

**Key Skill:Identify**

Your UTC Thinking journey begins. In each subject area you will identify and discover your knowledge, learn new knowledge and how each area fits within the whole jigsaw of learning.

**KEY QUESTION:Can you identify solutions as well as problems that need solving?**

**Year 7**

	<b>Unit 1</b>	<b>Unit 2</b>	<b>Unit 3</b>	<b>Unit 4</b>	<b>Unit 5</b>	<b>Unit 6</b>
<b>Science:</b>	<p><b>Biology</b> <b>Cells and Organisation</b> Cell structure and using microscopes Unicellular and multicellular organisms</p>	<p><b>Biology</b> <b>The Skeletal and Muscular system</b> Structure and function of the human skeleton Types of joints and the function of muscles Antagonistic muscles</p>	<p><b>Biology</b> <b>Nutrition and Digestion</b> Food nutrients and food tests Investigate energy in food The digestive system and enzymes</p>	<p><b>Biology</b> <b>Reproduction in plants and animals</b> Structure of flowers Pollination and fertilisation and seed dispersal Male and female reproductive organs Puberty and menstruation and fertilisation and pregnancy</p>	<p><b>Biology</b> <b>Organisms and their environment</b> Classification of species Types of habitats Adaptation Food webs and competition</p>	
	<p><b>Chemistry</b> <b>Particles and Matter</b> Particles in solids, liquids and gases and changes of states of matter Evaporation, thermal expansion and gas pressure</p>	<p><b>Chemistry</b> <b>Pure and impure substances</b> What are pure and impure substances Solutions and mixtures Filtration, distillation and chromatography Purifying drinking water</p>	<p><b>Chemistry</b> <b>Atoms, Elements and Compounds.</b> Atoms, elements and compounds Metals and non metals Reacting elements and compounds Carbon and carbonates</p>	<p><b>Chemistry</b> <b>Acids and Alkalis</b> Everyday acids and alkalis Indicators and the pH scale Making salts Investigate antacids</p>	<p><b>Geography</b> <b>Earthquakes and Volcanoes</b> Tectonic plates, plate boundaries, Earthquakes and volcanoes case studies</p>	
	<p><b>Physics</b> <b>Forces and their effects</b> Types of forces and measuring forces Balanced and unbalanced forces Forces on springs, friction, air resistance</p>	<p><b>Physics</b> <b>Forces and motion</b> Calculating and measuring speed Distance time graphs and forces and motion Moments</p>	<p><b>Physics</b> <b>Energy Stores and transfers</b> Energy stores and transfers Work done, gravitational, elastic and thermal energy Energy in fuels</p>	<p><b>Physics</b> <b>Waves and Sound</b> Sound waves, speed of sound Echoes, using sound How we hear and protecting hearing</p>		
<b>Technology:</b>	<p><b>Online Safety-</b> In this unit you will learn how to protect your information and yourselves online.</p>	<p><b>Programming using Java Script-</b> In this unit you will discover how to use the programming language JavaScript. You will use the language to create 'Emojis' using a range of programming techniques.</p>	<p><b>Hardware and Software -</b> An introduction into how computers work. Explore what goes on inside of a computer system.</p>	<p><b>Spreadsheets-</b> In this unit we will explore the different functions and uses of spreadsheets. You will also learn how we can use spreadsheets as tools to help us in everyday life.</p>	<p><b>Creative Project (Interactive Quiz) -</b> Explore how to create a digital product for a target audience. Learn and develop the skills needed to create your own interactive project.</p>	Each unit of work is over 8 lessons
<b>Engineering - DISC</b>	<p><b>Fateful Weaving -</b> Explore how materials are created through weaving and knotting. You will research how carbon fibres can be woven into speciality fabrics, how fabrics can be used to deliver medicines, specialist safety features and other industrial applications. You will then design and build a loom or weaving mechanism which can deliver the requirements of your design brief. Finally you will create a series of woven outcomes using the most appropriate materials to meet a design brief.</p>		<p><b>Engineered Forms -</b> We will be exploring how engineers use forms and formwork to create solid shapes from liquid and semi liquid materials. You will research large scale concrete formwork projects. You will then design your own bridge structures using cardboard to create the forwork frame for your bridge. You will then test different concrete mixes to identify the strongest material for your bridge and finally pour the concrete to create a model bridge from your design.</p>		<p><b>Picket Fence -</b> You will explore surfaces and how to create a variety of different textures using a single pallet plank as your canvas. You will produce a sensory design based on a theme of the natural world with at least 3 textures created through sanding, finishing and addition of materials. Your individual planks will then be connected to form a giant wall sculpture at UTC.</p>	
<b>Art</b>	<p><b>Hardware Splat -</b> What are the 'art formal elements'? Develop your observational drawing skills.</p>	<p><b>Hardware Splat -</b> Explore how to control wet media. Develop your biro cross hatching skills.</p>	<p><b>Optical Art -</b> What is an optical illusion? Develop &amp; increase 'shape' knowledge, measuring, scale &amp; proportion skills.</p>	<p><b>Optical Art -</b> Explore observational drawing techniques. Increase &amp; demonstrate your ability to control paint brush skills.</p>	<p><b>Robo Mash -</b> What can influence your design skills? Demonstrate your observational drawing ability. Explore and experiment with design concepts.</p>	<p><b>Robo Mash -</b> Create and develop collage &amp; cutting / gluing skills.</p>
<p><b>End of Unit Assessment:</b> Students will be assessed on how well they have demonstrated the skills and knowledge outlined within each unit. Students will receive regular verbal teacher feedback on how to improve; students will self assess their work throughout and at the end of the unit. A final summative teacher assessment will take place at the end of unit - this is all recorded in their sketchbooks.</p>						

