



Learning objectives and skills

Advent		Lent		Pentecost	
6.1 We are adventure gamers Making a text-based adventure game	6.2 We are computational thinkers Mastering algorithms for searching, sorting and mathematics	6.4 We are network technicians Exploring computer networks including the internet	Digital Citizenship	6.5 We are travel writers Using media and mapping to document a trip	6.6 We are publishers Creating a yearbook or magazine
<p>1. Getting started with Python</p> <ul style="list-style-type: none"> Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). <p>2. Planning an adventure</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>3. Printing descriptions</p> <ul style="list-style-type: none"> Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>4. Using selections and variables</p> <ul style="list-style-type: none"> Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>5. Using procedures</p> <ul style="list-style-type: none"> Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>6. Using lists</p> <ul style="list-style-type: none"> Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). 	<p>1. Random and linear search</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>2. Binary Search</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>3. Selection Sort</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>4. Quicksort</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>5. Testing if a number is prime</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. <p>6. Finding the highest common factor</p> <ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. 	<p>1. Communicating digitally</p> <ul style="list-style-type: none"> Show an understanding of the school network and how it links computers to resources in school and beyond. <p>2. What is the Internet</p> <ul style="list-style-type: none"> Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks) <p>3. Passing messages</p> <ul style="list-style-type: none"> Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks) <p>4. Getting from here to there</p> <ul style="list-style-type: none"> Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks) <p>5. From names to numbers</p> <ul style="list-style-type: none"> Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks) 	<p>1. Finding My Media Balance</p> <ul style="list-style-type: none"> Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy. <p>2. You Won't Believe This!</p> <ul style="list-style-type: none"> They show an understanding that not all information on the internet is accurate. Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy. Use appropriate methods to validate information and check for bias and accuracy. Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases). <p>3. Beyond Gender Stereotypes</p> <ul style="list-style-type: none"> Use appropriate methods to validate information and check for bias and accuracy. Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases). <p>4. Digital Friendships</p> <ul style="list-style-type: none"> Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. Where possible seek and respond to feedback. Abide by school rules for e-safety. 	<p>1. Researching their location</p> <ul style="list-style-type: none"> Perform a search using different search engines and check the results against each other, explaining why they might be different. They show an understanding that not all information on the internet is accurate. Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy. Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. Use appropriate methods to validate information and check for bias and accuracy. <p>2. Planning the Route</p> <ul style="list-style-type: none"> Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. Show an awareness of the need for accuracy in spelling and syntax to search effectively. Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if ..." questions and change variable in their model. Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. <p>3. Collecting Content</p> <ul style="list-style-type: none"> Make a short film / animation from images (still and / or moving) that they have sourced, captured or created. Use images that they have sourced / captured / 	<p>1. Planning</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience <p>2. Commissioning and Sourcing content</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. <p>3. Words and pictures</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience Multimedia work shows restrained use of effects that help to convey meaning rather than impress. Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document). <p>4. Assembling pages</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication

<ul style="list-style-type: none"> Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose. 		<p>6. Implications for safety</p> <ul style="list-style-type: none"> Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school. 	<p>5. Is it Cyberbullying?</p> <ul style="list-style-type: none"> Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. Where possible seek and respond to feedback. Abide by school rules for e-safety. <p>6. Reading News Online</p> <ul style="list-style-type: none"> They show an understanding that not all information on the internet is accurate. Use appropriate methods to validate information and check for bias and accuracy. 	<p>manipulated as part of a bigger project (eg presentation or document).</p> <ul style="list-style-type: none"> Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. <p>4. Selecting and Refining</p> <ul style="list-style-type: none"> Make a short film / animation from images (still and / or moving) that they have sourced, captured or created. Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document). <p>5. Working with maps</p> <ul style="list-style-type: none"> Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices. <p>6. Telling the Story</p> <ul style="list-style-type: none"> Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience Multimedia work shows restrained use of effects that help to convey meaning rather than impress. Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication 	<ul style="list-style-type: none"> Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience Multimedia work shows restrained use of effects that help to convey meaning rather than impress. <p>5. Assembling and reviewing the magazine</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience Multimedia work shows restrained use of effects that help to convey meaning rather than impress. <p>6. Reviewing, editing and printing</p> <ul style="list-style-type: none"> Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience Multimedia work shows restrained use of effects that help to convey meaning rather than impress.
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#BTK and Links with other subjects

	Maths		PSHRE – friendships, keeping safe online,	Literacy – writing a film script Art – animation Literacy – writing for a purpose/for a specific audience.	
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Key Vocabulary

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Text and Multimedia	<ul style="list-style-type: none">• Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience• Multimedia work shows restrained use of effects that help to convey meaning rather than impress.
Digital Images (Photos, paint, animation)	<ul style="list-style-type: none">• Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.• Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document).
Electronic Communication	<ul style="list-style-type: none">• Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.• Where possible seek and respond to feedback.• Abide by school rules for e-safety.
Research and E Safety	<ul style="list-style-type: none">• Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience.• They show an understanding that not all information on the internet is accurate.• Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.• Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic.• Use appropriate methods to validate information and check for bias and accuracy.• Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate
Control (algorithms)	<ul style="list-style-type: none">• Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs).• Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose.
Handling information (databases and graphs)	<ul style="list-style-type: none">• Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings.• The need for accuracy is demonstrated and strategies for spotting implausible data are evident.• Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases).
Modelling and simulations (spreadsheets, adventure games and simulations)	<ul style="list-style-type: none">• Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if ..." questions and change variable in their model.• Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results.• Relate their use of spreadsheets to model situations to the wider world.
Data logging (science and maths)	<ul style="list-style-type: none">• Children are able to identify their own opportunities for data logging and carry out their own experiments.• They check and question results and are able to spot trends in data and identify when problems may have occurred.
Understanding Technologies (individual technologies)	<ul style="list-style-type: none">• Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems.• Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.
Understanding Technologies (networks)	<ul style="list-style-type: none">• Show an understanding of the school network and how it links computers to resources in school and beyond.• Compare this with other networks they may encounter at home or in the wider world (e.g. banks)• Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school.
Understanding Technologies (the internet)	<ul style="list-style-type: none">• Perform a search using different search engines and check the results against each other, explaining why they might be different.• Show an awareness of the need for accuracy in spelling and syntax to search effectively.• Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication