



St Walburga's Catholic Primary School
Whole School Computing Scheme of Work



EYFS

Early Learning Goal / EYFS Ages and Stages:

Aim: To understand the world around them.

ELG: Listening, Attention and Understanding Children at the expected level of development will: - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions; - Make comments about what they have heard and ask questions to clarify their understanding; - Hold conversations when engaged in back-and-forth exchanges with their teacher and peers.

Self-regulation: Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions.

Managing self: Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; - Explain the reasons for rules, know right from wrong and try to behave accordingly;

Creating with materials: Share their creations, explaining the process they have used.

EYFS does not teach computing but offers computing facilities within class for children to select independently. Based on feedback provided by the EYFS Team they have requested a range of ideas be gathered for children to choose from in their independent sessions.

INDEPENDENT CHILD-LED ACTIVITIES		
<p>1. Children to use 2Paint to draw a picture of: something you like or your home or someone in your family. Link to art.</p> <p>2. Children to use 2paint to create a picture.</p> <p>3. Children to understand how different sounds are made. Record different sound(s). Children to playback and listen to sound.</p> <p>4. Children to use Superworm to represent data through sorting and categorising objects.</p>	<p>5. Children to use the phonics app.</p> <p>6. Children to use Beebots.</p> <p>7. Children to explore Google Earth with teacher support.</p> <p>8. Children to record a sounds/voices. Children to understand how different sounds are made. Record different sound(s). Children to playback and listen to sound.</p> <p>9. Children to use a camera to take a picture. Children are able to hold the device. Children can aim the camera and keep it still. Children to take the picture.</p>	<p>10. Children to use a Beebot. Children to get the Beebot to move in a straight line. Children to programme the Beebot to make a turn. Children to use Simple City.</p> <p>11. Children to use Simple Maths.</p>

YEAR 1

Computing Key Stage 1 National Curriculum Objectives:

Children should:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Toys	Winter Wonderland	Happily, Ever After <i>[Castles and Fairy Tales]</i>		Explorers	The Great Outdoors
Key questions	How do you get help if there is something you do not understand online?	What technologies do you use? How does it help you?	What is a document? Why is it important to save a document?	What is data? Why do we collect it?	What are instructions? What does to programme mean?	What is coding?
	E-safety	Technology in our lives	Multimedia and Sound	Data Handling	Programming	Programming
	<p>The children will understand age-appropriate information about staying safe online.</p> <p>Learning Objectives:</p> <p>1. To discuss technology.</p> <ul style="list-style-type: none"> - Children to explain how they use technology. - What do they enjoy? - Why do they use it? 	<p>Learning Objectives</p> <p>1. To recognise different technologies in the classroom and at home.</p> <p>2. To understand how technology helps us.</p> <ul style="list-style-type: none"> - Children to explain why they are helpful in our lives. <p>3. To invent a new technology.</p>	<p>Children to start to use the key features of word processing packages including:</p> <ul style="list-style-type: none"> - To open and save a document. - To change the font, the colour of text. <p>Learning Objectives.</p> <p>1. To understand the features of a computer programme.</p> <ul style="list-style-type: none"> - Open Dazzle - Link to Fairy Tales. 	<p>Children to create a simple database using 2simple.</p> <p>1. To understand why we collect data.</p> <ul style="list-style-type: none"> - Children to discuss why we collect data and why it can be helpful. - Develop a list of things/reasons why we collect data. <p>2. To collect data.</p>	<p>Children to use Beebots to understand that programming is a set of instructions that make something happen.</p> <p>Learning Objectives</p> <p>1. To understand and follow a set of instructions.</p> <ul style="list-style-type: none"> - Children to physically follow instructions (verbally and written) 	<p>Focus on block coding through a series of activities on Discovery Education.</p> <p>1. To log on and off a computer.</p> <ul style="list-style-type: none"> - Small groups to go into the computer room to log on and off using keyboard. <p>2. To use block coding</p> <ul style="list-style-type: none"> - Use Discovery Education.