<p><b>Maths</b></p>	<p><b>Algebraic Thinking</b></p> <p>This introductory Unit is accessible to all students. From analysing sequences, we move onto using formal algebraic notation. We manipulate algebra before extending the thinking to include graphwork. We finish with solving equations, using inverse operations - forming the basis for further study.</p>	<p><b>Place Value and Proportion</b></p> <p>We turn our attention to number where we develop both the ability to do arithmetic and the use of calculator skills. Concepts surrounding place value and estimation are reinforced before fraction, decimal and percentage equivalence is examined in different contexts.</p>	<p><b>Applications of Number</b></p> <p>The four operations of number are studied in depth as students become adept at using standard procedures in a wide variety of contexts e.g. perimeter, area, money, timetables...The use of number in statistics is introduced through skills involving frequency trees, line graphs and averages. Students work with percentages both with and without a calculator.</p>	<p><b>Directed Number/Fractional Thinking</b></p> <p>We revisit the 4 operations to include directed number and learn to order in both abstract and contextualised situations. This enables us to extend earlier work on algebra through solving two-step equations. We delve deeper into fractions by considering mixed and improper fractions and learn how to add and subtract them.</p>	<p><b>Lines and Angles</b></p> <p>We begin gently with basic notation and then use this understanding to draw, measure and classify. We move onto compass constructions and build on earlier statistical work with Pie Charts. We finish by using geometric reasoning to find missing angles.</p>	<p><b>Reasoning with Number</b></p> <p>We further develop number sense with a wide variety of mental arithmetic strategies. We encounter probability and its associated language and use Venn diagrams. We consider prime factors and the concept of proof - testing different conjectures. Assessments have occurred within each Unit and at the end of each term. Students take a final assessment during this period.</p>
<p><b>English:</b></p>	<p><b>Extraordinary Worlds' - Cirque Du Freak -</b> Exploration of horror as a genre and Shan's tale of horror, magic and adventure. Students will explore and understand a writer's methods in writing to create a fictitious character. Students will explore a range of fictitious main characters created and communicated by writers from across a diverse range of time periods and cultural backgrounds.</p>	<p><b>Extraordinary Worlds' - Myths and Legends -</b> Students will explore the narrative arc and apply their understanding of this fundamental narrative structure whilst exploring a range of Greek myths and legends. Students will understand the function and purpose of each stage of the narrative arc: exposition; rising action; climax; falling action; resolution.</p>	<p><b>Exploring Identity' - Identity Poetry -</b> An exploration of the context, language, structure and form of the following poems that explore aspects of identity: 1. Half Caste by John Agard; 2. Island Man by Grace Nicholls; 3. Search for my Tongue by Sujata Bhatt; 4. Shylock's speech from The Merchant of Venice. Students will explore the big ideas and context surrounding each poem and understand how each poem champions and defends an aspect of the poet's identity.</p>	<p><b>Exploring Identity' - Non-Fiction -</b> Students will be introduced to the main purposes of transactional writing: writing to persuade, argue and inform all with a theme of 'identity'. Students will also explore autobiographical writing and the main transactional forms (newspaper article/magazine article, letters and speeches) and the conventions associated with each of these main forms. Students will be introduced to the ICDAFORREST techniques which are evident across most transactional texts.</p>	<p><b>Other Worlds' - Dystopia -</b> Students will revisit the narrative arc and apply their understanding as this fundamental narrative structure to a selection of dystopian fiction texts whilst enhancing their knowledge and understanding of structural features. Likewise, students will explore the range of main linguistic techniques that are prevalent in fiction, including: simile; metaphor; personification; pathetic fallacy; semantic field; onomatopoeia; and alliteration and build understanding of how writers use methods to portray dystopian conventions.</p>	<p><b>Other Worlds' - Shakespeare -</b> Exploration of the conventions, mechanics and social structure of Elizabethan and Jacobean theatre. Students will immerse themselves in the world of the original Globe theatre and explore how Shakespeare's plays would have appeared to his contemporary audience. Students will explore the Bard's conventions for staging: enchanted forests, magical worlds, tempests and utopian settings.</p>
<p><b>History and Historical Geography:</b></p>	<p><b>Battle of Hasting:</b> In this unit you will be exploring the events leading up to the Battle of Hastings, the battle itself and the impacts of the battle for England. You will be introduced to the study of History and use both Primary and Secondary sources to meet lesson objectives. We will use maps of the UK and Europe to understand where the challengers came from and why England was so significant.</p>	<p><b>Middle Ages:</b> In this unit you will be exploring the period from 1066 to 1465. The Middle Ages were a time of great change but also stagnation in many areas. We will explore some of these ideas and look at why they were maintained for so long and what eventually caused them to change.</p>	<p><b>Tudors:</b> In this unit you will be exploring the Tudor Monarchs. The new Age of Reason led to an acceptance of many new ideas and we will be exploring these and deciding how important this questioning was for development.</p>	<p><b>Stuarts:</b> In this unit you will be exploring a period of English History that saw the UK joined together, new scientific discoveries and major changes go hand in hand with witch trials and religious conflicts. We will use ordnance survey maps as well as Historical maps to understand how Plymouth was defended during the Civil War and how these changed over time as the Cities needs evolved.</p>	<p><b>Voyages of discovery;</b> In this unit you will be exploring the topic of Voyages of Discovery. Sea journeys that came to shape our understanding of the world around us from Drake proving it was possible to sail around the world to Darwin's theory of evolution. We will use world maps and track the number of the most significant voyages across the Pacific and Atlantic as well as the continents they discovered for Europe.</p>	<p><b>British Empire;</b> In this unit you will be exploring the growth and management of the British Empire. Looking at what the Empire brought but also what it took from the lands it controlled and how this led to a new Industrial Age. By understanding the contextual growth of the Empire students will be introduced to a number of key locations of Global significance, in particular in Africa and Asia.</p>

