



LAURUS  
RYECROFT

**CURRICULUM  
KNOWLEDGE AND SKILLS  
SUBJECT REFERENCE GUIDE  
YEAR 8**

# BELIEFS AND VALUES

Students will develop their **KNOWLEDGE** of:

- the significance of the five pillars of Islam
- the role and significance of Muslim scripture
- challenging Islamophobia
- challenging racism, prejudice and discrimination
- key Buddhist beliefs and the life of the Buddha
- mental wellbeing and the celebration of diversity

Students will develop their **SKILLS** in:

- Analysis of religious texts
- Use reasoning and examples to express insights into the relationship between beliefs, teachings and world issues
- Evaluate your own and other's views on ultimate questions
- Consider the challenges of belonging to religion in the modern world, focusing on values and commitments
- Evaluate the significance of religious and other views for understanding abstract concepts
- Use a range of sources to find out about topical and controversial issues
- Make informed contributions to a debate
- Respecting the views of others and explore a range of opinions to draw your own conclusions

# COMPUTING

Students will develop their **KNOWLEDGE** of:

- the difference between hardware and software and their role within a computer system
- the main functions of an operating system
- digital computers using binary to represent all data
- how an image is represented in binary
- whether a task would be best completed by humans or computers
- different solutions exist for the same problem
- what 'if statements' and 'loops' are and how to use them effectively
- which software is most suitable for a particular task
- how a network and the internet work
- different ways to keep data safe
- encryption and how it is used to keep data safe

Students will develop their **SKILLS** in:

- using a range of input and output devices
- binary and decimal conversions
- binary addition
- using logical reasoning to predict outcome
- being able to break down a problem and create a suitable solution
- being able to effectively use search engines
- making appropriate improvements to solutions based on feedback received, and comment on the success of the solution
- being able to use arithmetic operators, 'if statements' and 'loops' to create a game
- being able to find and correct errors in programs (debugging)
- being able to declare and assign variables
- using HTML to create a simple website

# ART

Students will develop their **KNOWLEDGE** of:

- developing ideas through purposeful investigations (researching appropriately)
- demonstrating a critical understanding of relevant different sources (showing clear links with Artists, Craftspersons and Designers, and cultural links)
- recording their ideas effectively
- understanding how to improve their work through using appropriately relevant success criteria
- annotating and evaluating effectively using relevant language and keywords to display a firm understanding
- following and using the design process to create successful products
- basic principles of reasonable and environmental considerations
- a further range of appropriate tools and equipment
- identifying and applying basic principles of workshop safety
- materials and their properties and select appropriately
- target markets, needs, wants and requirements and the implications for their design or product a wider range of techniques to finish/decorate a product and justify choices
- designing and making techniques and processes
- how relevant manufacturing processes are carried out in industry

Students will develop their **SKILLS** in:

- the accuracy of recording through observational studies and other means (eg. quality of drawing, photographs, compositional ideas)
- the practical application of different media (how well media is used)
- the exploration and manipulation of relevant materials and techniques (how well they are used)
- developing a personal response through creativity within their work (developing relevant ideas, CPR)
- discussing and explaining ideas relevant to their work
- discussing and comparing the work of others (artists and such like)
- annotating and evaluating effectively using relevant language and keywords
- carrying out effective research tasks
- developing and applying evaluation and analysis skills
- applying and developing competent illustration skills
- drawing from a wider range of appropriate technical language when annotating
- planning and following a Design project
- demonstrating independence when using tools, equipment and materials
- using a wider range of tools and equipment with accuracy, skill and safety in mind
- demonstrating a greater range of finishing or decorating techniques with accuracy and skill
- Identifying and recording areas for improvement and /or modification
- understanding the basic principles of quality assurance and quality control

# DRAMA

Students will develop their **KNOWLEDGE** of:

Movement –

- still image
- (showing status, 360 degree)
- physical theatre
- (Fixed point, split focus)

Voice –

- Narration
- stepping out of role
- (alienation)
- choral work
- angel and devil

Characterisation –

- creating from a stimulus
- stereotypes
- monologues

Stagecraft –

- conscience alley

Students will develop their **SKILLS** in:

- basic analysis
- i.e. giving reasons and explanations
- when offering ideas and evaluating work
- group work
- leadership/directing
- active listening
- verbal evaluation
- using drama terminology when creating or evaluating work

# ENGLISH

Students will develop their **KNOWLEDGE** of:

Reading –

- a range of texts to help students articulate their ideas in a sophisticated way
- the way in which language, structure, form and context are used to enable a writer to express their ideas
- the development of texts throughout the history of Literature, including 5 key areas: Ancient, Medieval, Shakespearean and Renaissance, Victorian and War and Hard Times
- an understanding that although historical context may have an impact on how a reader might interpret a text, universal themes transcend time

