



Laurus  
CHEADLE  
HULME

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

## **ART AND DESIGN**

Students will develop their **KNOWLEDGE** of:

- appropriate and relevant research
- artists, crafts persons and designers' work
- cultural capital
- developing and recording ideas
- how to improve their work using success criteria
- using art vocabulary and terminology appropriately

Students will develop their **SKILLS** in:

- drawing through means such as observational studies, photography and documenting ideas
- using different media
- experimenting with media and developing control
- 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 using relevant language and keywords

# COMPUTING

Students will develop their **KNOWLEDGE** of:

- Boolean logic, logic gates and truth tables
- Logic circuits and how they are used in real life devices
- Programming constructs – sequence, selection and iteration
- Variables, operators, input, and output in programming
- How numbers, text and images are represented in binary
- Emerging technology and its impact on society (e.g. AI, big data, autonomous vehicles)
- Hardware needed for computer networks
- How a network and the internet work
- Vector and bitmap graphics
- Computer animation

Students will develop their **SKILLS** in:

- Using logical reasoning to predict outcomes
- Creating logic circuits
- Binary and decimal conversions
- Hexadecimal conversion
- Python code comprehension, modification and creation
- Being able to break down a problem and create a suitable solution
- Being able to trace and use output, input, variables, arithmetic operators, selection and iteration in text based programming.
- Being able to find and correct errors in programs (debugging)

## DESIGN TECHNOLOGY

Students will develop their **KNOWLEDGE** of:

- The iterative design process; research, design, develop, test, evaluate and repeat.
- Key words; function, target audience, design, manufacture, aesthetics, accuracy, quality, CAD/CAM.
- Materials and their properties (plastic and woods). Their original source and the benefits and challenges they may have.
- New and emerging technologies.
- Manufacturing techniques for plastics and the use of CAD/CAM.
- The responsibilities of a designer to consider social, moral and environmental implications.
- The safety, suitability and quality of products for a consumer.
- Tools and equipment, names and uses.
- Drawing techniques; isometric drawing, presentation techniques.
- Sustainability and key concepts.
- Circuit diagrams, the symbols for some key components and their purpose.
- Safety precautions and rules.
- Techniques for joining wood.

Students will develop their **SKILLS** in;

- Drawing and communicating ideas physically and digitally.
- CAD/CAM.
- Using tools and equipment with some accuracy and safely.
- Testing, refining and evaluating ideas/outcomes.
- Research and analysis.
- Measuring, marking out and cutting.
- Discussing and comparing the work of others.
- Drawing from technical language when annotating.
- Planning a circuit diagram.
- Soldering.

## DRAMA

Students will develop their **KNOWLEDGE** of:

- the mystery of Flannan Isle (historical context) and the form of mystery plays
- Bertolt Brecht, Epic Theatre and the concept of Alienation. Where Brecht fits within the development of theatre and his influence on modern day theatre
- works by John Godber and the links between satire/ political theatre to Brecht's Epic Theatre
- script work and how to use dramatic rehearsal techniques in the development of characters from play scripts
- the work of William Shakespeare and his play Macbeth. Historical and social context within the Jacobean period. How to portray status and stock characters.
- a variety of real-life historic events, explored through the form of forum theatre and verbatim theatre
- more advanced drama strategies, conventions and techniques.
- physical theatre and how to tell a story through physical theatre conventions, with a focus on Frantic Assembly and their building blocks to devising

Students will develop their **SKILLS** in:

- Developing 360 degree still images focusing on levels to communicate power and status.
- Using non-naturalistic movement techniques such as: movement in cannon, unison, exaggerated movement, repeated movement, robotic movement, and movement in both fast and slow motion
- Use of physical theatre and body as prop to communicate narratives
- The use of Narration: Experimenting with first and third person speaking.
- Choral and Canon speech
- Development of the vocal tool box such as: Emphasis, articulation, accent, tone, pace, pitch, projection, and pauses
- Understanding how to deliver classical Shakespearian language and stock characters
- Basic analysis i.e. giving reasons and explanations when offering ideas and evaluating work
- Group work and cooperation
- Leadership/directing
- Active listening
- Verbal evaluation
- Non-verbal communication
- Using drama terminology when creating or evaluating work
- Development of new drama techniques, strategies and conventions

## ENGLISH

Students will develop their **KNOWLEDGE** of:

### Reading

- how to anticipate a text's content based upon the context and title
- how to recognise the writer's intentions in a text
- the narrative structure and how ideas are sequenced to affect meanings
- a range of fiction and non-fiction 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 and affect meanings
- what an archetype is and how writers make use of archetypes
- Consider how themes are presented and how texts are linked through universal and timeless themes

### Writing

- What different tones there are and how this is created through language in a text
- the methods used to write with engagement, including developing vocabulary, imagery and figurative language
- how to structure writing so that ideas are crafted into a planned sequence
- the methods used to write with control, including spelling, grammar and punctuation

### Speaking and Listening

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

Students will develop their **SKILLS** in:

