

The Polygon School 2026-2027

Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	All About Me Produce a PPT about themselves using independently resourced materials	Sketch Up Creating 3D products and assests using CAD software	MS Excel Build a foundation of knowledge within the software	Micro:Bit Exposing pupils to the world of programming through creative and engaging problems	Stick bot Studies Using animation tools to create 3D modelling	G Develop App
Year 8	Website The roles of marketing and advertsing online How to appeal o a choosen audience Construction of website pages	Computational Thinking Problem solving by breaking down, spotting patterns and focusing on key details	ICT in Society Students have an overview of how ICT is used in everyday life by different individuals	Flowol	Kodu Game creation across a variety of genres	mBots How to contrunct code that performs as expected
Year 9	Cyber Security Discuss types of threats to computer systems as well as ways to protect ourselves	Digital Manipulation Creating digital artefacts	Stop Motion Using different technologies, mediums and techniques to create films		AI Machine Learning What is AI and how will it effect our lives	Audacity
Year 10	Functional Skill in Digital Using devices and handling information	Functional Skill in Digital Creating and editing	Functional Skill in Digital Communicating and Transacting	Functional Skill in Digital Being safe and responsible online	Exam Revision	iDEA Bronze Award
Year 11	iDEA Bronze Award	iDEA Silver Award	iDEA Silver Award	iDEA Silver Award		

YEAR 7 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links Education in a connected world link
Autumn 1	ALL ABOUT ME	- I can produce a plan from my presentation - I can create a digital version from a plan I have made - I can source my own digital artifacts - I can make decisions on what artifacts are appropriate - I can source my own digital artifacts - I can make decisions on what artifacts are appropriate - I can add animations and transitions to a presentation - I can create hyperlinks between slide pages - I can present my work to an audience	Previous years PPTs Pupils own research	PSHE – Online presence SEAL – Relationships English – Presenting content Self reflection Self confidence Self Image and Identity Copyright and ownership
Autumn 2	Google Sketch Up	- can navigate around the environment - I can use the Push/Pull tool to manipulate shapes - I can create a range of simple objects - I can add details to objects to make them appear more realistic - I can follow instructions to make a complicated object	Google Sketch Up tutorials YouTube tutorials	DT – 3D Modelling Creativity Organisation Architecture/Construction Copyright and Ownership
Spring 1	MS Excel	- I can understand cell references - I can format cells, rows and columns in a variety		PE – Using data DT – Data input, Questionnaire

		- of ways - I can create a simple spreadsheet, entering data into appropriate columns and rows - I can create a simple spreadsheet, entering data into appropriate columns and rows - I can create useful graphs and charts from spreadsheet data - I can sort and filter data in a spreadsheet - I can use simple formulae involving +, -, *, /		Reporting Maths - Producing charts/graphs Office related skills Organisation
Spring 2	Microbits	- I can name the components of a Microbit - I can create simple code for a Microbit - I can download code to a Microbit - I can create code that requires an input - I can select string or number based on appropriateness of data - I can create code that has more than one input - I can create an IF loop - I can use an IF loop appropriately - I can create a variable - I can use a created variable	Microbits materials Textbook examples	PE - Tracking physical activity Resilience Problem solving Coding/ Project management Health, Well-being and lifestyle
Summer 1	Stick bot Studies	- I can take a static image using an app - I understand frame rates per second - I can storyboard a sequence of events - I can take multiple images to combine to a stop motion animation - I can define the key terms of the app and the functions within it - I can insert a sound file or record sound	Previous years examples Youtube tutorials	Art - Self image and identity Content creation/film making/ Photography Creativity

Summer 2	G Develop App	• Be able to create a new game • Create instances of an object • Be able to test a game by previewing it • Understand the key components of a platform game including: – Game objectives – Characters and sprites • Be able to create a theme and concept art for a platform game • Be able to design sprites for a platform game • Understand how collision detection works • Implement further features of platform games including: – The main character sprite falling off the screen – The main character sprite spawning back at the start • Be able to alter the background colour of the game • Understand how to add a particle emitter object • Be able to change the properties of a particle emitter object • Alter the orientation of an object • Add an event to create new instances of an object • Be able to create and edit collision masks • Test and refine the playability of a game	English Coding/ Project management Problem solving/Critical Thinking Resilience
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		• Understand the purpose of variables • Be able to create hazard objects that return a character to the start of the game		
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YEAR 8 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular Links Personal Development Links Careers Related Learning Links Education in a connected world link
Autumn 1	Websites	I understand the purpose of websites I can evaluate other websites I can adhere to copyright laws I can build a bank of resources I can create a plan for a website I can create a webpage based on a plan that I have made	https://www.tes.com/teaching-resource/creating-a-website-lesson-1-of-6-11736046	PSHE – Online presence DT – Logo creation English - Creative writing Online reputation Managing information Online Privacy and security Copyright and Ownership Website creation/marketing Communication skills Organisation
Autumn 2	Computational Thinking	I can demonstrate that I understand what algorithms are I can create simple linear algorithms I can represent algorithms symbolically I understand what abstractions are I understand what decomposition is I can say why decomposition is useful I understand what pattern	http://www.childnet.com/resources/esafety-and-computing http://www.digital-literacy.org.uk/Curriculum-Overview.aspx	Maths – Problem Solving Self image and identity Problem Solving Critical Thinking

