

Hailey Hall School  
Specialist Sports College



Believe Strive Achieve



# Hailey Hall School Computing Curriculum Booklet

## **Computing Curriculum intent**

Technology is about the future; it is about changing the world around us to what it might be or should be. Computing especially encourages pupils to think creatively and collaboratively on their projects to challenge their skills and knowledge within the Computing curriculum. At Hailey Hall, we focus on ensuring the pupils are aware of how to use the internet safely, as well as using relevant software to encourage and prepare them for life beyond Hailey Hall in both further education and in the workplace.

Within the Computing curriculum, we aim to provide cross-curricular links where possible such as Art and Design Technology, as well as incorporating English and Mathematics within their work. Within the curriculum we endeavour to ensure the projects undertaken in Key Stage 3 support and prepare the pupils for the Key Stage 4 qualification.

In the Computing curriculum we aim to allow pupils to develop their skills and knowledge in the following areas:

- To progress the pupils' competence and confidence with basic Computing skills.
- To ensure pupils have an understanding on how to use the internet safely.
- To gain knowledge on a range of various pieces of software.
- To gain an understanding on how and why Computing is valuable to the pupils' future.
- To allow pupils to gain a nationally recognised qualification to support within further education.

Throughout the projects undertaken by pupils, we endeavour to create links to the future and the world outside of Hailey Hall. In addition to subject specific principles, we aim to develop life skills and self-awareness, which will help the pupils become employable and gain attributes for the workplace. Skills and attributes that are encouraged include:

- Able to work as part of a team as well as an individual
- Communication skills (speaking, listening and presenting)
- Challenging and extending themselves
- Self-assessing
- Creativity
- Leadership skills

British values are an important aspect at Hailey Hall and within Computing. However, within the Computing lessons staff promote the views and opinions of each pupil ensuring they all have a mutual respect between each other and accept their peers' faiths and beliefs. Staff regularly reinforce the importance of British values and how they are needed within the school, as well as the workplace in the future.

## Year 7 ICT Computing

### Why this subject is important:

- Confident, creative and productive use of ICT is an essential skill for life
- ICT skills are essential in order to gain employment in modern society
- ICT gives access to ideas and experiences from a wide range of people, communities and cultures and allows you to work together and share information across the world.

### What you will learn:

Unit name	Topics	Skills and understanding	Skills: Curriculum Links
eSafety	SMART Rules – internet safety Chat & chat rooms Instant messaging Email, mobiles, social networking File-sharing Gaming, spam, viruses Passwords, backing up Looking after your device Online Safety Alliance Course	Understand the meaning of e-safety. How to use the internet/Chatrooms safely. Be able to use the internet responsibly and safely; to avoid cyber-bullying. Be able to give the definition for e-safety and cyber-bullying Be able to say what personal details are How to stay safe and avoid cyber bullying when using the internet Discuss and come up with rules that should be followed when adding “friends” on social networking sites. Be able to decide whether or not to accept “friends” on your social networking profiles. Know how to use the internet/Chatrooms safely. Understanding the ways in which they can prevent and combat computer hackers and viruses. Be able to recognise copyrights implications. Be able to keep records of references and sources to websites when obtaining images from the internet.	E-safety is a part of all year groups ensuring all students follow the schools policy. Using a computer safely links in with the school policy and links to life outside of school. Adds a level of trust so we know the students are aware of how to use the computers safely and securely.

Game Design	<p>Understanding Scratch</p> <p>2D Game Design</p>	<p>In the process of creating interactive stories, games, and animations with Scratch, young people can learn important computational skills and concepts.</p> <p>They can learn problem-solving and project-design skills, such as reasoning logically, debugging problems, developing ideas from initial conception to completed project, and sustaining focus.</p> <p>They can also learn specific programming concepts, such as sequences, iteration, conditionals, variables, and data structures.</p>	<p>Scratch project that uses small levels of programming that can then be used later in life and will link directly with Lego Mindstorms in year 8. It will then link with the Kodu topic in year 9.</p> <p>Problem solving links to KS4 when working on their coursework and encountering issues.</p> <p>All three of these topics will help them if they chose to do iMedia in year 10 and 11 during the digital games module.</p>
Representing images	<p>Pixels and pixelated images</p> <p>Image size and file type</p> <p>Moving images</p>	<p>Be able to reproduce an image on a pixel grid in one-bit colour</p> <p>Be able to reduce the colour depth on an image and predict the change in quality</p> <p>Know what steganography is and be aware of some basic steganography techniques</p> <p>Be able to create an animation from a series of static images</p>	<p>Editing images and changing the representation of them.</p> <p>Researching topics, sourcing images and information from the internet linking to multiple topics throughout year groups.</p> <p>This will help them in the photoshop topic in year 9 and will also help if they chose iMedia in year 10 and 11 as there is a digital graphics module.</p>

#### Democracy -

- Certain decisions on matters affecting the whole class are put to a vote
- We use voting as a system to encourage engagement in lessons, eg. Debates – for/against arguments, respecting views of others.

