting points, individually and as part of a group.
- Plan, rehearse and present drama to a variety of audiences.
- Develop and sustain characters and situations to express ideas.
- Develop scripts from improvisation.
- Evaluate and refine own work
- Compare the structure and expressive qualities of a range of dramas.
- Develop and express informed opinions about drama.
- Use appropriate terminology to discuss drama.
- Compare dramas from selected cultural and historical contexts.

Content

- At Year 8 level, the curriculum aims to introduce students to ways in which scenes and plays can be developed from observation, research and personal experience. Students are encouraged to continue to

develop the skills of refining and shaping improvised drama which incorporates dramatic elements and forms and to use imagination and perception to develop characters.

- Students also study play scripts to learn ways of organising their own ideas before writing their own plays. Learning to sustain characters by use of appropriate voices, gestures, movement and timing are incorporated into the units of work. Individually and in groups, they experiment with dramatic and theatrical forms to convey meaning. Students learn that different effects can be achieved by acting the same scene naturalistically and non-naturalistically. Students also experiment with staging possibilities to communicate their work to a variety of audiences in a range of settings. Students are given opportunities of building on their creative gifts and talents and to further develop in confidence and self-esteem.

Students will:

- Use resources from a variety of sources to develop and expand ideas.
- Make decisions about which techniques and processes to use in developing characters.
- Use a range of skills and techniques to organise drama elements.
- Structure drama to lead to performance.
- Use methods involved in script writing techniques.

At Year 8 level, students are encouraged to use appropriate drama terminology to discuss and evaluate their own work and also to express opinions about their own and others drama. Students identify ways in which drama can inform, entertain and challenge an audience or simply provide an escape into imaginary worlds. Students learn about ways in which drama and theatre have developed and identify differences in content and presentation. Taking part in discussions about ways in which theatre and drama challenge and reinforce attitudes helps students to construct personal and social values.

Students will develop ideas about:

- How the organisation and presentation of drama communicates ideas and feelings.
- Effectively communicating ideas through drama.
- The ways in which drama is an essential part of identity and culture.

Assessment

Assessment of this subject takes place mainly through teacher observation through:

- Keeping a well maintained workbook
- Teacher observation of cooperative behaviours
- Observation of contribution during class
- Use of imagination to create characters
- Ability to collect and use ideas from a varied source

- Ability to sustain character
- Ability to follow through on storyline during improvisation
- Production of a script
- Participation in role plays
- Confidence during performance
- Ability to work as a member of a group
- Journaling

Year 8 English

Rationale

Students are involved in a variety of tasks which aim to develop their God given ability to communicate effectively. This unit will develop and extend oral and written skills with emphasis given to grammar, punctuation and spelling. Students study a variety of texts and complete a range of oral and written responses. They are also encouraged to read regularly and widely.

Course Objectives

- Students consolidate and expand their knowledge and understanding of a range of texts. They are encouraged to take more responsibility for their learning. Formal language is used to construct a range of texts and students explore more challenging themes and issues. Both personal and critical responses to texts are encouraged.
- Students are more observant and analytical of the world around them and how the power of language can influence roles and relationships. Students are encouraged to develop a critical awareness of the media and the techniques used to persuade, entertain and inform audiences.
- Students are able to speak with an understanding of purpose and audience and critically explore challenging issues and how to influence others. They listen more actively and critically.
- Students read and interpret challenging texts and identify different language techniques and the distinctive features of particular literary text types.
- Students write at length with some sophistication of language, which enables them to discuss texts with greater perception.

Content

- In Semester 1, students will complete four units of work. In the 'Survival Against All Odds' unit, students will work in groups to create an instructional video showing a clear understanding of purpose and audience. The novel study on 'Trash' focuses on students' comprehension and analytical skills, and will require them to write an essay demonstrating a detailed knowledge of themes, characters and context. Students will be encouraged to develop a critical awareness of the media in the 'Advertising Analysis' course. Finally, students will read widely and share their analysis of a novel in an oral presentation.
- In Semester 2, students will build on their understanding of persuasive techniques, and will use this awareness to present a persuasive speech. The Shaun Tan unit will allow students to explore the relationship between image and text in making meaning. This unit will also give students the opportunity to write creatively. Students will again explore a wide reading text and present their analysis to the class. Following this, students will study the film text 'Chicken Run'. This text will introduce students to film studies, and prepare them to write expository essays.