Writing –

- the methods used to write with engagement and control, including sentence structure, punctuation, vocabulary, whole-text structuring and spelling
- an understanding of different formats and tones to suit a specific purpose

Speaking and Listening –

- the various ways in which talk and discussion can be used to articulate meaning

Students will develop their **SKILLS** in:

Reading –

- developing reading skills such as evaluation, prediction, inference and summarising
- articulating informed interpretations of meanings supported by textual reference
- analyse methods used to convey ideas, including language, structure & form
- compare ideas, attitudes, methods and contexts in order to evaluate effectiveness
- relate different texts to their relevant social, historical and literary context
- identify and comment on the effect of writer's methods
- know and identify a wide range of language and structure terminology

Writing –

- select appropriate words and phrases from a rich and wide vocabulary
- demonstrate control of spelling, punctuation and grammar
- utilise a variety of sentence structures with control
- organise cohesive whole texts, effectively sequencing and structuring details within texts
- produce texts that match the audience, purpose and register of different genres

Speaking and Listening –

- talk in purposeful and imaginative ways to explore ideas and feelings
- deliver ideas and views in a confident and clear way

- listen and respond to others, including in pairs and groups
- create and sustain different roles and scenarios
- understand the range and uses of spoken language

## **GEOGRAPHY**

Students will develop their **KNOWLEDGE** of:

- Population and migration
- Ecosystems
- Changing places
- Rivers
- Global superpowers

Students will develop their **SKILLS** in:

- Cartography
- Graphicacy
- Numeracy
- Enquiry
- Communication



# HISTORY

Students will develop their **KNOWLEDGE** of:

- The period 1500- 1929 to extend their chronological knowledge
- Key English kings and queens and the changes they each brought, including James I and Charles I
- The Industrial Revolution and the impact it had on Manchester and England
- What the Gunpowder Plot was and why it took place
- Ideas and the Enlightenment
- The construction of the British Empire, industry and slavery, which will expand students' understanding of political and economic power
- Key battles significant to the changes in British and global warfare, such as Waterloo and Balaclava

Students will develop their **SKILLS** in:

- Significance, interpretations and change and continuity
- Being able to describe an important person from history, different viewpoints and important changes in history
- Identifying and giving some reasons why a person or event might be significant
- Identifying why changes happen, as well as identifying and explaining a range of causes and consequences (long and short-term, political, economic, social etc.), together with reasons why some are more important than others
- Explaining their own judgements about historical significance, change and continuity, and causation using a wide range of source material

# GCSE SPANISH

Students will develop their **KNOWLEDGE** of:

- How to build on basic grammar and vocabulary from Year 7 as appropriate to ensure progress
- Using a wide range of verb forms
- Using verb forms in past, present and future tenses with confidence
- Using time markers to express different time frames
- Understanding adjective agreement and the importance of this on accuracy
- Using a broad range of relevant vocabulary from the GCSE specification to express ideas in creative ways
- Manipulating grammar to express their own ideas

Students will develop their **SKILLS** in:

- checking work systematically for errors
- reviewing work and correcting errors regularly (study skills)
- speaking for longer with increasing spontaneity
- developing opinions using a range of structures
- using language creatively to express their own ideas
- understanding the gist of more complicated passages
- independently using a dictionary and/or vocab book as reference for support and to deepen vocabulary
- understanding and appreciating a range of literary texts such as poems, stories and songs, which stimulate ideas and opinions
- translating short texts between English and the target language
- Structuring extended pieces of writing, responding to pre-prepared stimuli

# MATHS

Students will develop their **KNOWLEDGE** of:

- being able to interpret ratio tables and using these as tools to solve numerical problems
- using appropriate calculations including unitary method and begin to consider decimal and fractional multipliers
- using the number line effectively to order numbers written in different formats as well as to solve equations with unknown on both sides
- using the area model to expand single and double brackets and begin to reverse this process (leading to factorising)
- using a combination of strategies to calculate the area of more complex shapes

Students will develop their **SKILLS** in:

- building on the noticing skills developed, they make and test conjectures. Students successfully justify their conjectures and refine these with contributions from others
- regularly questioning peers' contributions to the development of mathematical ideas
- being able to compare graphs and representations. Students use information given in graphical form to drive new information. Students appreciate links in graphical representation and are able to reverse problems (start with any aspect to complete others)
- considering what makes a given problem more demanding as well as how it can be simplified

# MUSIC

Students will develop their **KNOWLEDGE** of:

- a range of musical elements – pitch, dynamics etc.
- musical symbols – notes on a staff, treble clef, staff etc
- notes of the keyboard
- some notes on a musical staff, read fairly accurately from a score with note names
- rhythmic musical symbols – crotchets, minims etc.
- various genres of music and know some of the musical features of that genre