	<p>2. To know to ask an adult for help when online.</p> <ul style="list-style-type: none"> - Discuss how sometimes things can happen online that can confuse or worry us. - Discuss the issue of the Penguin and pop up adverts. - Agree what the penguin should do. - Children to understand they should tell an adult if they see something online that is unexpected or worrying. <p>3. To use age appropriate games and apps.</p> <ul style="list-style-type: none"> - Children to be able to access age appropriate websites. <p>4. To understand the importance of keeping passwords safe.</p> <ul style="list-style-type: none"> - Children to understand they 	<ul style="list-style-type: none"> - Link to Happily Ever After. - What would it do? How would the new technology help the characters of the story? 	<ul style="list-style-type: none"> - Change the size of the font. - Change the colour. - Save the document. <p>2. To use different features of a computer programme.</p> <ul style="list-style-type: none"> - Change the layout. Explore features of Dazzle. 	<ul style="list-style-type: none"> - Working in pairs or small groups. Children to collect data to be used in database. - Children to gather simple data - two fields <p>3. To create a simple paper-based database.</p> <ul style="list-style-type: none"> - Children to use collected data to create a simple paper-based database. <p>4. To understand the features of a digital database.</p> <ul style="list-style-type: none"> - Use data collected for paper database and turn into a digital database. - Children to explore 2Simple through guided tasks. <p>5. To create a simple digital database.</p> <ul style="list-style-type: none"> - 2-fields. - Use word processing skills to add data. 	<ul style="list-style-type: none"> - Children to give instructions to others. - Moving from one point to another <p>2. To use the functions of a floor robot.</p> <ul style="list-style-type: none"> - Children to use a floor robot to give simple instructions. - Outline function keys. - Explore outcomes when buttons are pressed in sequences on a robot - Children to follow a simple set of instructions. <p>3. To write a set of instructions for a floor robot.</p> <ul style="list-style-type: none"> - Children to create a set of instructions to make a floor robot move from one point to another. 	<ul style="list-style-type: none"> - Demonstrate key functions of the system. - Guided activities to show children how to use system. <p>3. To code instructions using a keyboard.</p> <ul style="list-style-type: none"> - Use the Little Red Riding Hood – Block Coding - Use keyboard to move Little Red Riding Hood. <p>4. To code to make an aeroplane move.</p> <ul style="list-style-type: none"> - Follow commands to build code. - Aeroplanes to move forwards, backwards and loops. - End result is an airshow. <p>5. To design and code a game</p> <ul style="list-style-type: none"> - Bubble bursting game using Block Coding – Discovery Education.
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	should keep their password private.				<p>4. To test and evaluate a set of instructions.</p> <ul style="list-style-type: none"> - Begin to predict what will happen for a short sequence of instructions in a program - Follow the set of instructions from another group. - Did they work? - Give constructive feedback. <p>- Level 1 Under the Sea.</p>	
Technology	Penguin PowerPoint		Dazzle	2Simple	Beebots, Block Coding - Discovery Education.	Discover Education – Coding – Block Coding
Subject specific Vocabulary	<ul style="list-style-type: none"> • Safety • Password • Online • Trusted adult • Pop-up advert 	<ul style="list-style-type: none"> • Technology • Household 	<ul style="list-style-type: none"> ▪ Font ▪ Colour ▪ Images ▪ Text ▪ size 	<ul style="list-style-type: none"> ▪ Data ▪ Database ▪ Keyboard ▪ fields 	<ul style="list-style-type: none"> ▪ Instructions ▪ test ▪ evaluate ▪ functions ▪ keys 	<ul style="list-style-type: none"> ▪ Block Coding ▪ Instructions ▪ order

YEAR 2

	AUTUMN 1	AUTUMN 3	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Paddington Bear	Coming Home/ Santa's Workshop	Antarctica/Lost and Found	Great Fire of London	Pirates / Local Geography	Pirates / Local Geography
Addressing stereotypes			Ingrid Christensen		Female Pirates – Anne Bonney and Mary Reed Black Pirate – Black Caesar	
Key questions	Why is it important to be safe online? How can I be safe online?	What technologies help me?	How can I make an audio recording?	What is the purpose of collecting data?	What is an algorithm?	How has technology changed?
	E-Safety	Technology in our Lives	Multimedia and Sound	Data Collection	Programming	Programming
	<p>Learning Objectives:</p> <p>1. To understand why it is important to be safe online.</p> <ul style="list-style-type: none"> - Discuss their use of technology. - Children to learn that many websites ask for information that is private & discuss how to safely and responsibly handle such requests. - Use age-appropriate examples. 	<p>Children to explore technology in their lives and the lives of others.</p> <p>Learning Objectives</p> <p>1. To identify the technologies used in school and at home.</p> <ul style="list-style-type: none"> - Why are they used? How do they help us? If we did not have these what would happen? - Children to discuss a range of technologies, understanding their different 	<p>Learning Objectives:</p> <p>1. Listen to audio of Lost and Found.</p> <ul style="list-style-type: none"> - How does it differ from reading a book? - What did you like what did you miss? - How does the actor use their voice? <p>2. To plan an audio story.</p> <ul style="list-style-type: none"> - Write the story. - Think about the sound effects needed. <p>3. To develop sound effects</p>	<p>Using the Great Fire of London as inspiration for data, children to create a spreadsheet.</p> <p>Learning Objectives.</p> <p>Children to collect and input data into a spreadsheet and in a variety of ways. Children to start interpreting data. Know how to understand a simple ordering process and present data for others. Explore different types of data that can be found online.</p>	<p>Learning Objectives:</p> <p>1. To follow instructions.</p> <ul style="list-style-type: none"> - Physically follow and give each other forward, backward & turn (right-angle) instructions. <p>2. To understand algorithms.</p> <ul style="list-style-type: none"> - Children to understand what an algorithm is and to articulate an algorithm to achieve a purpose. - Children to plan and enter a sequence of 	<p style="background-color: #cccccc;">Programming</p> <p>1. To code using buttons to move a helicopter.</p> <ul style="list-style-type: none"> - Level 2. <p>2. To use a range of buttons when coding</p> <ul style="list-style-type: none"> - Hungry Migbod Level 2. <p style="background-color: #90ee90;">Technology in our lives.</p> <p>1. Children to compare technology today with the technology available to pirates.</p> <p>2. To use the internet to find out information.</p> <p>3. To compare the ease of finding information on</p>