Assessment

- Students will be assessed in a variety of ways under the broad categories of 'Speaking and Listening', 'Writing' and 'Reading'. Students will complete tasks formally and informally. Some will be completed at home, others in class. Some will be handwritten whilst others will require computer use. The assessment is carried out within the normal teaching and learning and leads to the satisfactory completion of the 'Outcomes'. Assessment will include comprehension exercises, essays, text responses, oral presentations, creative responses, short reflective pieces and an end of semester examination.

Year 8 Food Studies

A semester-long subject chosen by most students, undertaken either in first or second semester.

Rationale

As the range of food products in our supermarkets continues to increase, it becomes even more important to be educated in the characteristics of foods and food products so that we can make informed choices in our selection. Students in Year 8 study the characteristics of wholefoods such as grains, seasonal fruits and vegetables and proteins. Emphasis is placed on designing and adapting recipes using fresh produce to provide quick, nutritious snacks and meals for the teenager and family. In a society where people are often busy, it is important to have the skills to be able to produce nutritious and delicious meals quickly so that pre-prepared and take away food does not become the go to option. The relationship between wholefoods and health is emphasized with the aim that students will make informed dietary decisions as they move toward adulthood.

Course Objectives

Students will be able to:

- Produce quality food products in a safe and hygienic manner.
- Demonstrate the ability to work as part of a team.
- Demonstrate knowledge of how to use grains, seasonal fruits and vegetables and proteins to retain sensory properties.
- Interpret design briefs and plan productions that meet specified requirements.

Content

- The Australian Dietary Guidelines for teenagers.
- The characteristics of seasonal fruits and vegetables.
- Food processing.
- Preparing and cooking proteins safely.
- Selecting and using grains.
- Designing new recipes.

Assessment

Students will be assessed on:

- Practical skills in the kitchen
- Teamwork, organization, communication and time management
- Design challenges and recipe development

Year 8 Geography

A semester-long subject taken by all students, either in first or second semester.

Rationale

The Earth is a dynamic place, and its people and landforms are diverse and changing all the time. In this course students investigate parts of the world around them and how these impact on the lives of humans. Students learn about physical geography while studying *Landforms and Landscapes* and human geography through *Changing Nations*, all the while building on the skills they started developing Year 7.

Content

- ***Landforms and landscapes***

This topic examines the processes that shape landforms and the landscapes they belong to, the value of different landscapes and the hazards associated with landscapes. We investigate the processes shaping mountain and desert landscapes, as well as the uses and management of these landscapes in Australia and other regions of the world.

- ***Changing nations***

This topic explores the process of urbanisation and changes in human populations of the world. We discover where and why the world's cities are growing so fast, and examine the push and pull factors that draw us to urban living. We look at the rise of the megacity and the issues that cities face with growing population.

Geographical skills

Geographical skills

- Explaining processes that influence the characteristics of places;
- Identifying, analysing and explaining spatial distributions and patterns and explaining the implications;
- Identifying, analysing and explaining interconnections within places and between places;
- Observing, questioning and planning using geographical data and information from useful sources;
- Collecting, recording, evaluating and representing geographical data;
- Interpreting, analysing and making conclusions regarding geographical data.

Assessment

- Topic tests
- Research tasks
- Collaborative projects
- Fieldwork activities

Year 8 Health and Personal Development

A semester-long subject taken by all students, either in first or second semester.

Rationale

This unit is structured to enable students to identify the challenges faced during the lifespan stage of adolescence. To equip them with critical literacy skills to critique the mixed messages presented to them by society

Through discussion, investigation, collaborative and individual work, students will explore a range of influences on personal and family food selection, and identify major nutritional needs for growth and activity. They will analyse the advertising techniques used by the media to sell their products, and consider the ways in which they, personally, have been influenced by advertisements. Students will identify the physical, social and emotional changes that take place during adolescence, and consider the risks involved with experimenting with different types of drugs.

Course Objectives

By the end of Year 8, the students should be able to:

- Describe the physical, social and emotional changes that take place during adolescence.
- Demonstrate an understanding of the role genetics plays in determining appearance.
- Identify and explain the factors that impact upon an individual's body image.
- Explain how God views his creation.
- Explain how advertisers manipulate images using programs such as Photoshop.
- Investigate and implement a range of persuasive techniques used by advertisers.
- Demonstrate a clear understanding of the various types of drugs and their impact on the health and development of adolescents.
- Display a sound understanding of peer pressure and strategies to withstand it.
- Understanding human relations and reproduction.

Key concepts are:

- Developing a healthy body image.
- The physical, social and emotional changes that occur during adolescence.
- The dangers associated with drug use and strategies to withstand peer pressure.

