



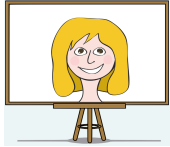
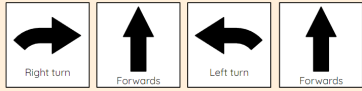
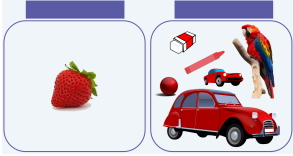
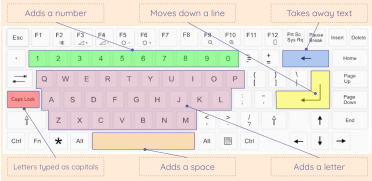


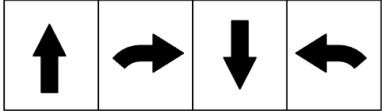


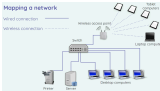
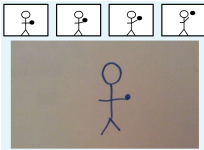
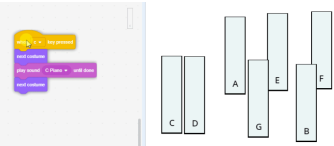
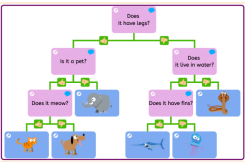
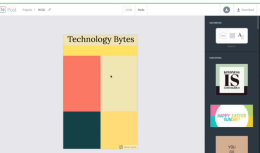


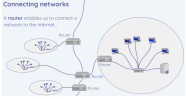

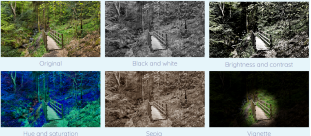
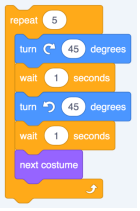
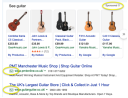
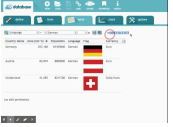