	<p>2. To understand appropriate behaviour online.</p> <ul style="list-style-type: none"> - Understand they need to follow certain rules to remain safe when visiting places online. - Discuss that even though you cannot see or hear the person the same rules apply – be kind and respect differences online <p>3. To know who to speak about things online.</p> <ul style="list-style-type: none"> - Focus on things that upset or worry them. - Use Paddington’s problem to help them understand what to do if things happen online that they do not understand. <p>4. To understand age ratings are given to games and apps.</p>	<p>purposes and why they are helpful.</p> <p>2. To use technology to solve a problem.</p> <ul style="list-style-type: none"> - Children to use images to solve problems to show how technology helps us. - Children to learn about the use of computers in the wider world. <p>3. To understand technology can entertain us.</p> <ul style="list-style-type: none"> - Children to recognise that people create information and content for entertainment and reference purposes. <p>4. To make a short film.</p> <ul style="list-style-type: none"> - Use an iPad to record a moving image with sound. 	<ul style="list-style-type: none"> - Create different sounds using a range of materials. <p>4. To record a story.</p> <ul style="list-style-type: none"> - Use voice to tell story. - Ensure interest in voice to add to the atmosphere. - Use sound effects. <p>5. Take a picture for the cover of your talking story.</p> <ul style="list-style-type: none"> - Use a camera - Decide what your image in going to be. - Line up the image in the frame. - Download image. 	<p>Children to identify where digital content can have advantages over paper when storing and manipulating data.</p>	<p>instructions to achieve an algorithm using a floor robot specifying distance & turn.</p> <ul style="list-style-type: none"> - <p>3. To draw a trail to create a piece of artwork.</p> <ul style="list-style-type: none"> - Use the pattern created by the Beebot to turn into a piece of artwork. <p>4. To explore outcomes when given instructions.</p> <ul style="list-style-type: none"> - Follow algorithm (ensure there are errors) - Children to identify errors. - Correct mistakes and write new algorithm. <p>5. To use block coding using key press events.</p> <ul style="list-style-type: none"> - Use Little Red Riding Hood Level 2. - Using key press events to create a 	<p>the internet with the ease of finding information in a book.</p> <p>4. To consider the reliability of sources.</p> <p>5. To create a poster using Word linked to topic.</p> <ul style="list-style-type: none"> - Open a new document. - Change the size of text and font. Left/right/centre justify.
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	<ul style="list-style-type: none"> - Children to discuss online game choices and understand the importance of age ratings. <p>5. To use a search engine safely</p> <ul style="list-style-type: none"> - Open a search engine. - Be able to use appropriate search terms. - How to use URL's to find a website. - Explain what www means as well as .co.uk/.com - Find information about London/Peru. 				<p>set of instructions.</p> <p>6. To code using different inputs.</p> <ul style="list-style-type: none"> - Use Key to the Race. - Use keys to create different outputs e.g. use H key to get the rabbit to hide. 	
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Technology	iPads or Computer Suite,	iPad	Camera Audacity	Excel	Discovery Education	Discovery Education Kiddle
Subject specific Vocabulary	<ul style="list-style-type: none"> ▪ search engine ▪ internet ▪ key word ▪ favourites ▪ bookmark ▪ URL ▪ hyperlinks ▪ navigate ▪ add ▪ delete ▪ organise / manage 	<ul style="list-style-type: none"> ▪ Computing technology ▪ Moving image ▪ Sound ▪ recording 	<ul style="list-style-type: none"> ▪ Picture ▪ Audio ▪ Photo ▪ Click ▪ Aim 	<ul style="list-style-type: none"> ▪ information ▪ database ▪ data ▪ key words ▪ collect ▪ sort ▪ classify ▪ binary tree ▪ yes ▪ no ▪ question 	<ul style="list-style-type: none"> ▪ Code ▪ Instructions ▪ Key ▪ Block coding ▪ Errors/mistakes ▪ Press events 	<ul style="list-style-type: none"> ▪ Buttons ▪ Compare ▪ Contrast ▪ Open ▪ Save ▪ Font ▪ Justify

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YEAR 3

Computing Key Stage 2 National Curriculum Objectives:

Children should:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Stone Age	Bronze Age/ Iron Age	World Geography – focus on Italy	World Geography – focus on Italy	Victorians	Forces and Magnets
Key questions						
	E-safety	Programming	Multimedia and sound	Data Handling	Technology in our lives	Programming
	<p>Learning Objectives:</p> <p>1. To understand why it is important to be safe online.</p> <ul style="list-style-type: none"> - Discuss their use of technology. - Explain the key actions they can take to enjoy online technologies safely. - Focus on the importance of passwords and what makes a secure password. <p>2. To understand appropriate and</p>	<p>Children to programme Beebots to travel from different parts of an Iron Age village.</p> <p>Learning Objectives:</p> <p>1. To understand what is meant by programming.</p> <ul style="list-style-type: none"> - Series of instructions - Create a series of instructions to move a car/cart around a track. - Use arrows. - See if learning partner can 	<p>Learning Objectives</p> <p>1. To use a search engine to research information.</p> <ul style="list-style-type: none"> - simple keywords to find information - use of Kiddle and age-appropriate search engine information. <p>2. To create a Word document.</p> <ul style="list-style-type: none"> - Open a new Word document. - Identify and use a range of features of Word – bold, italic, 	<p>Learning Objectives:</p> <p>1. To understand why databases are useful.</p> <ul style="list-style-type: none"> - Explain databases are a way of storing and finding information. - Discuss how and why people use them. - Show them paper copies of databases. <p>Answer questions based on information.</p>	<p>Link huge developments in Victorian times and to huge technology developments over the past 30 years. Focus on the development of the telephone.</p> <p>Learning Objectives:</p> <p>1. To understand the technological developments in Victorian times.</p> <ul style="list-style-type: none"> - Look at images of Victorian technology. - Explore the invention of the telephone 	<ul style="list-style-type: none"> - Building Computer Games using block programming - Children to discuss algorithms planned by others and identify any problems and the expected outcome. <p>1. To understand algorithms.</p> <ul style="list-style-type: none"> - Children to understand what an algorithm is and to articulate an algorithm to