#### Rule Of Law –

- Whole school behaviour expectations/rules are constantly discussed, especially when they are breached, with individuals, pairs or small groups. We link behaviour to issues of morality and social interactions.

#### How you will be assessed:

You will be constantly assessed throughout the year with regular verbal and written feedback.

Each unit will end with a summative assessment in the form of a test, to assess knowledge or a practical task to assess knowledge and skills.

#### How parents / carers can help:

- Wherever possible and appropriate allow your son/daughter to complete work on a computer
- Look at the work they are completing and act as reviewers, highlighting the good features of any work produced and suggesting ways the work could be improved
- Talk about how technology has changed life during your life time
- Ensure home learning is completed

#### Useful website and details of course books:

<https://www.codecademy.com>  
<http://my.dynamic-learning.co.uk/>

#### Progression Routes and Career Opportunities:

Cambridge Nationals iMedia Level 2  
College

#### Who to contact and how if you have a query regarding your child:

Name	Position	Email Address	Telephone
Mr John Gregory	ICT Teacher	<a href="mailto:jgregory@haileyhall.herts.sch.uk">jgregory@haileyhall.herts.sch.uk</a>	01992 465208

## Year 8 Computing

### Why this subject is important:

- Confident, creative and productive use of ICT is an essential skill for life
- ICT skills are essential in order to gain employment in modern society
- ICT gives access to ideas and experiences from a wide range of people, communities and cultures, and allows you to work together and share information across the world.

### What you will learn:

Unit name	Topics	Skills and understanding	Skills: Curriculum Links
Lego Mindstorms	Programming a robot to follow a path created by students	<p>Knowledge and understanding of how to program.</p> <p>Hardware knowledge of robots and computers.</p> <p>Functionality of the robot and using it to its best abilities.</p>	<p>Builds on the Scratch project from year 7.</p> <p>Lego Mindstorms links with year 9's Kodu project as well as the digital game design module in year 10 and 11 if they are to choose iMedia.</p>
Animation	<p>Creating a Pivot animation.</p> <p>Use of cameras to capture stop motion project.</p>	<p>Pivot animation skills and creation.</p> <p>Introduction into the use of cameras and different settings on a camera.</p> <p>Knowledge in animation and video editing.</p>	<p>The use of cameras can be taken to the year 9 photoshop project as they can use their own images and edit them.</p> <p>Then take that further knowledge into year 10 and 11 if they choose the iMedia course.</p>
Pre-Production skills	<p>Pupils will learn about how to plan pre-production effectively including understanding of client requirements and reviewing pre-production briefs.</p> <ul style="list-style-type: none"> <li>• Understanding the purpose and content of pre-production</li> </ul>	<p>Mood boards (e.g. ideas and concepts for a new creative media product development, assisting the generation of ideas)</p> <p>Mind maps/spider diagrams (e.g. to show development routes and options for an idea, or component parts and resources needed for a creative media product)</p> <p>Visualisation diagrams (e.g. for still images and graphics)</p>	<p>The understanding of pre-production skills will be taken into their iMedia course if they chose for year 10 and 11 as a small portion of the course.</p> <p>Knowledge of the legislation within images and video linking to iMedia year 10 and 11.</p>

	<ul style="list-style-type: none"> <li>• Being able to plan pre-production</li> </ul>	Storyboards (e.g. for use with video, animation) Scripts (e.g. for a video production, voiceover,	
	<ul style="list-style-type: none"> <li>• Being able to produce and review pre-production documents.</li> </ul>	comic book or computer game) Interpret client requirements for pre-production (e.g. purpose, theme, style, genre, content) based on a specific brief (e.g. by client discussion, reviewing a written brief, script or specification) Identify timescales for production based on target audience and end user requirements How to conduct and analyse research for a creative digital media product	

**How you will be assessed:**

You will be constantly assessed throughout the year with regular verbal and written feedback.