Subject Overview: Computing



Year R	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>Self-Image and Identity reporting uncomfortable feelings</p> <p>Online Reputation information on the internet</p> <p>Online Relationships communicating online</p> <p>Online Bullying unkindness</p> <p>Managing Online Information information online</p> <p>Privacy and Security personal information</p> <p>Copyright and Ownership my own work</p> <p>Health, Wellbeing and Lifestyle keeping safe online</p>	<p>Computing Systems and Networks: Digital Devices</p> <p>How can digital devices be used?</p>  <p>Using technology in different forms (chromebooks, IWB, iPad, talking tiles) and experience different inputs (keyboard, microphone).</p> <p>device</p> <p>Self-Image and Identity</p> <p>Online Reputation</p>	<p>Programming: Commands</p> <p>How can individual commands have an output?</p> <p>A→B</p> <p>Giving different commands to a device and observing the outcome.</p> <p>Managing Online Information</p>	<p>Data and Information: Grouping</p> <p>How can objects be grouped?</p>  <p>Recognising that objects can be sorted in different ways according to their properties.</p> <p>Online Relationships</p> <p>Online Bullying</p>	<p>Creating Media: Images and Drawing</p> <p>How can I create something using a digital device?</p>  <p>Using digital devices (iPads to take photos, paint on Chromebooks, drawing on IWB/iPads, etc.) to create images.</p> <p>Privacy and Security</p> <p>Copyright and Ownership</p> <p>Health, Wellbeing and Lifestyle</p>	
	these areas of learning will take place over the course of the year					
Year 1	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>1: Logging In and Setting Up Accounts 2: Acceptable Use Agreements</p> <p>Self-Image and Identity responding to uncomfortable feelings</p> <p>Online Reputation putting information online</p> <p>Online Relationships permission; different feelings</p> <p>Online Bullying positive messages</p> <p>Managing Online Information finding information; finding a trusted adult</p> <p>Privacy and Security personal information</p> <p>Copyright and Ownership work belonging to me</p> <p>Health, Wellbeing and Lifestyle keeping safe on technology</p>	<p>Computing Systems and Networks: Technology Around Us</p> <p>What is technology?</p>  <p>Recognising technology in school and using it responsibly.</p> <p>technology, computer mouse, keyboard, cursor</p> <p>1: Technology Around Us 2: Using Technology 3: Developing Mouse Skills 4: Using a Computer Keyboard 5: Developing Keyboard Skills 6: Using a Computer Responsibly & PE Baseline 7: Self-Image and Identity; Online Reputation & Reassessment</p> <p>Hardware: Chromebooks Software: Paintz.app (Web-Based, No Login Needed)</p>	<p>Creating Media: Digital Painting</p> <p>How can media be created digitally for a purpose?</p>  <p>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.</p> <p>mark, line, shape</p> <p>1: Painting On Computers 2: Using Shapes and Lines 3: Making Careful Choices 4: Using Tools for a Purpose 5: Using Tools to Create an Image 6: Comparing Computer and Paper Art & PE Baseline 7: Online Relationships; Online Bullying & Reassessment</p> <p>Hardware: Chromebooks Software: Paintz.app (Web-Based, No Login Needed)</p>	<p>Programming: Moving a Robot</p> <p>How can individual and sequences of commands have an output?</p>  <p>Writing short algorithms and programs for floor robots, and predicting program outcomes.</p> <p>command, run, sequence, program</p> <p>1: Buttons 2: Directions 3: Forwards and Backwards 4: Four Directions 5: Programming and Debugging 6: Writing Programs For Routes & PE Baseline 7: Managing Online Information & Reassessment</p> <p>Hardware: Bee-Bots Software: -</p>	<p>Data and Information: Grouping Data</p> <p>How can information be grouped?</p>  <p>Exploring object labels, then using them to sort and group objects by properties.</p> <p>information, label, group, search</p> <p>1: Matching and Labelling 2: Grouping and Counting 3: Describing Objects 4: Making Different Groups 5: Comparing Groups 6: Answering Questions & PE Baseline 7: Privacy and Security; Copyright and Ownership & Reassessment</p> <p>Hardware: Chromebooks Software: Google Slides (Web-Based, Google Accounts)</p>	<p>Creating Media: Digital Writing</p> <p>How can media be created digitally for a purpose?</p>  <p>Using a computer to create and format text, before comparing to writing non-digitally.</p> <p>text, type, tool, purpose, undo</p> <p>1: Exploring the Keyboard 2: Adding and Removing Text 3: Exploring the Toolbar 4: Making Changes to Text 5: Changing Text Purposefully 6: Comparing Computer and Paper Writing & PE Baseline 7: Health, Wellbeing and Lifestyle & Reassessment</p> <p>Hardware: Chromebooks Software: Google Docs (Web-Based, Google Accounts)</p>