	<p>inappropriate behaviour online.</p> <ul style="list-style-type: none"> - Focus on being kind and respecting differences online. - Understand that if you put things online they will stay there for a long time. <p>3. To know who to speak about things online.</p> <ul style="list-style-type: none"> - Focus on things that upset or worry them. <p>4. To understand age ratings are given to games and apps.</p> <ul style="list-style-type: none"> - Children to discuss online game choices and understand the importance of age ratings. <p>5. To use a search engine safely</p> <ul style="list-style-type: none"> - Open a search engine. - Be able to use appropriate search terms. 	<p>follow instructions made.</p> <p>2. To recognise and understand the function buttons on a Beebot.</p> <ul style="list-style-type: none"> - Children to experiment using the function buttons in a Beebot. <p>3. To write a simple algorithm.</p> <ul style="list-style-type: none"> - Children to write a simple algorithm based on getting a horse from one part of the village to another. <p>4. To fix errors in an algorithm.</p> <ul style="list-style-type: none"> - Follow a simple algorithm with an error. - Children to identify the error and write a new algorithm that is correct. - Test new algorithm. 	<p>underline, centre, left justify.</p> <p>3. To review a Word document</p> <ul style="list-style-type: none"> - Children to add content to their saved Word document. - Teach typing skills to help develop word processing skills. - Use Review function to check spelling and use thesaurus to find alternative words as well as using the word count function. <p>4. To create a document using images, text and sound.</p> <p>2 draw Link to Art – famous pieces of art or places</p>	<p>2. To understand and use an electronic database.</p> <ul style="list-style-type: none"> - Use a simple database. - Identify key features of databases. - Explain meaning of key vocabulary e.g. field, record data. - How to search to find information. <p>3. To compare paper databases with electronic databases.</p> <ul style="list-style-type: none"> - Children to explore the pros and cons of digital versus paper databases. <p>4. To export and filter databases to find information.</p> <ul style="list-style-type: none"> - Children to export and filter 	<p>2. To understand the technological developments of the past 30 years.</p> <ul style="list-style-type: none"> - Key changes in technology. - Look at images of mobile phones and computers to show how they have changed. <p>3. To compare changes in technology Victorian times and today.</p> <p>4. To recognise different forms of communication.</p> <ul style="list-style-type: none"> - Children to understand the purpose of emails. - To understand the benefit of audio recordings. <p>5. To make an audio recording.</p> <ul style="list-style-type: none"> - To explore the key functions and how to make an audio recording using Audacity. 	<p>achieve a purpose.</p> <ul style="list-style-type: none"> - Children to plan and enter a sequence of instructions to achieve an algorithm using a floor robot specifying distance & turn. <p>2. To draw a trail to create a piece of artwork.</p> <ul style="list-style-type: none"> - Use the pattern created by the Beebot to turn into a piece of artwork. <p>3. To explore outcomes when given instructions.</p> <ul style="list-style-type: none"> - Follow algorithm (ensure there are errors) - Children to identify errors. - Correct mistakes and write new algorithm. <p>4. To use block coding using key press events.</p>
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	<p>6. To find specific information using a search engine.</p>	<p>5. To create a multistep algorithm.</p> <ul style="list-style-type: none"> - Create an algorithm to move a floor robot Beebot to different parts of an Iron Age Village. 		<p>databases to easily retrieve information.</p> <p>5. To create a simple database.</p> <ul style="list-style-type: none"> - Children to add information to create a database of Key Italian places. 		<ul style="list-style-type: none"> - Use Little Red Riding Hood Level 2. - Using key press events to create a set of instructions. <p>5. To code using different inputs.</p> <ul style="list-style-type: none"> - Use Key to the Race. - Use keys to create different outputs e.g. use H key to get the rabbit to hide.
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Technology		Beebots	Desktop computer	2 Question	Audacity	Discovery Education - Coding
Subject specific Vocabulary	<ul style="list-style-type: none"> ▪ Search engine ▪ Safe ▪ Search terms ▪ Password ▪ Online 	<ul style="list-style-type: none"> ▪ Algorithm ▪ Multi-step ▪ Function buttons 	<ul style="list-style-type: none"> ▪ Search engine ▪ Word ▪ Typing ▪ Bold ▪ Italic ▪ Justify ▪ Left/right aligned 	<ul style="list-style-type: none"> ▪ Database ▪ Fields ▪ Grouping ▪ Filter ▪ Export 	<ul style="list-style-type: none"> ▪ Technology ▪ Development innovation ▪ audio 	<ul style="list-style-type: none"> ▪ Code ▪ Instructions ▪ Key ▪ Block coding ▪ Errors/mistakes ▪ Press events

YEAR 4

Computing Key Stage 2 National Curriculum Objectives:

Children should:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

YEAR 4						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	The Egyptians	The Romans	Romans continued	Electricity	World War 2	Bridges
Addressing stereotypes	Cleopatra and other Egyptian queens Boudicca		Edith Clarke – Electrical engineer	Edith Clarke – Electrical engineer	Role of Women in WW2 Emily Warren Roebling – Brooklyn bridge engineer	
Key questions						
	E-safety	Multimedia and Sound	Data Handling	Technology in our lives	Programming	Programming design and make
	Learning Objectives: 1. To understand and recognise the importance of being safe online. - Recognising acceptable and unacceptable behaviours online. - Agree e-safety rules for classroom and home and explain	Create a publication using Publisher or Word based on the life of the Romans in Britain linked to literacy and non-chronological writing. Learning Objectives: 1. To understand the features of publications.	Children to design a branching database. Learning objectives: 1. To create a branching diagram to organise information. - Collect information about the Romans.	Children to link their understanding of technologies and the role of electricity. 1. To understand the role of electricity in our lives. - History of electricity. - What we need it for today and the importance for	Children to experience a variety of resources to extend knowledge & understanding of programming. Introduction to Python programming language. 1. To use basic coding using Python printing.	Link to WWII topic and Design and Technology to navigate a floor robot (tank) over the bridges of the Normandy. 1. To solve open-ended problems using a floor robot. - Solve open-ended problems with a