		recognition is		
Spring 1	ICT in Society	To explain what globalization is and how it has affected us To analyse the evolution of websites over time To scrutinise societies dependence on technology To discuss the issues around controls/restrictions to the internet To discuss the issues around controls/restrictions to the internet To understand the impact of technology on the environment To discuss the implications around driverless cars and decision making To discuss the implications around driverless cars and decision making To comprehend the importance of autonomous apps To investigate the appropriateness of chatbots in society		DT – ethical, social issues, recycling of hardware PSHE – Ethics and decision making Intergration of ICT within the workplace Self image and Identity Online reputation Health, wellbeing and lifestyle Privacy and security Self Awareness Emotional IQ

Spring 2	Flowol	To be able to identify control systems and about the impact they have on our lives. To know what a control system is and identify them from everyday life. To understand how and why these systems are used To be able to identify Flow Diagram symbols To know the symbols needed for a flowchart. To understand why a control system is used & basics of flowchart 'language'. To be able to use simple flowcharts which use sensors to control a system. To know the uses for sensors in control systems. To understand why a control system is used & the impact this can have on jobs. To be able to create a flowchart to control a set of traffic lights. To know that control systems carry out boring, monotonous jobs that people often do not like doing. To understand why a control system is used for this type of job	Tes Resource folder PG Online resource set	Project management Critical Thinking/Problem Solving Maths – Problem – solving, arithmetic
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Summer 1	Kodu	To create a landscape that has specific features To create their own rainbow road with playable characters To have a track on land with programmed environment volcano To make an aquarium To create a basic football game To create a golf game To create extra levels for a golf game To create a "Floor is lava" game To make a maze game To make a maze game with a guard To make a jet game To make a jet fighter game	Xbox/Microsoft website	Maths – Problem – solving, arithmetic, using data Health, wellbeing and lifestyle Copyright and ownership Coding/ Project management Critical Thinking/Problem Solving
Summer 2	mBots	I can programme a human I can programme the mBot to move using the keyboard I can programme the mBot to dance I can programme the mBot to follow a line I can programme an mBot to avoid walls I can programme an mBot to fight	PG Online resource set	Maths – Problem – solving, arithmetic, using data Health, wellbeing and lifestyle Copyright and ownership Critical Thinking/Problem Solving

YEAR 9 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	
Autumn 1	Cyber Security	• Explain the difference between data and information • Critique online services in relation to data privacy • Identify what happens to data entered online • Explain the need for the Data Protection Act • Recognise how human errors pose security risks to data • Implement strategies to minimise the risk of data being compromised through human error • Define hacking in the context of cyber security • Explain how a DDoS attack can impact users of online services • Identify strategies to reduce the chance of a brute force attack being successful • Explain the need for the Computer Misuse Act • List the common malware threats • Examine how different	https://teachcomputing.org/curriculum/key-stage-3	Privacy and security Managing Online Information Copyright and ownership Cyber security Critical Thinking/Problem Solving PSHE – Online Presence Seal – Keeping yourself safe online English – Extended writing opportunities

		types of malware causes problems for computer systems • Question how malicious bots can have an impact on societal issues • Compare security threats against probability and the potential impact to organisations • Explain how networks can be protected from common security threats • Identify the most effective methods to prevent cyberattacks		
Autumn 2	Digital Manipulation	- I can cut out shapes with the selection tool - I can cut out shapes using the lasso tool - I can cut out shapes using the polygon lasso tool - I can cut out shapes using the cutout studio - I can layer images onto each other and arrange them appropriately - I can blend layered images so they appear natural		DT – Graphics PSHE – Real world Vs Online Copyright and ownership Self image and identity Creativity Adaptability/Flexibility Photography/Graphic design