Year 2	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>1: Logging In and Setting Up Accounts 2: Acceptable Use Agreements</p> <p>Self-Image and Identity avatars; different feelings Online Reputation online sharing Online Relationships sharing with others; permission; trusted adults Online Bullying bullying Managing Online Information searching; truth / fiction Privacy and Security passwords; personal information; connected homes Copyright and Ownership ownership Health, Wellbeing and Lifestyle technology in different places</p>	<p>Computing Systems and Networks: IT Around Us</p> <p>How is information technology used in the world around us?</p>  <p>Identifying IT and how its responsible use improves our world in school and beyond.</p> <p><i>information technology</i></p> <p>1: Information Technology 2: IT in School 3: IT in the World 4: The Benefits of IT 5: Using IT Safely 6: Using IT in Different Ways & PE Baseline 7: Self-Image and Identity; Online Reputation & Reassessment</p> <p><i>Hardware: Chromebooks Software: Google Slides (Web-Based, Google Accounts)</i></p>	<p>Creating Media: Digital Photography</p> <p>How can media be added digitally for a purpose?</p>  <p>Capturing and changing digital photographs for different purposes.</p> <p><i>photograph, edit, portrait, landscape, composition</i></p> <p>1: Taking Photographs 2: Landscape or Portrait 3: Composing and Capturing Photos 4: Lighting 5: Effects 6: Is It Real? & PE Baseline 7: Online Relationships; Online Bullying & Reassessment</p> <p><i>Hardware: iPads Software: -</i></p>	<p>Programming: Robot Algorithms</p> <p>What are algorithms?</p>  <p>Creating and debugging programs, and using logical reasoning to make predictions.</p> <p><i>algorithm, predict</i></p> <p>1: Giving Instructions 2: Ordering Sequences of Instructions 3: Predicting With Logical Reasoning 4: Programming a Route 5: Algorithm Design 6: Decomposition and Debugging & PE Baseline 7: Managing Online Information & Reassessment</p> <p><i>Hardware: Bee-Bots Software: -</i></p>	<p>Data and Information: Pictograms</p> <p>How can data be collected and organised?</p>  <p>Collecting data in tally charts and using attributes to organise and present data on a computer.</p> <p><i>data, tally chart, attribute, pictogram, collect, present</i></p> <p>1: Counting and Comparing 2: Data in Pictograms 3: Creating Pictograms 4: Attributes 5: Collecting Data About People 6: Presenting Information & PE Baseline 7: Privacy and Security; Copyright and Ownership & Reassessment</p> <p><i>Hardware: Chromebooks Software: J2Data (Web-Based, No Login Needed)</i></p>	<p>Programming: An Introduction to Quizzes</p> <p>What are algorithms?</p>  <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.</p> <p><i>code, program, test, debug</i></p> <p>1: Using ScratchJr 2: Commands to Produce an Outcome 3: Using a Design 4: Changing a Design 5: Designing and Creating a Program 6: Evaluating & PE Baseline 7: Health, Wellbeing and Lifestyle & Reassessment</p> <p><i>Hardware: Chromebooks Software: ScratchJr (Google Play Store??)</i></p>
Year 3	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>1: Logging In and Setting Up Accounts 2: Acceptable Use Agreements</p> <p>Self-Image and Identity online identity Online Reputation sharing information with others Online Relationships 'knowing' someone online; liking someone vs. trusting someone; making people feel good/bad Online Bullying managing bullying Managing Online Information search engines; facts / opinions / beliefs Privacy and Security passwords; sharing personal information Copyright and Ownership ownership of online content Health, Wellbeing and Lifestyle managing time spent online; age and consent</p>	<p>Computing Systems and Networks: Connecting Computers</p> <p>What is a network?</p>  <p>Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.</p> <p><i>input, process, output, digital devices, non-digital devices, computer networks, server, switch, access point, hardware, software, WiFi</i></p> <p>1: Inputs, Processes and Outputs 2: Parts of a Digital Device 3: Using Digital Devices 4: Connecting Digital Devices 5: Computer Networks 6: Our School Network & PE Baseline 7: Self-Image and Identity; Online Reputation & Reassessment</p> <p><i>Hardware: Chromebooks Software: Paintz.app (Web-Based, No Login Needed)</i></p>	<p>Creating Media: Stop-Frame Animation</p> <p>How can media be combined for a purpose?</p>  <p>Capturing and editing digital still images to produce a stop-frame animation that tells a story.</p> <p><i>image</i></p> <p>1: Moving Pictures 2: Frame by Frame 3: Planning Animated Stories 4: Creating Animated Stories 5: Evaluating Animated Stories 6: Combining Media and Effects & PE Baseline 7: Online Relationships; Online Bullying & Reassessment</p> <p><i>Hardware: Chromebooks Software: Stop Motion Animator (Chromebook Extension, No Login Needed)</i></p>	<p>Programming: Sequencing Sounds</p> <p>How can I give a sequence of commands to multiple objects?</p>  <p>Creating sequences in a block-based programming language to make music.</p> <p><i>sequence, event, action</i></p> <p>1: Programming on Scratch 2: Programming Actions 3: Sequences of Actions 4: Ordering Commands 5: Combining Motion and Sounds 6: Making an Instrument & PE Baseline 7: Managing Online Information & Reassessment</p> <p><i>Hardware: Chromebooks Software: Scratch (Web-Based, No Login Needed)</i></p>	<p>Data and Information: Branching Databases</p> <p>How can data be presented?</p>  <p>Building and using branching databases to group objects using yes/no questions.</p> <p><i>branching database</i></p> <p>1: Yes/No Questions 2: Grouping Items With Yes/No Questions 3: Creating a Branching Database 4: Structuring a Branching Database 5: Planning a Branching Database 6: Making a ____ Identifier & PE Baseline 7: Privacy and Security; Copyright and Ownership & Reassessment</p> <p><i>Hardware: Chromebooks Software: J2Data (Web-Based, No Login Needed)</i></p>	<p>Creating Media: Desktop Publishing</p> <p>How can media be combined for a purpose?</p>  <p>Creating documents by modifying text, images, and page layouts for a specified purpose.</p> <p><i>font, template, orientation, placeholder</i></p> <p>1: Using Text and Images 2: Editing Text and Images 3: Using Templates and Placeholders 4: Adding Text and Images 5: Layout 6: Using Desktop Publishing & PE Baseline 7: Health, Wellbeing and Lifestyle & Reassessment</p> <p><i>Hardware: Chromebooks Software: Adobe Express or Canva (Web-Based, Teacher Login for All to Use)</i></p>