<b>Philosophy and Ethics:</b>	<b>Island Project:</b> The aim of this topic is to introduce them to the basics of world religions and how communities work together, whilst getting to know each other. It aims to instill confidence in debate and discussion of personal opinions and puts all year Seven's on an even playing field regardless of primary school experience. It builds on the foundations or previous knowledge to enable an understanding how belief impacts individuals and communities similarly or differently.	<b>Island Project:</b> The aim of this topic is to introduce them to the basics of world religions and how communities work together, whilst getting to know each other. It aims to instill confidence in debate and discussion of personal opinions and puts all year Seven's on an even playing field regardless of primary school experience. It builds on the foundations or previous knowledge to enable an understanding how belief impacts individuals and communities similarly or differently.	<b>Sikhism:</b> This unit aims to give students an introduction to Sikhism, many of whom have no direct access to the religion in their own community. Sikhism is a way of life not just a religion, and this unit will provide knowledge about aspects of Sikhism that you may face when in the workplace, whilst exploring the belief systems of others to enable you to develop your own.	<b>Sikhism/ Christianity:</b> This unit aims to build on their knowledge they would have gained from Key Stage two. With Christianity being the biggest religion globally, they will encounter many beliefs and traditions embedded in within our multicultural, diverse society. Christianity is a way of life for many and not just a religion. This unit will provide knowledge that will enable students to explore the belief systems of others to enable you to develop your own.	<b>Christianity/ Ultimate Questions:</b> This unit aims to build on their knowledge they would have gained from Key Stage two. With Christianity being the biggest religion globally, they will encounter many beliefs and traditions embedded in within our multicultural, diverse society. Christianity is a way of life for many and not just a religion. This unit will provide knowledge that will enable students to explore the belief systems of others to enable you to develop your own.	<b>Ultimate Questions:</b> This unit aims to give you an opportunity to explore your beliefs, something that you rarely will get to do. It was teach you different theories and ideas about ultimate questions such as 'is there life after death?' and 'is there a soul?' This will allow students to explore their own morality (what you believe is right and wrong) whilst developing respect and understanding for those who have views that are different from their own.
<b>German:</b>	Meine Welt und Ich - introductions and talking about yourself. Learn to introduce yourself, say where you live and what your favourite things are	Familie und Tiere - family and pets: talk about your family, parents and siblings and describe their physical appearance. Design your own superpet	Familie und Tiere - Family and pets Sports and leisure: Describe your favourite sports and leisure activities	Meine Freizeit - Sports and leisure: continue with the theme of leisure activities and describe frequency of use of social media	Meine Schule - My school: learn to talk about your favourite subjects and describe your school	Meine Schule - my school: continue with the theme of school and learn to tell the time in German and design your own school timetable as well as describing your classroom
<b>Physical Education:</b>	<b>Concept: Value of PE:</b> You will understand the value and importance of studying physical education throughout your secondary school education. To understand the relationship between skill and ability and how this will impact your overall PE performances. You will understand the impact of regular Physical Activity on cognitive function and attainment. You will gain an insight to and an understanding of how PE can support your mental & emotional health. You will gain an understanding of what is meant by the term Physical Literacy and how this will help you to develop physically.	<b>Concept: Resilience</b> You will understand how to remain resilient in the face of struggle You will understand how learning from mistakes is vital to the learning process You will explore the mindset required to deal with and even embrace change You will gain an understanding of how marginal gains can lead to big improvements over time You will have the opportunity to learn and demonstrate a proactive response to challenge You will understand what is meant by failure and demonstrate how it can aide learning You will understand what persistence is and demonstrate it when faced with a challenge.	<b>Interpersonal skills:</b> You will understand what makes a team successful and to demonstrate the ability to work in a team. You will understand the importance of co-operation and being a good team player. You will understand the importance of being responsible for your actions and develop strategies to be responsible. You will understand a range of communication techniques and to develop the ability to communicate effectively. You will understand what active listening is and how to develop active listening skills. You will understand what empathy means and to explore a range of techniques how we can be empathetic. You will understand the importance of leadership skills and to develop the ability to demonstrate effective leadership skills.	<b>Health &amp; Fitness:</b> You will know how to perform an effective warm up and know a variety of muscle groups and how to stretch these. You will develop an understanding of the components of fitness with a focus on developing an understanding of cardiovascular endurance through continuous training. You will be introduced to and gain an understanding of what an personal exercise program is.  <b>Invasion (Handball):</b> In this unit, each class will take ownership of the invasion game taught. You will gain an initial understanding of what an invasion game is. Practical skills will be taught alongside life skills such as teamwork and communication. Learning will happen through isolated independent drills and small group practices. In addition, you will get the opportunity to apply the skills developed in a competitive scenario with the class.	<b>Athletics 1</b> During this unit, you will focus on a variety of track and field activities within athletics.  - Short distance (sprinting) - Middle distance (pacing) - Relay - Shotput - Javelin - Long jump - Triple jump  You will not only be taught the technique. They will be given strategies and progressions to ensure they are always striving to achieve their personal best.	<b>Striking &amp; Fielding:</b> In your first striking & fielding unit, you will take part in Cricket and Rounders. You will focus on individual performance, as well as developing team strategy. Within activities and games you will explore the batting, fielding and bowling skills.
<p><b>Assessment:</b> Throughout the academic year, you will be assessed in every unit of work that you are taught. In each unit of work, you will be assessed in each of the three strands. The assessment criteria will corrolate and create an average based upon the level demonstatred over that unit of work.</p> <p><b>Knowledge:</b> Knowledge, understanding, analysis, feedback, responsibility</p> <p><b>Character:</b> Communication, leadership, respect, resilience, effort</p> <p><b>Skills:</b> Physical ability, fitness levels, competition, technique, problem solving, tactics</p>						