All work will be assessed in line with the Life Without Levels subject and topic documents to ensure consistent assessment.

**How parents / carers can help:**

- Wherever possible and appropriate allow your son/daughter to complete work on a computer
- Look at the work they are completing and act as reviewers, highlighting the good features of any work produced and suggesting ways the work could be improved
- Talk about how technology has changed life during your life time
- Ensure home learning is completed

**Useful website and details of course books:**

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**Progression Routes and Career Opportunities:**

Cambridge Nationals iMedia Level 2  
 College

Who to contact and how if you have a query regarding your child:

Name	Position	Email Address	Telephone
Mr John Gregory	Teacher	<a href="mailto:jgregory@haileyhall.herts.sch.uk">jgregory@haileyhall.herts.sch.uk</a>	07971440865

## Year 9 Computing

Why this subject is important:

- Confident, creative and productive use of ICT is an essential skill for life
- ICT skills are essential in order to gain employment in modern society
- ICT gives access to ideas and experiences from a wide range of people, communities and cultures, and allows you to work together and share information across the world.

What you will learn:

Unit name	Topics	Skills and understanding	Skills: Curriculum Links
Kodu	Creating a cross road game	Basic understanding of designing and programming a game. Introduction to Kodu software and the capabilities and limitations of the software.	Directly links to the year 10 and 11 iMedia course. The digital game design module that is included in the course.
Digital Graphics	Introduction to photoshop.	Know how to use Paint.net to change images and improve their appearance. Adding layers to an image to enhance the depth of the picture. Changing effects of the image to alter the tone of the image.	This will directly link with the digital graphics module in the year 10 and 11 iMedia course.  Researching and sourcing images linked to Year 7 summer project.
Web page creation from the ground up	Usable and accessible web pages  Making your web page	Using the Wix online software to create a personalised website.  Be aware that colours and fonts affect the	Helps them gain small understanding of how a website is designed and created.

	Bringing content together	readability of text in a digital artefact  Understand that the font used and the size and style of text, affects the readability of digital text	These skills can then be taken into the iMedia course if they choose to do so.
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### Promoting British Values:

<p><b>Democracy -</b></p> <ul style="list-style-type: none"> <li>• Certain decisions on matters affecting the whole class are put to a vote</li> <li>• We use voting as a system to encourage engagement in lessons, eg. Debates– for/against arguments, respecting views of others.</li> </ul> <p>Rule Of Law –</p> <ul style="list-style-type: none"> <li>• Whole school behaviour expectations/rules are constantly discussed, especially when they are breached, with individuals, pairs or small groups. We link behaviour to issues of morality and social interactions.</li> </ul>
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## Year 10 ICT Cambridge Nationals – Level 2 iMedia

### Why this subject is important:

- Confident, creative and productive use of ICT is an essential skill for life
- ICT skills are essential in order to gain employment in modern society
- ICT gives access to ideas and experiences from a wide range of people, communities and cultures, and allows you to work together and share information across the world.

### What you will learn:

Unit name	Topics	Skills and understanding	Sills: Curriculum Links
<b>Unit R085: Creating a multipage website</b>	This unit enables pupils to understand the basics of creating multipage websites. Pupils will use their creativity to combine components to create a functional, intuitive and aesthetically pleasing	Produces a summary of the purpose and component features of websites in the public domain which demonstrates a thorough understanding. Provides a detailed description of the devices used to access web pages.	Links to the iMedia course, doing this will go towards their final grade.  Builds on KS3 learning and skills developed.  This will then help in further education.

	<p>website against a client brief.</p>	<p>Demonstrates a thorough understanding of internet connection methods.          Produces an interpretation from the client brief for a multipage website which fully meets the client requirements.</p>	
		<p>Produces a clear and detailed work plan for the creation of the multipage website, which is fully capable of producing the intended final website.          Identifies many assets needed to create a multipage website, demonstrating a thorough understanding of their potential use.          Identifies many of the resources needed to create a multipage website, demonstrating a thorough understanding of their purpose.          Creates a clear and detailed test plan for the website, which fully tests the functionality, listing tests, expected and actual outcomes and identifying re-tests.          Demonstrates a thorough understanding of legislation in relation to the use of assets in websites.          Sources and imports a wide range of assets for use, consistently using appropriate methods.          Applies a range of advanced techniques and effects of the software, appropriately and effectively, to create the multipage website using a range of assets.          Combines components effectively to produce a clear and coherent working navigation system when creating the multipage website.</p>	