	<p>why they are important.</p> <p>2. To understand what action to take if uncomfortable or upset online.</p> <ul style="list-style-type: none"> - e.g. Report Abuse button, talk to an appropriate adult. <p>3. To understand the importance of making good choices online.</p> <ul style="list-style-type: none"> - Discuss why games and apps have an age rating. - How do age ratings help us? - Why they are important? - Talk about what games they enjoying playing and what good choices are when playing games e.g. content, age rating and amount of screen time. <p>4. To understand how to have positive friendships online.</p> <ul style="list-style-type: none"> - Discuss gaming and chatting online. 	<ul style="list-style-type: none"> - Show a range of publications, magazines, newspapers and leaflets. Discuss their features. - Which work well? Why? <p>2. To develop content for a publication.</p> <ul style="list-style-type: none"> - Children to decide what type of publication they want to design. What is their focus? - Consider the reliability of sources found online. - Create a layout on paper. <p>3. To develop a template for a publication.</p> <ul style="list-style-type: none"> - Remind of features of programme that they will be using e.g. bold, italics, underline, left justification etc. - Layout to include text boxes, font 	<ul style="list-style-type: none"> - Organise the information into groups and sub groups. <p>2. To create a branching database.</p> <ul style="list-style-type: none"> - Explain the features of the branching database programme. - Demonstrate how to enter the data. - Children to add their data. <p>3. To edit a branching database.</p> <ul style="list-style-type: none"> - Correct any spelling mistakes. - Demonstrate what happens when there are spelling mistakes – cannot use the search tool. - Use the search tool to check it works using different search words. 	<p>computing technologies.</p> <p>2. Children to explore networks and relationships between technologies.</p> <p>3. To understand that software can be used collaboratively online to work as a team.</p>	<ul style="list-style-type: none"> - children to learn how to print lines of text on screen. <p>2. To use Python coding language for simple calculations</p> <p>3. To use inputs and variables when coding</p> <p>4. To make a simple quiz.</p> <ul style="list-style-type: none"> - Use the, “if,” command to make a simple quiz. <p>5. To use variables when coding.</p> <ul style="list-style-type: none"> - Children to use variables to calculate how much things costs in the Robotic Restaurant. <p>6. To create a quiz using variables and selection.</p> <ul style="list-style-type: none"> - Children to build a quiz that keeps track of how many questions you get right. 	<p>floor robot, and other software using efficient procedures to create shapes and letters.</p> <ul style="list-style-type: none"> - Children to create and edit procedures. Children to use sensors to ‘trigger’ an action.
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	<ul style="list-style-type: none"> - Consider the positive and negatives of playing with friends online. - Children to explore online behaviour – how it is different to face to face communication and play. - Agree what appropriate behaviour looks like online. - Children to understand why they should not play online with people they don't know. - The importance of not being hurtful and the need to be more aware of your interactions online. <p>5. To understand your digital footprint.</p> <ul style="list-style-type: none"> - Children to know that if they put information online it leaves a digital footprint. - Discuss why they need to consider the impact of this – it can stay on the internet for a very long time. 	<p>sizes and font choice (consider accessibility). Where are images going to be placed.</p> <ul style="list-style-type: none"> - Show shortcut keys. - Show how to use a spell check. <p>4. To import images into a template.</p> <ul style="list-style-type: none"> - Demonstrate how to import an image. - Show how to crop an image. - Demonstrate how to flip and rotate images. <p>5. To use a range of effects to enhance a publication</p> <ul style="list-style-type: none"> - Use spray and diffuser tools - Borders to highlight text boxes. - Add shapes and use the fill function. <p>6. To complete a publication.</p>	<p>4. To search a branching database.</p> <ul style="list-style-type: none"> - Create a set of questions that the children should use to find answers to the questions. Children can only answer yes/no to find the information. <p>5. To evaluate the branching database.</p> <ul style="list-style-type: none"> - Children to evaluate their branching database. - Children to evaluate their Learning Partner's branching database. - Complete evaluation sheet. 		<p>7. To debug a program.</p> <ul style="list-style-type: none"> - Children to use their knowledge of Python to fix the code. 	
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	<ul style="list-style-type: none"> - Other people can then use/change what you have put on the internet. - It's not hurtful to others. <p>6. To understand the importance of e-safety and your responsibilities</p> <ul style="list-style-type: none"> - Create a poster to demonstrate understanding of the issues covered in the topic. 	<ul style="list-style-type: none"> - Use the different tools and techniques to complete publication on the Romans. <p>7. To evaluate publications.</p> <ul style="list-style-type: none"> - Print completed publication. - Examine own publication – how effective has it been at providing interesting and useful information? What would you improve next time? - Provide feedback to learning partner. 				
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Technology	SCARF resources	Publisher or Word	2Question		Beebots	Discovery Education - Coding
Subject specific Vocabulary	<ul style="list-style-type: none"> ▪ Responsibilities ▪ Safe ▪ Digital footprint ▪ Behaviour ▪ Communication 	<ul style="list-style-type: none"> ▪ Print ▪ Tools ▪ Templates ▪ Layout 	<ul style="list-style-type: none"> ▪ Branching database ▪ 	<ul style="list-style-type: none"> ▪ Networks ▪ Online ▪ Collaborative ▪ Electricity 	<ul style="list-style-type: none"> ▪ Debug ▪ Variables ▪ Selection 	<ul style="list-style-type: none"> ▪ Efficient ▪ Trigger ▪ Open ended