<p>Year 4</p>	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>1: Logging In and Setting Up Accounts 2: Acceptable Use Agreements</p> <p>Self-Image and Identity online identity; pretending to be someone else Online Reputation digital footprints Online Relationships trusting others Online Bullying online bullying Managing Online Information facts / opinions / beliefs; sources of information; persuasive devices; bots Privacy and Security passwords; online monitoring; digital consent Copyright and Ownership ownership of online content Health, Wellbeing and Lifestyle limiting time online</p>	<p>Computing Systems and Networks: The Internet</p> <p>What is the internet?</p>  <p>Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.</p> <p><i>internet, World Wide Web (WWW), router, website, domain name, URL, web browser</i></p> <p>1: Connecting Networks 2: Internet vs. World Wide Web 3: Sharing Information 4: Websites 5: Ownership on the Web 6: Truth, Honesty and Accuracy on the Web & PE Baseline 7: Self-Image and Identity; Online Reputation & Reassessment</p> <p><i>Hardware: Chromebooks Software: Web Browser</i></p>	<p>Programming: Repetition in Shapes</p> <p>How can algorithms be used with repetition?</p> <p>T0 triangle</p> <pre>repeat 3 [fd 100 rt 120]</pre> <p>END</p> <p>Using a text-based programming language to explore count-controlled loops when drawing shapes.</p> <p><i>repetition, loop, count-controlled loop, procedure, decompose</i></p> <p>1: Text-Based Programming 2: Programming and Debugging 3: Patterns and Repeats 4: Loops 5: Decomposition 6: Creating a Program & PE Baseline 7: Online Relationships; Online Bullying & Reassessment</p> <p><i>Hardware: Chromebooks Software: Turtle Academy (Web-Based, No Login Needed)</i></p>	<p>Data and Information: Data Logging</p> <p>How can data be collected over time and be used to answer questions?</p>  <p>Recognising how and why data is collected over time, before using data loggers to carry out an investigation.</p> <p><i>sensors, data point, data set, logging interval</i></p> <p>1: Answering Questions Using Data 2: Data Collection 3: Data Logging 4: Analysing Data 5: Data for Answers 6: Answering a Question & PE Baseline 7: Managing Online Information & Reassessment</p> <p><i>Hardware: Chromebooks, Data Loggers Software: EasySense 2 (Chromebook Extension, No Login Needed)</i></p>	<p>Creating Media: Photo Editing</p> <p>How is media evaluated to meet its purpose?</p>  <p>Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.</p> <p><i>photograph, edit, portrait, landscape, composition, retouching</i></p> <p>1: Changing Digital Images 2: Changing Composition 3: Changing Images for Different Uses 4: Retouching Images 5: Fake Images 6: Making and Evaluating a Publication & PE Baseline 7: Privacy and Security; Copyright and Ownership & Reassessment</p> <p><i>Hardware: Chromebooks Software: Pixlr (Web-Based, No Login Needed)</i></p>	<p>Programming: Repetition in Games</p> <p>How can algorithms be used with repetition?</p>  <p>Using a block-based programming language to explore count-controlled and infinite loops when creating a game.</p> <p><i>code, code snippet, loop, infinite loop</i></p> <p>1: Using Loops 2: Different Loops 3: Animating Names 4: Modifying a Game 5: Designing a Game 6: Creating a Game & PE Baseline 7: Health, Wellbeing and Lifestyle & Reassessment</p> <p><i>Hardware: Chromebooks Software: Scratch (Web-Based, No Login Needed)</i></p>