Spring 1/2	Stop Motion	• I can name three different types of animation • I can give examples of animations created in each style • I can explain the difference between the three types of animation • I can explain the advantages and disadvantages of each animation • I can create cel animation • I can create a simple stop motion animation • I can plan a storyboard for an animation • I can create a stop motion with two or more characters • I can give constructive feedback to other pupils		Art – Animation, artistic thinking DT – Construction Graphic design/Film making Creativity Adaptability/Flexibility
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Summer 1/2	Ai and Machine learning	• Understand the origin and uses of AI • Understand how rules are used in AI decision making • Understand what ethics is Consider some simple ethical hypothetical problems • Understand how intelligence can be measured in humans and computers • Know what the Turing test is and how it works • Understand the difference between facts and rules • Describe uses of machine learning • Use training data to create rules that solve problems of categorising data • Understand what ethics is • Understand how jobs can be affected by AI and automation • Understand issues that make facial recognition difficult • Understand how images are stored as binary data • Describe a technique for detecting patterns in a grid of pixels • Review program code and adapt it to detect given shapes • Program a chatbot • Understand the analysis of text to rate an attitude or opinion • Review the program and identify areas for improvement	PG online resource set	Managing Online information Privacy and security PSHE – Ethics and morality Critical Thinking/Problem Solving Self awareness
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| | <ul style="list-style-type: none">• Discuss the strengths and weaknesses of machine learning• Understand how bias can be introduced into AI algorithms and machine learning• Describe the opportunities and problems of using AI for sentiment analysis• Understand why interpreting patterns is not as useful a skill as 'thinking' | | |
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YEAR 10 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links
Autumn 1	Using devices and handling information	identify the ICT requirements of a straightforward task use ICT to plan and organise work interact with and use ICT systems to meet requirements of a straightforward task in a familiar context select and use software applications to meet needs and solve straightforward problems select and use interface features effectively to meet needs adjust system settings as appropriate to individual needs manage information storage work with files, folders and other media to access, organise, store, label and retrieve information follow and demonstrate understanding of the need for safety and security practices	Edexcel approved resources	Business/ Communications / IT/ Office roles Organisation English

		demonstrate how to create, use and maintain secure passwords demonstrate how to minimise the risk of computer viruses		
Autumn 2	Creating and editing	use search techniques to locate and select relevant information search engines, queries select information from a variety of ICT sources for a straightforward task recognise and take account of currency, relevance, bias and copyright when selecting and using information enter, develop and refine information using appropriate software to meet the requirements of straightforward tasks apply editing, formatting and layout techniques to meet needs, including text, tables, graphics, records, numbers, charts, graphs or other digital	Edexcel approved resources	Marketing and promotions Graphic design/ content creation Art CDT Creativity

		content use appropriate software to meet requirements of straightforward data-handling task display numerical data in a graphical format use field names and data types to organise information use communications software to meet requirements of a straightforward task read, send and receive electronic messages with attachments demonstrate understanding of the need to stay safe and to respect others when using ICT-based communication for print and for viewing on screen evaluate own use of ICT tools at each stage of a task and at the task's completion		
Spring 1	Communication and Transacting	identify the ICT requirements of a straightforward task interact with and use ICT systems to meet requirements of a straightforward task in a familiar context manage information storage	Edexcel approved resources	Communication and admin roles English Organisation /Communication

		follow and demonstrate understanding of the need for safety and security practices use search techniques to locate and select relevant information select information from a variety of ICT sources for a straightforward task		
Spring 2	Being safe and responsible online	enter, develop and refine information using appropriate software to meet the requirements of straightforward tasks use appropriate software to meet requirements of straightforward data-handling task use communications software to meet requirements of a straightforward task combine information within a publication for a familiar audience and purpose evaluate own use of ICT tools	Edexcel approved resources	Administration roles English PSHE Self awareness Critical Thinking

Summer 1	Exam Revision	To revise all areas in preparation for exam Using devices and handling information Creating and editing Communicating Transacting Being safe online	Edexcel approved resources	
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Summer 2	Bronze iDEA Citizenship and Woker		idea.org.uk	Self image and identity Online relationships Online reputation Online Bullying Managing online information Health, well-being and lifestyle Privacy and security Copyrigh and ownership English PSHE Work Skills Citizenship Communication skills Self awareness Self confidence Resilience Critical thinking

YEAR 11 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links
Autumn 1	Bronze iDEA Maker and Entrepreneur	                           		Cross Curricular links Personal Development Links Careers Related Learning Links

Self image and identity
Online relationships
Online reputation
Online Bullying
Managing online information
Health, well-being and lifestyle
Privacy and security
Copyright and ownership

English
PSHE
Work Skills
Citizenship
Art

Communication skills
Self awareness
Self confidence
Resilience
Critical thinking

Autumn 2	Silver iDEA Citizen and Worker		Self image and identity Online relationships Online reputation Online Bullying Managing online information Health, well-being and lifestyle Privacy and security Copyright and ownership English PSHE Work Skills Citizenship Art Communication skills Self awareness Self confidence Resilience Critical thinking

Spring 1	Silver iDEA Maker and Entrepreneur		Self image and identity Online relationships Online reputation Online Bullying Managing online information Health, well-being and lifestyle Privacy and security Copyright and ownership English PSHE Work Skills Citizenship Art Communication skills Self awareness Self confidence Resilience Critical thinking
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Spring 2	Silver iDEA Gamer	  		Self image and identity Online relationships Online reputation Online Bullying Managing online information Health, well-being and lifestyle Privacy and security Copyrigh and ownership English PSHE Work Skills Citizenship Art Communication skills Self awareness Self confidence Resilience Critical thinking