YEAR 5

Computing Key Stage 2 National Curriculum Objectives:

Children should:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
Topic	Earth and Space	Ancient Greece	China and the Olympics	Vikings and Anglo Saxons	Brazil and Rivers	The Tudors	
Addressing stereotypes	Helen Sharman Mae C Jemison Ancient astronomers		Look at racism in the Olympics – Jesse Owens	<i>Ismael Al-Jazari (12th century engineer)</i>			
Key questions							
	E-safety	Technology in our lives	Multimedia and sound	Data Handling	Programming	Programming	Communication in context

	<p>E-Safety Children to understand the importance of being safe online at home and in the classroom.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> To understand and recognise the importance of being safe online. <ul style="list-style-type: none"> Agree e-safety rules for classroom and home and explain why they are important. To understand the importance of age ratings online and positive relationships online <ul style="list-style-type: none"> Discuss why games and apps have an age rating. How do age ratings help us? Why they are important? To understand how to have positive friendships online. <ul style="list-style-type: none"> Discuss gaming and chatting online. 	<p>Create a Sway presentation based on Ancient Greece research and non-chronological report writing.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> To explore the features of Sway. <ul style="list-style-type: none"> Explore the effects of multimedia (photos, video, sound) and show how they can be modified. Compare with other programmes such as Word and PowerPoint. To create a page of a Sway presentation. <ul style="list-style-type: none"> Use different actions taught in previous lessons to create a page. To understand the principles of effective 	<p>Recording and presenting data using spreadsheets and creating pie charts using Olympics or China data.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> To understand the purpose of a spreadsheet. <ul style="list-style-type: none"> Discuss and show different types of spreadsheets to understand their uses/purposes. Familiarisation with the different features of a spreadsheet. Link to Word and PowerPoint. Explain columns and rows. To use formula to calculate a sum. <ul style="list-style-type: none"> Add data Show how to format data. Demonstrate how to create a calculation using =SUM and Addition + Subtraction - Multiplication * 	<p>Children to complete Introduction to Python coding that includes talking about procedures as parts of a program, refining procedures to improve efficiency and using variables.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> To use basic coding using Python printing and simple calculations. <ul style="list-style-type: none"> children to learn how to print lines of text on screen. Children to using coding for simple calculations. To use inputs and variables when coding and make a simple quiz. <ul style="list-style-type: none"> Use the, "if," command to make a simple quiz. Children to use variables to calculate how 	<p>To program Beebots to navigate challenges to build an understanding of the geography of South America. Algorithms to travel along the Amazon river, to travel to every country in South America. Is it possible to visit every country just once?</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> To group commands as a procedure to achieve a specific outcome within a program. <ul style="list-style-type: none"> Children to write algorithm, test and refine commands. To write down an algorithm to achieve the outcome. To refine and extend a program. 	<p>To create a storyboard or comic linked to a Tudor story.</p> <p>Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> To identify the features of a comic or storyboard. <ul style="list-style-type: none"> Discuss features of your chosen medium. Identify features on an example. Are they effective? Why? To create a template. <ul style="list-style-type: none"> Discuss the layout for the template. Which would work best? Consider size and layout options. Show how to add text boxes, frames including how to copy, paste and
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	<ul style="list-style-type: none"> - Consider the positive and negatives of playing with friends online. - Children to explore online behaviour – how it is different to face to face communication and play. - Agree what appropriate behaviour looks like online. - Children to understand why they should not play online with people they don't know. <p>4. To understand your digital footprint.</p> <ul style="list-style-type: none"> - Define what is meant by a digital footprint (they put information online it leaves a digital footprint or trail). - Discuss why they need to consider the impact of this. - Explore how to manage their digital footprint so it represents them. 	<p>presentation of information</p> <ul style="list-style-type: none"> - Consider page layout options - The impact of too many transitions and changes on the reader. - Readability, contrast and size of fonts appropriate to users inc. accessibility - Important of clear and engaging content. - Overall aesthetic. <p>4. To organise information in a Sway presentation.</p> <ul style="list-style-type: none"> - Link to literacy and planning content for presentation – images and words. <p>5. To develop a presentation using transitions and hyperlinks.</p> <ul style="list-style-type: none"> - Explore different ways to apply transitions. 	<p>Division /</p> <p>3. To change data within a spreadsheet.</p> <ul style="list-style-type: none"> - Ask what if questions e.g. what if the cost of Olympic souvenirs/tote bag changed to X what is total spend now etc. - Carry out searches (e.g. using and/or; \leq / \geq) <p>4. To present data in different ways.</p> <ul style="list-style-type: none"> - Using charts to create a pie chart. <p>5. To use different types of numerical data.</p>	<p>much things costs in the Robotic Restaurant.</p> <p>3. To create a quiz using variables and selection.</p> <ul style="list-style-type: none"> - Children to build a quiz that keeps track of how many questions you get right. <p>4. To debug a program and code lines and shapes.</p> <ul style="list-style-type: none"> - Children to use their knowledge of Python to fix the code. - Introduction to python graphics. <p>5. To draw circles and shapes using Python.</p> <p>6. To create a simple picture.</p> <ul style="list-style-type: none"> - Program the turtle to create a simple face. 	<p>4. To Identify difficulties & articulate a solution for errors in a program.</p> <p>5. To assess the effectiveness of an algorithm.</p> <ul style="list-style-type: none"> - Children to test other groups algorithms to see how effective they are at meeting objectives. 	<p>move boxes within template.</p> <p>3. To add images into template.</p> <ul style="list-style-type: none"> - Children to create idea for their storyboard. - Demonstrate how to add images and how to resize images so they fit accurately into the text box. <p>4. To add action and words.</p> <ul style="list-style-type: none"> - Show how to use different shapes to add action and words. <p>5. To complete comic strip/storyboard.</p>
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	<ul style="list-style-type: none"> - Discuss that whatever you put online could be on the internet for a long time (into adulthood) and others will be able to access it and we cannot control what happens to the content. <p>5. To understand your responsibilities when writing/ communicating online.</p> <ul style="list-style-type: none"> - Discuss their responsibility to ensure content is not hurtful or not allowed. - Outline that there are laws around this and these laws apply to them too. - Link to gaming responsibilities and your digital footprint. <p>Technology in our lives</p> <p>6. To understand computing and online networks</p>	<ul style="list-style-type: none"> - How to add an appropriate hyperlink. <p>6. To evaluate the effectiveness of Sway presentations.</p> <ul style="list-style-type: none"> - Assess own presentation and presentations of others. 				
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	<ul style="list-style-type: none"> - What technology we use and how it can help us. - How to choose appropriate tools for communication or collaboration and how to use them responsibly. <p>7. To use effective strategies to search using appropriate search engines.</p> <ul style="list-style-type: none"> - Discuss what appropriate search engines are - Explore effective search terms - Examine the different elements on web pages - Online content belongs on the owner. Find out who the information presented on a webpage belongs to. 					
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Technology	iPads or desktop computers for access to Kiddle.			Beebots and Discovery Education - Coding	Beebots and Discovery Education - Coding	Dazzle or Word
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Subject specific Vocabulary	<ul style="list-style-type: none"> ▪ Content ▪ Web page ▪ Online networks ▪ Digital footprint ▪ Online networks 	<ul style="list-style-type: none"> ▪ Multimedia ▪ Readability ▪ Evaluate ▪ Content ▪ Contrast ▪ Accessibility 	<ul style="list-style-type: none"> ▪ Data ▪ Spreadsheet ▪ Pie chart ▪ Sum ▪ formula 	<ul style="list-style-type: none"> ▪ Procedures ▪ Code lines ▪ debug 	<ul style="list-style-type: none"> ▪ Errors ▪ Algorithms 	<ul style="list-style-type: none"> ▪ Template ▪ Action ▪ Storyboard ▪ Tools ▪ Program
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YEAR 6