<p>Year 5</p>	<p>Online Safety and Wellbeing</p> <p>How can we stay safe and well when using digital technology?</p> <p>1: Logging In and Setting Up Accounts 2: Acceptable Use Agreements</p> <p>Self-Image and Identity online identity Online Reputation information about others Online Relationships online harm; getting help Online Bullying online bullying; banter vs. bullying; getting help; online abuse Managing Online Information being sceptical; targeted information and cookies; sponsored content; stereotypes; echo chambers Privacy and Security sharing information with organisations Copyright and Ownership referencing and acknowledging Health, Wellbeing and Lifestyle sleep; in-app purchases</p>	<p>Computing Systems and Networks: Systems and Searching</p> <p>How is information found on the internet?</p>  <p>Recognising IT systems in the world and how some can enable searching on the internet.</p> <p><i>search engine, rank, web crawler, index</i></p> <p>1: Systems 2: Using Computer Systems 3: Using Search Engines 4: Selecting Search Results 5: How Search Results Are Ranked 6: Influencing Searches & PE Baseline 7: Self-Image and Identity; Online Reputation & Reassessment</p> <p><i>Hardware: Chromebooks Software: Google Slides (Web-Based, Google Accounts)</i></p>	<p>Data and Information: Flat-File Databases</p> <p>How can multiple sets of data be organised, used and presented?</p>  <p>Using a database to order data and create charts to answer questions.</p> <p><i>database, records, fields, group, sort, chart</i></p> <p>1: Databases 2: Computer Databases 3: Using Databases 4: Using Search Tools 5: Presenting Data Visually 6: Real-Life Databases & PE Baseline 7: Online Relationships; Online Bullying & Reassessment</p> <p><i>Hardware: Chromebooks Software: J2Data (Web-Based, No Login Needed)</i></p>	<p>Programming: Selection in Physical Computing</p> <p>How can algorithms be used with selection?</p>  <p>Exploring conditions and selection using a programmable microcontroller.</p> <p><i>microcontroller, selection, condition, if... then..., condition-controlled loop</i></p> <p>1: Connecting Crumbles 2: Combining Output Components 3: Controlling With Conditions 4: Algorithms With Selection 5: Designing a Product 6: Writing and Testing Algorithms & PE Baseline 7: Managing Online Information & Reassessment</p> <p><i>Hardware: Chromebooks, Crumbles + Accessories Software: Crumble (Chromebook Extension, No Login Needed)</i></p>	<p>Creating Media: Vector Graphics</p> <p>How can a variety of media be combined to meet a purpose?</p>  <p>Creating images in a drawing program by using layers and groups of objects.</p> <p><i>manipulate, object, group, duplicate, resize, rotate, layers, pixel</i></p> <p>1: Drawing Tools 2: Creating Images 3: Making Effective Drawings 4: Layers and Objects 5: Manipulating Objects 6: Creating a Vector Drawing & PE Baseline 7: Privacy and Security; Copyright and Ownership & Reassessment</p> <p><i>Hardware: Chromebooks Software: Google Drawings (Web-Based, Google Accounts)</i></p>	<p>Programming: Selection in Quizzes</p> <p>How can algorithms be used with selection?</p>  <p>Exploring selection in programming to design and code an interactive quiz.</p> <p><i>selection, condition, if... then... else...</i></p> <p>1: Exploring Conditions 2: Selecting Outcomes 3: Asking Questions as Conditions 4: Planning a Quiz 5: Testing a Quiz 6: Evaluating a Quiz & PE Baseline 7: Health, Wellbeing and Lifestyle & Reassessment</p> <p><i>Hardware: Chromebooks Software: Scratch (Web-Based, No Login Needed)</i></p>