Assessment

Assessment of this subject takes place in a number of ways, including:

- Teacher observation of cooperative behaviours
- Completion, and organisation of workbook tasks
- Completion of media based documents
- Completion of an advertisement
- Participation in classroom, debates and discussions

Year 8 Medieval History

A semester-long subject taken by all students, either in first or second semester.

Rationale

The Year 8 curriculum provides a study of the history from the end of the ancient period to the beginning of the modern period (c.500 CE – c.1600 CE). This was when major civilisations around the world came into contact with each other. Social, economic, religious and political beliefs were often challenged and significantly changed. It was the period when the modern world began to take shape.

The content provides opportunities to develop historical understanding through key concepts, including evidence, continuity and change, cause and effect, perspectives, empathy, significance and contestability. These concepts are investigated within the historical contexts of the Vikings, the Italian Renaissance and the Khmer Empire to facilitate an understanding of the past and to provide a focus for historical inquiries.

Course Objectives

By the end of the course, students will be able to answer the following key questions:

- How did societies change from the end of the ancient period to the beginning of the modern age?
- What key beliefs and values emerged and how did they influence societies?
- What were the causes and effects of contact between societies in this period?
- What significant people, groups and ideas from this period have influenced the world today?

Content

- Europe and the Mediterranean World: *The Vikings – Raiders, traders, fearsome invaders*. Social, cultural, economic and political features of Viking life including Viking homelands; weapons, armour and tactics; longships, invasions and settlements; exploration; Norse mythology; religion and Christianity; legacy of the Vikings.
- Expanding Contacts: *Italian Renaissance – What a piece of work is a man*. Causes of the Renaissance; features of Renaissance life; developments in art, science and religion; artistic stars; scientific revolution; the Reformation; legacy of the Renaissance.

- Asia-Pacific World: *Angkor and the Khmer Empire – Approaching greatness*. Connections between Angkor and the Khmer Empire; social classes; the kings; religious beliefs; Angkor and technology; links between modern day Cambodia and Oxley Christian College.

Assessment

- Assessment tasks include topic tests, summary mind maps, digital timelines, Viking collector cards research project, and a Renaissance art/technology analysis.

Year 8 Information Technology

A semester-long subject taken by all Year 8 students, either in first or second semester.

Rationale

The purpose of Information Technology is to equip students with the skills necessary to use a range of software applications, which can be applied in completing a wide variety of tasks across all subject areas. Year 8 Information Technology builds on the skills developed in Year 7 and is aimed at extending students in their understanding and application of various technologies.

Course Objectives

- To further develop touch typing skills.
- To learn to program a robot.
- To extend the use of Excel in the presentation of data.
- To extend the use of word processing and desktop publishing skills.
- To use online web tools to create and publish websites.
- To effectively use SEQTA Learn in the management of class tasks.

Content

- Spreadsheets using simple arithmetic as well as more complex formulae and graph selection are reinforced at a level appropriate to each student.
- Touch typing and word processing skills continue to be developed.
- Robotics and simple programming is introduced through a full day excursion.
- Current topical and ethical issues in IT are discussed from a Christian perspective.
- Web development is introduced through using online web tools.

Assessment

Assessment of this subject takes place in a number of ways, including skill building exercises, tests and projects.

Year 8 Languages

Rationale

The study of Languages is compulsory for Years 7 to 9 at Oxley. Students entering Year 7 choose either Chinese or German and continue on with the subject until the end of Year 9. Languages become optional for Year 10 students. Students are encouraged to continue their language at VCE level. (An alternative program is offered for students in Years 7 to 9 who need support in literacy skills where their English comprehension is still developing.)

Languages at Oxley Christian College is not simply a classroom subject. Students are offered the opportunity to participate in State and National competitions, cultural excursions, and language exchanges. The Languages Faculty organises study trips to China every second year to enable students to learn more about the Chinese culture. German exchange opportunities are organized to enable students who study German to go to Germany and improve their language proficiency.

Why Learn Chinese?

Mandarin Chinese is regarded as a world language. It is spoken by a population of over one billion people in China and large Chinese communities throughout the world, particularly in many nations close to Australia. The growing role and influence of China, Taiwan, Hong Kong, Singapore, Malaysia and other Asian countries today add further significance to learning Chinese and its associated culture. The study of Chinese provides an extension of Australian students' general literacy through learning a language that not only employs the Romanisation form but also uses pictographic and ideographic characters. Learning Chinese creates greater career opportunities including business, law, medicine, tourism, communications and social work.

Why Learn German?