### Reading

- selecting apt references
  - articulating/writing informed interpretations of meanings supported by textual reference
  - analyse methods used to convey ideas, including language, structure & form
  - compare ideas, attitudes, methods and contexts
  - relate different texts to their relevant social, historical and literary context
  - evaluating the effect of a text on its audience

### Writing

- select appropriate words and phrases from a rich and wide vocabulary for both meaning and effect
- 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
- writing with control and engagement

### Speaking and Listening

- talk in purposeful and imaginative ways to explore ideas and feelings
- listen and respond to others, including in pairs and groups
- create and sustain different roles and scenarios
- Rehearse scripts, poems or speeches for performance

## FOOD & NUTRITION

Students will develop their **KNOWLEDGE** of:

- Food groups and healthy eating guidelines, including the recommended daily allowances of macro- and micronutrient, as depicted in the Eatwell Guide.
- Specialist diets including an awareness of allergies, intolerance, diets through the lifespan and moral and cultural reasons for diet changes.
- Food provenance, including where and how a variety of ingredients are grown, reared, caught and processed and know the steps involved in producing food.
- Food packaging, by interpreting nutritional labels on packaging, in order to be an informed consumer.
- Food safety- meaning to prevent contamination, spoilage and decay when handling and storing food.
- British food culture.

Students will develop their **SKILLS** in:

- Applying principles of food hygiene and safety when preparing high risk foods. Know how to store, prepare and cook a variety of predominantly savoury dishes safely and hygienically.
- Selecting and using an expanding range of equipment safely when preparing and cooking food, with a particular focus on accurate knife skills and competency using different parts of the cooker.
- Demonstrating an increasing range of food preparation skills, including use of hand-held electrical equipment.
- Critically reflecting of their own practical skills and the dish itself through written and verbal forms of evaluation.
- Naming, tasting and preparing a broad range of ingredients and healthy recipes, highlighting the cultural diversity of food.
- Actively minimising food waste, being aware of portion sizes, understanding the roles of sustainability, provenance and recycling.
- Marinade and sauce making.
- Cake making methods.
- Cooking meat safely.
- Bread making.



## **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 Reformation
- Wars of the Three Kingdoms
- Enlightenment and revolution
- The Industrial Revolution
- The British Empire

Students will develop their **SKILLS** in:

- Causation
- Change and Continuity
- Historical evidence
- Interpretation

## LANGUAGES

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
- Selecting appropriate models to represent and solve numerical problems including comparing measurements and operations with fractions
- Using appropriate calculations including unitary method and begin to consider decimal and fractional multipliers in developing proportional reasoning
- Using the number line effectively to order numbers written in different formats for example, indices and standard form
- Using a combination of strategies to calculate the area of more complex shapes including non-rectilinear
- Using the area model to expand single and double brackets and begin to reverse this process (leading to factorising) whilst further developing algebraic manipulation skills
- Explore co-ordinate geometry through big picture ideas linking algebra and graphs
- Developing statistical reasoning which begins to draw conclusions from data represented in varying ways.
- Further develop geometric reasoning through exploring shape and space including circle geometry

Students will develop their **SKILLS** in:

- building on the noticing skills developed, making and testing 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 images and representations. Students use information given in different forms to drive new information. Students appreciate links in alternative representations and are able to reverse problems (start with any aspect to complete others)
- acknowledging that individuals see problems and patterns differently, and that sharing ideas can uncover fantastic methods one may not have thought of.
- considering what makes a given problem more demanding as well as how it can be simplified
- handling and working with numbers for which the decimal system is inadequate.
- using mathematical knowledge and skills from Year 7 within new problems

# 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.
- Recap on muscular system
- Recap on the immediate effects of exercise **AND** reasons for these changes:
- Increase in oxygen and nutrient delivery to the working muscles.
- Basic movements; Flexion, Extension, Abduction, Adduction and Rotation.
- Different styles of Dance and the actions/movements that each style includes.
- Safety aspects during physical activity and sport for more advanced activities.
- The benefits of leading fit and healthy lifestyles including extracurricular sports clubs.

Students will develop their **SKILLS** in:

- Netball, Rugby, Table Tennis, Trampolining, OAA, Cricket, Athletics, Softball.
- Techniques in a range of sports in increasingly complex drills under pressure.
- Overcoming challenging opponents in competitive situations in team and individual games.
- Pressured decision making in competitive sports, including some analysis of opponents' strategies.
- 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.
- 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.



## TEXTILES

Students will develop their **KNOWLEDGE** of:

- Appropriate and relevant research
- Different fabrics, their properties and sources
- How different fabrics are constructed
- Production of textiles in the industry
- Sustainable choices within the textile industry
- Understanding the process of constructing a product
- How to improve their work using success criteria
- Using textile vocabulary and terminology appropriately

Students will develop their **SKILLS** in:

- How to manipulate fabric and alternative materials
- How to carry out a variety of techniques
- How to use equipment effectively and safely in the work room
- developing a personal response through creativity within design and carrying out techniques independently
- discussing and explaining ideas relevant to their work