Online Safety and Wellbeing

How can we stay safe and well when using digital technology?

- 1: Logging In and Setting Up Accounts
- 2: Acceptable Use Agreements

Self-Image and Identity

getting help

Online Reputation

digital personality

Online Relationships

consequences of sharing; boundaries; inappropriate content

Online Bullying

capturing evidence of bullying; reporting bullying

Managing Online Information

persuasive design; verifying information; misinformation and disinformation; viral content

Privacy and Security

password management; keeping software updated; online scams

Copyright and Ownership

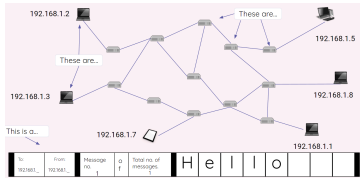
referencing and acknowledging

Health, Wellbeing and Lifestyle

age ratings; digital routines; persuasive design; keeping healthy

Computing Systems and Networks: Communication and Collaboration

How is data transferred on the internet to enable us to collaborate?



Exploring how data is transferred by working collaboratively online.

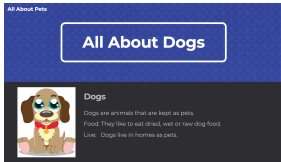
internet protocol (IP) address, domain name server (DNS), data packets

- 1: Internet Addresses
- 2: Data Packets
- 3: Working Together
- 4: Shared Working
- 5: How We Communicate
- 6: Communicating Responsibly & PE Baseline
- 7: Self-Image and Identity; Online Reputation & Reassessment

Hardware: Chromebooks
Software: Web Browser

Creating Media: Webpage Creation

How can a variety of media be combined to meet a purpose?



Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.

copyright, HTML, web page, hyperlink

- 1: Media on Websites
- 2: Website Layout
- 3: Copyright and Fair Use
- 4: Website Design
- 5: Website Navigation
- 6: Hyperlinks & PE Baseline
- 7: Online Relationships; Online Bullying & Reassessment

Hardware: Chromebooks
Software: Google Sites (Web-Based, Google Accounts)

Data and Information: Spreadsheets

How can a spreadsheet help organise complex data sets?

	A	B	C	D	E
1	Attraction	Location	Travel duration	Distance in miles	Cost per mile
2	Alton Towers Theme Park	Staffordshire			
3	Harry Potter Studio Tour	Watford			
4	National Space Centre	Leicester			
5	Buckingham Palace	Westminster			
6	Science Museum	London			
7	LEGOLAND®	Windsor			
8	Edinburgh Zoo	Edinburgh			
9	Sea Life	Brighton			
10	Splashdown Water Park	Poole			
11	Billy-Bob's Parlour	Yorkshire			

Answering questions by using spreadsheets to organise and calculate data.

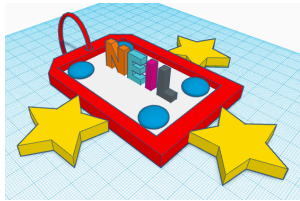
spreadsheet, column, row, formatting, formula, table, graph

- 1: Collecting Data
- 2: Formatting a Spreadsheet
- 3: Calculating Using Formula
- 4: Calculate and Duplicate
- 5: Event Planning
- 6: Presenting Data Using Graphs & PE Baseline
- 7: Managing Online Information & Reassessment

Hardware: Chromebooks
Software: Google Sheets (Web-Based, Google Accounts)

Creating Media: 3D Modelling

How can a variety of media be combined to meet a purpose?



Planning, developing, and evaluating 3D computer models of physical objects.

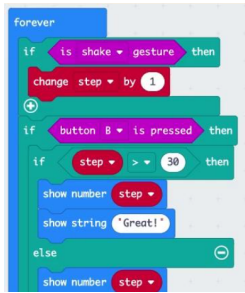
3D model, 3D printing

- 1: 3D Modelling
- 2: Modifying 3D Objects
- 3: Creating a Name Badge
- 4: Creating a Desk Tidy
- 5: Planning a 3D Model
- 6: Making a 3D Model & PE Baseline
- 7: Privacy and Security; Copyright and Ownership & Reassessment

Hardware: Chromebooks
Software: Tinkercad (Web-Based, Teacher Set Up Educator Account & Use Class Code)

Programming: Sensing

How can algorithms be used with variables?



Designing and coding a project that captures inputs from a physical device, considering repetition, selection and variables.

variable, sensing

- 1: The micro:bit
- 2: Creating a Program
- 3: Sensor Inputs
- 4: Programming a Compass
- 5: Designing a Step Counter
- 6: Making a Step Counter & PE Baseline
- 7: Health, Wellbeing and Lifestyle & Reassessment

Hardware: Chromebooks, micro:bits
Software: Microsoft MakeCode (Web-Based, No Login Needed)