In today's world of rapid communications, the study of German by Australians is an excellent choice. Germany plays a strategic role, not only in Europe but also in the world as Germany is the world's third largest contributor to research and development. German is the language most commonly used in Europe. Learning German improves students' options in many careers including business, communications, science, computer technology, music, design, tourism and film making. Many Germans visit Australia as tourists whilst many German companies have branches in Australia and offer periods of work placement in Germany.

Course Objectives

Why learn another language?

- It improves employment opportunities (business, engineering, social work, performing arts, tourism, etc.).

- Languages study scores are generously scaled up for the calculation of ATAR scores.
- Today's international citizens are multilingual.
- Knowledge of another language and intercultural skills will assist those who want to pursue mission work with other communities.
- Speakers of another language are more socially and culturally aware and are better able to engage with people from other backgrounds.
- People who speak more than one language are more accepting and understanding of cultural diversity.
- Language learning is a key to experiencing another culture.
- Language students need to reflect on their own language (e.g. grammar and vocabulary), which enhances their literacy and problem solving skills.
- The language-learning process fosters creativity, self-discipline, adaptability and humility.
- Learning a language improves students' communication skills (speaking and writing).
- Learning a language enriches leisure and travel opportunities.
- Language learning is great fun.

Content

In German and Chinese, students develop the four macro skills.

- Listening. Students will be able to:
 - Follow classroom instructions
 - Show understanding of the topics studied
- Speaking. Students will be able to:
 - Use appropriate greetings
 - Use correct pronunciation, intonation and phrasing
 - Participate in role plays and oral presentations
- Reading. Students will be able to:
 - Select and order information in response to questions
 - Retell main events from a written text
- Writing. Students will be able to:
 - Use progressively more advanced vocabulary, sentence structure and grammatical rules to express themselves

Students also reflect on the culture of nations of interest, and compare it with their own. Students study the language and culture through everyday topics such as self, family, friends, school, hobbies, shopping, buildings, transport, local activities, food and celebrations.

Assessment

Students will be assessed by completing a variety of tasks. These will include:

- Class work including projects, computer-based work and oral presentations;
- Regular tests on work covered, e.g., vocabulary tests and unit tests.

Year 8 Mathematics

Rationale

Mathematics education is a core part of preparing students to operate successfully in society. We assist each student to better grasp the elegance and usefulness of Mathematics in everyday life, and it can add to student's appreciation of God and the wonders of His creation.

Course Objectives

Students will be able to:

- Show understanding of the fundamental concepts involved in each topic.
- Make appropriate use of technology such as scientific calculators.
- Apply mathematical skills to practical situations.

Content

- This course is designed to further consolidate and develop the students' understanding of mathematical thinking and its usefulness in solving a wide range of everyday problems. Studies in Integers, Indices, Fractions, Decimals, Percentages, Algebra, Ratios, Rate, Measurement, Linear Relationships, Geometry, Statistics and Probability are undertaken.

Assessment

Assessment tasks for each course include:

- Maths Mate homework sheets and tests
- Topic tests
- Investigative projects
- Problem solving tasks
- Semester examination

Year 8 Music Technology

A semester-long subject taken by all Year 8 students, either in first or second semester.

Rationale

In this subject, students develop a foundational understanding of God's gift of music in the many ways it is presently experienced and created. Students consider how music is used in their world, i.e. radio, television and films. Music technology is a large focus of the course and students have the opportunity to creatively compose music using the Sony 'ACID' computer program.

Course Objectives

Students will:

- Develop skills in music technology software and create a range of musical compositions
- Develop an understanding of fundamental musical elements, structure and instrumentation of contemporary songs, and the key functions of film music

Assessment

Assessment will be based on written analysis and reflections, as well as the creation of original music using the computer program

Year 8 Physical Education

Rationale

God has created us with amazing bodies that we can choose to look after through exercise and sensible living. He has also created us to communicate with others and to cooperate as part of a team. Physical activities can effectively address and educate students in both these areas through a wide range of sporting activities.

At Oxley Christian College, sporting activities are conducted:

- within the subject of Physical Education,
- at Inter-house and inter-school carnivals for Athletics, Swimming and Cross Country,
- as a part of the timetabled sporting program, either as a part of a selected team against other schools in the Eastern Independent Schools of Melbourne (EISM) group and / or with fellow Oxley students.

Course Objectives

The main purposes of this subject are to enable students to:

- Recognise and appreciate the wonderful body that God has given them and the way that it enables us to physically move.
- Value the importance of keeping their body healthy and to feel encouraged to remain physically active in his / her own leisure time.
- Develop a range of skills in a variety of sports through different activities, practice drills and competitive games.
- Recognise and appreciate the value of others and their individual abilities, and to develop the ability to communicate and work effectively in group situations.
- Demonstrate skills of cooperation, leadership, problem solving, self-control, self-discipline, perseverance, sportsmanship and fair play. Not only do these skills enable effective team work in sporting situations but they are invaluable in the many facets of life as a whole.