Students will develop their **SKILLS** in:

Performing Music:

- sing with expression and clear diction
- demonstrate reasonable confidence/high level of confidence in performance
- maintain an appropriate role within a group (leading, solo part or support)
- keep their own part going in a group performance
- perform fluently and accurately on the keyboard and tuned percussion

Composing Music:

- improvise melodic/rhythmic material within extended structures
- use tempo and dynamics creatively
- create compositions which explore different sounds and the musical elements
- refine and improve work effectively in rehearsals, developing initial ideas further

Understanding Music:

- recognising a variety of different instrument sounds, knowing the instrument families (to a higher level)
- knowing and recognizing musical elements in listening tasks (to a higher level)
- suggesting improvements to their own and others' work
- describing and compare musical features in listening tasks, using appropriate vocabulary
- exploring the contexts, origins and traditions of different musical styles
- using appropriate musical vocabulary when creating or evaluating work

# PE

Students will develop their **KNOWLEDGE** of:

- More advanced skills, techniques and tactics used in sports and physical activities
- Rules and regulations for a range of sports and the roles of different types of officials
- The components of an activity session (warm up, main activity, conditioned practice, cool down)
- The immediate and some long-term effects of exercise on the body and training methods to improve at least two components of fitness
- More advanced compositional ideas to improve performance in Dance
- Safety factors during physical activity and sport for more advanced activities (e.g. scrummaging in rugby)
- The benefits of leading fit and healthy lifestyles including extracurricular sports clubs

Students will develop their **SKILLS** in:

- Racquets/striking and fielding/invasion games/athletics/dance/outdoor and adventurous activities/health related exercise
- Teamwork
- Techniques in a range of sports in increasingly complex drills under pressure
- Overcoming challenging opponents in competitive situations in team and individual games (e.g. rugby/netball/badminton/tennis).
- Pressured decision making in competitive sports, including some analysis of opponents' strategies
- Contemporary and traditional dance styles and techniques, including accurate replication and developing choreography
- Reasoning, questioning and listening to the contributions of others in order to solve problems
- Identifying strengths and weaknesses of their own and others' work and suggesting improvements
- Leadership of warm ups, basic drills and cool downs
- Officiating with competence in a greater range of sports and roles

# SCIENCE

Students will develop their **KNOWLEDGE** of:

Biology –

- aerobic and anaerobic respiration in living organisms necessary for life
- what it means to be 'fit and healthy' as students study the structure and function of the human skeleton and consider the effects of recreational drugs
- the genetic basis for variation
- the dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules

Chemistry –

- compounds and mixtures that they gained in year 7 and look at 2 separating techniques; simple distillation and chromatography
- the structure of the Earth and rock types
- metals and their properties, uses, behaviour and reactions as well as how they are extracted from the Earth
- Environmental Chemistry which involves learning about the impact of human contributions on the environment

Physics –

- the helical learning model. Students will cover the same general topics in year 8 as in year 7. Each unit generally starts as a refresher of year 7 knowledge before, deepening that understanding or delving into a new aspect of the topic
- the forces involved in motion. Students calculate and investigate different aspects of speed, velocity and acceleration. Students will review the basics of series and parallel circuits before moving on to more complex ideas of electricity such as static electricity and resistance.
- investigating energy changes, and students will learn what the differences are between energy, work and power. This will lead students on to the thermal physics topic, which after linking heat energy and temperature students will look at how energy can be transferred by conduction, convection and radiation.
- the waves unit. Students will revise what they learnt about waves in the light unit of year 7 and compare and contrast that learning with the new topic of sound waves • gravitational forces, looking at the solar system from the point of view of the forces acting on people, satellites and planets

Students will develop their **SKILLS** in:

Biology –

- considering the discovery of DNA and beginning to understand that scientific methods and theories develop as earlier explanations are modified based on new evidence
- making predictions using scientific knowledge such as considering number and density of stomata on a leaf. Students will then further build on their investigative skills through selecting, planning and carrying out scientific enquiries

#### Chemistry –

- research as they find out about the extraction of metals. Students will also use models to help them understand abstract theory
- research as they independently learn about the impact of human contributions to pollution
- Investigation and will further develop skills learnt in year 7 by forming hypotheses, identifying variables, carrying out controlled investigations, analysing results, drawing conclusions and evaluating their investigative methods

#### Physics –

- how to use and manipulate formulas, including appropriate use of units. Students develop these skills through practice in many new situations
- investigation by developing those learnt in year 7 by; forming hypotheses, identifying variables, carrying out controlled investigations, analysing results, drawing graphs, drawing conclusions and evaluating their investigative methods.