		<p>Saves and publishes the website and related files consistently using appropriate formats. The website will frequently load quickly and correctly.</p> <p>Consistently saves electronic files using file and folder names and structures which are consistent and appropriate.</p>	
		<p>Produces a review of the finished website which demonstrates a thorough understanding of what worked and what did not, fully referencing back to the brief.</p> <p>Review identifies areas for improvement and further development of the final website, which are wholly appropriate and justified.</p>	
<b>R092: Developing digital games</b>	<p>In this unit pupils will plan a digital game, create and edit and then test the game with a focus group, identifying any areas for improvement.</p>	<p>Produces a summary of the capabilities and limitations of a range of 2D and 3D software used for digital game creation which demonstrates thorough understanding.</p> <p>Demonstrates a thorough understanding of gaming platform hardware and peripherals required to create and test digital games.</p> <p>Produces an interpretation from the client brief for a digital game which fully meets the client requirements.</p> <p>Produces a clear and detailed identification of target audience requirements.</p> <p>Demonstrates a thorough understanding of the key aspects of game creation.</p> <p>Creates a clear and detailed test plan for the digital game which fully</p>	<p>Links to the iMedia course, doing this will go towards their final grade.</p> <p>Builds on KS3 learning and skills developed.</p> <p>This will then help in further education.</p>

		<p>tests the functionality, listing tests, expected and actual outcomes and identifying re-tests.</p> <p>Applies detailed design techniques to the planning of the game structure, including extensive reference to pathways, game play and game mechanics and with thorough consideration of the success criteria.</p> <p>Demonstrates a thorough understanding of legislation in relation to the use of assets, ideas and concepts in a digital game.</p> <p>Independently selects and uses appropriate software features to create a digital game.</p> <p>Consistently uses geometric parameters to manipulate object(s) and environment(s), displaying excellent accuracy.</p> <p>Imports assets and combines components, which are consistently appropriate, effectively throughout the digital game.</p> <p>Creates game-play controls that are consistently appropriate and fully operational.</p> <p>Produces a review of the digital game which demonstrates a thorough understanding of what worked and what did not, fully referencing back to the brief.</p> <p>Fully tests the digital game with clear reference to the brief and to a test plan.</p> <p>Review identifies areas for improvement and further development of the digital game, which</p>	
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		are wholly appropriate and justified.	
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**How you will be assessed:**

R081	Pre-Production Skills	External	25%	1hr 15 mins
R082	Creating Digital Graphics	Internal	25%	30 hrs
R082	Developing digital games	Internal	25%	30 hrs
R085	Creating a Multi-Page Website	Internal	25%	30 hrs

Grades awarded: Pass, Merit, Distinction and Distinction\*

The controlled assessment will be internally assessed and externally moderated. Your teacher will assess you at the end of each unit.

**How parents / carers can help:**

- Talk to your child about what they are learning in lessons, perhaps getting them to teach you what they have been learning.
- Encourage your child to use the internet if he has access to this to do research.
- Encourage your child to revise each week for examinations.
- Ensure your child meets all the coursework deadlines.
- Provide them with a quiet place to do homework and revision
- Talk about how technology has changed life during your life time

**Useful website and details of course books:**

- [www.bbcbitesize.co.uk](http://www.bbcbitesize.co.uk)
- <http://www.ocr.org.uk>
- <https://www.codecademy.com>
- <http://my.dynamic-learning.co.uk>

**Progression routes and career opportunities:**

College.  
Sixth form.

**Who to contact and how if you have a query regarding your child:**

Name	Position	Email Address	Telephone
Mr John Gregory	Teacher of ICT	<a href="mailto:jgregory@haileyhall.herts.sch.uk">jgregory@haileyhall.herts.sch.uk</a>	01992 465208

**How you will be assessed:**

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All work will be assessed in line with the Life Without Levels subject and topic documents to ensure consistent assessment.