Computing Key Stage 2 National Curriculum Objectives:

Children should:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	AUTUMN 1		AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	World War 1		Natural Disasters	Mission Mysterious	Benin	Crime and Punishment	Celebrating difference
Addressing stereotypes						Cressida Dick Nowell Roberts	
Key questions	How can I keep safe online? Why is it important to keep safe online? Who can I ask for help?		What is a storyboard? How is it helpful?	What factors should we considered to ensure presentations are accessible?	How can formulas help when managing and sorting data?	What is Python coding? What is HTML coding?	How does technology and online content help us in our daily life? How has technology changed over the past 50 years?
	E-safety	Programming	Multimedia and Sound	Multimedia and Sound	Data Handling	Programming	Technology in our lives

	<p>E-safety</p> <p>Children to understand the importance of being safe online and what this looks like in their usage of online technologies. Children to make an information booklet or document about e-safety, their responsibilities and how to get help. This should be completed as part of each lesson so by the end of the unit they have a complete booklet.</p> <p>Learning Objectives:</p> <p>1. To demonstrate an understanding and awareness of keeping safe online.</p> <ul style="list-style-type: none"> - Children to discuss their own personal use of the Internet and choices they make. - Children to explore using the safe and responsible use of online communication tools e.g. blogs, messaging, gaming. - Discuss how to protect devices from virus threats. 	<p>Aim of this unit is to create a short film based on the topic – Natural Disasters. This cross-curricular unit would link to literacy e.g. planning the narrative of the film and creating a storyboard to plan their film. The children will evaluate their films against the criteria of skills used and the brief set.</p> <p>The outcomes: to be able to use and apply the features of film making and editing appropriately to create a film that meets a specific brief.</p> <p>Learning Objectives:</p> <p>1. To plan and create a storyboard.</p> <ul style="list-style-type: none"> - to create informative and interesting content for a 	<p>PowerPoint presentation using the full range of features PowerPoint. Children to understand the needs of their specific audience including accessibility issues.</p> <p>Learning Objectives:</p> <p>1. To explore the features of PowerPoint.</p> <ul style="list-style-type: none"> - Explore the effects of multimedia (photos, video, sound) and show how they can be modified. - Compare with other programmes such as Word and Sway. <p>2. To create a page of a PowerPoint presentation.</p> <ul style="list-style-type: none"> - Use different actions taught in previous lessons to create a page. 	<p>Children to gather and analyse data. Creating formulas and sorting data within spreadsheets and familiarisation with a database programme.</p> <p>Learning Objectives:</p> <p>1. To plan an investigation and collect data using the outcomes from a data logger to show findings.</p> <p>2. To create a spreadsheet using data collected.</p> <ul style="list-style-type: none"> - Reminder of the different features of a spreadsheet. Link to Word and PowerPoint. - Explain columns and rows. - Input data <p>3. To use formula to calculate a sum.</p> <ul style="list-style-type: none"> - Add data - Show how to format data. 	<p>To learn the basics of Python Coding and HTML.</p> <p>Learning Objectives:</p> <p>1. To use basic coding using Python printing and simple calculations.</p> <ul style="list-style-type: none"> - children to learn how to print lines of text on screen. - Children to using coding for simple calculations. <p>2. To use inputs and variables when coding and make a simple quiz.</p> <ul style="list-style-type: none"> - Use the,"if," command to make a simple quiz. - Children to use variables to calculate how much things costs in the Robotic Restaurant. <p>3. To create a quiz using</p>	<p>Children to understand about the development of the online world.</p> <p>Learning Objectives:</p> <p>1. To explore the technological changes in computing.</p> <ul style="list-style-type: none"> - The first computers – size, power and purpose. - Increasing sophistication, decrease in size with increase in power. - Mobile phones – no longer just a phone. <p>2. To understand the history and creation of the internet.</p> <ul style="list-style-type: none"> - start of the internet – increasing sophistication and apps. - Children to understand the impact of these developments