Content

- In Physical Education lessons, students participate in a variety of team games to further improve their ball handling skills, coordination and teamwork skills. Units on specific sports such as cricket, soccer, European Handball, hockey, softball, badminton and basic gymnastics are also conducted with the focus on developing skills required for success in the different types of sports. The tactical elements of play are also focused on in the various sport units, while competitive game sessions provide the opportunity of using these skills in game setting.

Assessment

- Students are assessed on their aerobic fitness level through the implementation of the Multi Stage 20m Shuttle Run Test (Beep Test) as well as other class activities. Other fitness tests may be conducted at various times throughout the year.
- Skills are assessed as students undertake each sport unit during the semester, through observation and skill tests.
- The student's display of team work, cooperation and sportsmanship during lessons is also observed and reported on.
- Students are encouraged to undertake self-assessment of their performance to help increase their awareness of their own achievements, strengths and weaknesses during the lesson. Peer-assessments may also be completed.

Timetabled Sport Afternoons and Inter-School Sport

Students in Year 8 have the opportunity to compete against schools in the EISM group. Year 8 students have the opportunity to trial for combined Years 8 & 9 teams that play a winter season in Terms 2 and 3, and a summer season in Term 4. The sports played include: hockey, tennis, table tennis, soccer, softball, netball, football, volleyball and basketball. Students not successful in being selected for teams in each term will be involved in an alternative sport program at these times and may be called upon to fill in for teams when required. Afternoons that do not involve playing another school may be used for team organisation or other sporting activities.

Students selected for teams may be required to attend team training sessions after school or during lunch times in preparation for competition.

Students may also be selected to represent the school in athletics, cross country and swimming for the EISM competitions.

Year 8 Science

Rationale

In Year 8, students are introduced to cells as microscopic structures that explain macroscopic properties of living systems. They link form and function at a cellular level and explore the organisation of body systems in terms of flows of matter between interdependent organs. Similarly, they explore changes in matter at a particle level, and distinguish between chemical and physical change. They begin to classify different forms of energy, and describe the role of energy in causing change in systems, including the role of heat and kinetic energy in the rock cycle. Students use experimentation to isolate relationships between components in systems and explain these relationships through increasingly complex representations. They make predictions and propose explanations, drawing on evidence to support their views while considering other points of view.

Course Objectives

By the end of Year 8, students compare physical and chemical changes and use the particle model to explain and predict the properties and behaviours of substances. They identify different forms of energy and describe how energy transfers and transformations cause change in simple systems. They compare processes of rock formation, including the timescales involved. They analyse the relationship between structure and function at cell, organ and body system levels. Students examine the different science knowledge used in occupations. They explain how evidence has led to an improved understanding of a scientific idea and describe situations in which scientists collaborated to generate solutions to contemporary problems. They reflect on implications of these solutions for different groups in society.

Students identify and construct questions and problems that they can investigate scientifically. They consider safety and ethics when planning investigations, including designing field or experimental methods. They identify variables to be changed, measured and controlled. Students construct representations of their data to reveal and analyse patterns and trends, and use these when justifying their conclusions. They explain how modifications to methods could improve the quality of their data and apply their own scientific knowledge and investigation findings to evaluate claims made by others. They use appropriate language and representations to communicate science ideas, methods and findings in a range of text types.

Science Understanding

- Biological sciences
 - Cells are the basic units of living things; they have specialised structures and functions
 - Multi-cellular organisms contain systems of organs carrying out specialised functions that enable them to survive and reproduce

- Chemical Sciences
 - Properties of the different states of matter can be explained in terms of the motion and arrangement of particles
 - Differences between elements, compounds and mixtures can be described at a particle level
 - Chemical change involves substances reacting to form new substances
- Physical Sciences
 - Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers cause change within systems
- Earth and Space Sciences
 - Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales

Science Inquiry Skills

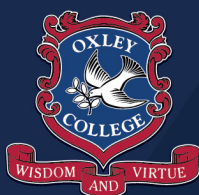
- Questioning and predicting
- Planning and conducting
- Processing and analysing data and information
- Evaluating
- Communicating

Science as a Human Endeavour

- Nature and development of science
- Use and influence of science

Assessment Tasks

- Practical investigations
- Research tasks
- Topic tests
- Practical examinations
- Class activities



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