### How parents / carers can help:

- Wherever possible and appropriate allow your son/daughter to complete work on a computer
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### Progression routes and career opportunities:

Cambridge Nationals iMedia Level 2  
College

### Who to contact and how if you have a query regarding your child:

Name	Position	Email Address	Telephone
Mr John Gregory	Teacher	<a href="mailto:jgregory@haileyhall.herts.sch.uk">jgregory@haileyhall.herts.sch.uk</a>	01992 465208

## Year 11 ICT Cambridge Nationals – Level 2 iMedia

### Why this subject is important:

- Confident, creative and productive use of ICT is an essential skill for life
- ICT skills are essential in order to gain employment in modern society
- ICT gives access to ideas and experiences from a wide range of people, communities and cultures, and allows you to work together and share information across the world.

### What you will learn:

Unit name	Topics	Skills and understanding	Sills: Curriculum Links
Unit R081: Pre-production skills	<p>Pupils will learn about how to plan pre-production effectively including understanding of client requirements and reviewing pre-production briefs.</p> <ul style="list-style-type: none"><li>• Understanding the purpose and content of pre-production</li><li>• Being able to plan pre-production</li></ul>	<p>Mood boards (e.g. ideas and concepts for a new creative media product development, assisting the generation of ideas)</p> <p>Mind maps/spider diagrams (e.g. to show development routes and options for an idea, or component parts and resources)</p>	<p>Links to the iMedia course, doing this will go towards their final grade. Builds on KS3 learning and skills</p>

	<ul style="list-style-type: none"> <li>Being able to produce and review pre-production documents.</li> </ul>	<p>needed for a creative media product)</p> <p>Visualisation diagrams (e.g. for still images and graphics)</p> <p>Storyboards (e.g. for use with video, animation)</p> <p>Scripts (e.g. for a video production, voiceover, comic book or computer game)</p> <p>Interpret client requirements for pre-production (e.g. purpose, theme, style, genre, content) based on a specific brief (e.g. by client discussion, reviewing a written brief, script or specification)</p> <p>Identify timescales for</p>	<p>developed.</p> <p>This will then help in further education.</p>
		<p>production based on target audience and end user requirements</p> <p>How to conduct and analyse research for a creative digital media product</p>	
<p>Unit R082: Creating Digital graphics</p>	<p>Pupils will learn the basics of digital graphics editing for the creative and digital media sector, considering client requirements</p> <ul style="list-style-type: none"> <li>Understanding the purpose and properties of digital graphics and knowing where and how they are used</li> <li>Being able to plan the creation of a digital graphic</li> <li>Having the knowledge to create new digital graphics, using a range of editing techniques</li> <li>Being able to review a digital graphic against a specific brief</li> </ul>	<p>Interpret client requirements for a digital graphic based on a specific brief (e.g. by client discussion, reviewing a written brief, or specification)</p> <p>Understand target audience requirements for a digital graphic</p> <p>Produce a work plan for an original graphics creation;</p> <p>Produce a visualisation diagram for a digital graphic</p> <p>Identify the assets needed to create a digital graphic (e.g. photographs, scanned images, library images, graphics, logos)</p>	<p>Links to the iMedia course, doing this will go towards their final grade. Builds on KS3 learning and skills developed.</p> <p>This will then help in further education.</p>

	<ul style="list-style-type: none"> <li>Be able to create a digital graphic</li> </ul>	Identify the resources needed to create a digital graphic (e.g. digital camera, internet, scanner, computer system and software) How legislation (e.g. copyright, trademarks, logos, intellectual property use, permissions and implications of use) applies to images used in digital graphics, whether sourced or created.	
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**How you will be assessed:**

R081	Pre-Production Skills	External	25%	1hr 15 mins
R082	Creating Digital Graphics	Internal	25%	30 hrs
R082	Developing digital games	Internal	25%	30 hrs
R085	Creating a Multi-Page Website	Internal	25%	30 hrs

Grades awarded: Pass, Merit, Distinction and Distinction\*

The controlled assessment will be internally assessed and externally moderated. Your teacher will assess you at the end of each unit.

**How parents / carers can help:**

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- Encourage your child to revise each week for examinations.
- Ensure your child meets all the coursework deadlines.
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- Talk about how technology has changed life during your life time

**Useful website and details of course books:**

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<b>Name</b>	<b>Position</b>	<b>Email Address</b>	<b>Telephone</b>
<b>Mr John Gregory</b>	<b>Teacher</b>	<b><a href="mailto:jgregory@haileyhall.herts.sch.uk">jgregory@haileyhall.herts.sch.uk</a></b>	<b>01992 465208</b>