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	<ul style="list-style-type: none"> - Importance of passwords. <p>2. To know how to seek help.</p> <ul style="list-style-type: none"> - Discuss why and when you might need to seek help. - Which adults could help you. - Discuss the importance of keeping an adult informed about what you're doing online. - Reporting inappropriate behaviour on the internet. <p>3. To know your responsibilities when online.</p> <ul style="list-style-type: none"> - Consider digital footprint, age ratings for different online platforms. - Explore what appropriate behaviour looks like online – what is allowed and what is not allowed and their responsibilities. 	<p>specific audience.</p> <p>2. To record and download film files.</p> <p>3. To organise a movie into a time line.</p> <p>4. To edit a film.</p> <ul style="list-style-type: none"> - Use sound, images, text, transitions, effectively in film. <p>5. To add titles and background music.</p> <p>6. To evaluate your film.</p> <ul style="list-style-type: none"> - Children to be able to evaluate their digital content and the films of others. - Discuss audience, atmosphere, content and 	<p>3. To understand the principles of effective presentation of information</p> <ul style="list-style-type: none"> - Consider page layout options - The impact of too many transitions and changes on the reader. - Readability, contrast and size of fonts appropriate to users inc accessibility - Important of clear and engaging content. - Overall aesthetic. <p>4. To organise information in a PowerPoint presentation.</p> <ul style="list-style-type: none"> - Link to literacy and planning content for presentation – images and words. - Collect information and media from a 	<ul style="list-style-type: none"> - Demonstrate how to create a calculation using =SUM and Addition + Subtraction - Multiplication * Division / <p>4. To present information in different ways.</p> <p>7. Use a range of charts to show information and data in different ways.</p> <p>5. To use a database.</p> <p>6. To interrogate a database, refining searches to provide answers to questions.</p>	<p>variables and selection.</p> <ul style="list-style-type: none"> - Children to build a quiz that keeps track of how many questions you get right. <p>4. To debug a program and code lines and shapes.</p> <ul style="list-style-type: none"> - Children to use their knowledge of Python to fix the code. - Introduction to python graphics. <p>5. To understand the basics of HTML.</p> <ul style="list-style-type: none"> - Adding tags and words to a page <p>6. To add images and photos to a page.</p> <p>7. To create a simple web page using HTML.</p>	<p>are used in our daily lives.</p> <p>3. To research an app that helps people.</p> <ul style="list-style-type: none"> - Link to celebrating difference. <p>4. To develop an idea for an app to help people.</p> <p>5. To plan the structure for an app.</p>
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	<p>4. To use the internet effectively and safely to research a class topic.</p> <ul style="list-style-type: none"> - Age-appropriate search engine. - Discuss best search terms - How search engines work to return results. <p>Programming</p> <p>5. To programme a Beebot.</p> <ul style="list-style-type: none"> - Using the trenches of WWI, the children follow an algorithm and then write their own for a floor robot. <p>6. To solve problems of an algorithm for a floor robot.</p> <ul style="list-style-type: none"> - Following the algorithm, identify the problems and fix the algorithm so that it is correct. 	<p>structure of films.</p>	<p>range of sources (considering copyright issues) into a presentation for a specific audience.</p> <p>5. To develop a presentation using transitions and hyperlinks.</p> <ul style="list-style-type: none"> - Explore different ways to apply transitions. - How to add an appropriate hyperlink. - How to add sound including recording sound and adding sound buttons. <p>6. To evaluate the effectiveness of presentations.</p> <ul style="list-style-type: none"> - Assess own presentation and presentations of others. 			
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Technology required	Beebots SCARF resources	iMovie using iPads.	PowerPoint	Access	Python Coding and HTML on Discovery Education.	
Subject specific Vocabulary	<ul style="list-style-type: none"> ▪ Safety ▪ Cyber bullying 	<ul style="list-style-type: none"> ▪ video ▪ upload ▪ import ▪ export ▪ edit ▪ cut ▪ transitions ▪ video effects ▪ sound effects 	<ul style="list-style-type: none"> ▪ Hyperlink ▪ Accessibility ▪ Font ▪ justify 	<ul style="list-style-type: none"> ▪ Database ▪ Cell ▪ Field ▪ Interrogate ▪ Refine searches 	<ul style="list-style-type: none"> ▪ Game ▪ Program ▪ Test ▪ Application ▪ Select ▪ Model ▪ Algorithm ▪ HMTL ▪ Python 	<ul style="list-style-type: none"> ▪ App ▪ Structure