<p><b>PSHE:</b></p>	<p><b>Living in the Wider World(1).</b> This theme covers everything you need to be a well round young adult. It includes, economic well being, careers and enterprise education, as well as education for personal safety, including assessing and managing risk.</p>	<p><b>Relationships</b> This theme aims to give you the information you need to help you develop healthy, nurturing relationships. It should show you what a healthy relationship looks like, including how to look after your sexual health. This will help you understand the positive effects that good relationships have on your mental wellbeing, identify when relationships are not right and how this can be managed.</p>	<p><b>Relationships continued</b> <b>Health and wellbeing (1)</b> The health and wellbeing theme focuses on all aspects of health including sexual health and wellbeing, with the aim to gain an understanding of the link between mental and physical health, as well as providing you with the knowledge to make informed decisions on how to develop into healthy young person.</p>	<p><b>Health and Wellbeing (2)</b> The health and wellbeing theme focuses on all aspects of health including sexual health and wellbeing, with the aim to gain an understanding of the link between mental and physical health, as well as providing you with the knowledge to make informed decisions on how to develop into healthy young person.</p>	<p><b>Health anf Wellbeing continued.</b> <b>Living in the Wider World (2)</b> This theme covers everything you need to be a well round young adult. It includes, economic well being, careers and enterprise education, as well as education for personal safety, including assessing and managing risk.</p>	<p><b>Living in the Wider World (2)</b> This theme covers everything you need to be a well round young adult. It includes, economic well being, careers and enterprise education, as well as education for personal safety, including assessing and managing risk.</p>
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