Reception- ICT Curriculum

Learning Objectives	Lesson Overview	Notes
Using technology		
To be able to operate simple equipment: Take a picture using a digital camera.	• Introduce a digital camera and or an ipad, then introduce the various control buttons. What do they do? • Demonstrate how to take a picture and then select volunteers to do the same. • Explain that we will make a class wall display (or book) to introduce everyone in the class. • Model how to take a photograph. • Show different ways you could take a photograph and let the children see the results eg close up where e a person's head is cut off or to the side. Let the children spot what is wrong. From this, discuss how best to 'frame' a photo. Also discuss why a photo may be blurry and how this can be avoided (stand still, gentle push of button). • Let the children take photos. Part way through the lesson, stop and show some of the photos on the IWB. *Which look the best? Why? How could we make them better?* • Use the resulting photos to form the basis of an 'all about me' display. Add captions such as "Jayden, photographed by Mia: "I made sure he was standing still and his head was in the middle of the picture"" to show the children's learning.	

To be able to talk about technology that is used at home and in school.	• Talk about "technology" What is technology? What do we use it for? Why? • Do a technology walk/search – looking for tech around the school. Computers, photocopiers, phones… • What technology do you have at home? Show pictures of microwave, telephone, television, games console, a tablet computer, a PC, a laptop, a mobile phone, a camera… • When do you use it? Why? Label pictures of technology	

• To be able to discuss different kinds of information	• Show a digital microscope to the class, connected to a PC/laptop and projector/IWB. Explain it makes very small things look bigger so we can see them more clearly. • "Look at your thumb and the thumb nail. *What can you see? Is the nail smooth or rough? What about your skin?"* • Get a child to put their thumb under the microscope. *What can you see now? Does it look rough or smooth?* • Encourage children to put a variety of things under the microscope and talk about what they see. (hair, finger) If you have a TTS 'easiscope' it can look • into the ear and mouth as well! • (If you have an adjustable microscope) *What happens if I turn this wheel? Does the image get bigger or smaller? How does it look now? Why is it blurry?...* • Some microscopes contain a camera – so the children could take a picture and an adult can scribe their words if they describe the photo.	Approx 3 x TTS easiscopes in school
e-safety • To be able to talk about the amount of time I spend using a computer (or tablet).	• Remind the children of the kinds of technology they have talked about. Show them the photographs of computers / tablets / gaming devices / smart phones they may use at home. When you do use them? What things do you like doing? Which of these do we have in the classroom? What do we need to be careful about when we use them? Emphasise taking care of devices, only using them with adult permission, time spent on the device. • Introduce the children to computer tokens. They will be given XX a week. Each time you use the computer/tablet you must put one of your tokens into our Technology Pot. What will this help us to do? – make sure we spend time doing other things. You may also want to introduce the use of a sand timer to help them limit the time they spend on one token.	See digital literacy and citizenship scheme www.swgfl.org.uk/digitalliteracy

• To be able to use simple equipment: *a camera/tablet to video someone.*	• Recap on the use and safety rules of digital cameras. Explain that as well as taking 'still' images, we can take moving images using a video camera (or a tablet). Show the device you are using and explain its controls – record, stop... *How do you know if the camera is recording? How do you know if it has stopped?* • Take a bit of video where you are moving the camera around wildly. *Is this good? Why not? How can we make it better? (Keep it still, or move it very slowly, keep the person in the shot "framed"…)* • Let the children work in 3s (camera person, interviewer, interviewee) to record each other. The 'interviewer' should ask one simple question: e.g, "What is your favourite food? and the interviewee answers "My favourite food is…', then swap around. Make sure there is time to upload and review the videos. *Which work well? What are some of the problems? (not speaking clearly, camera moving…) How can we fix this?* If time, let the children re-take the clips. If possible, upload the clips to the class's web page / blog / Virtual Learning Environment so they can see their work • published.	•
• To be able to talk about technology that is used at home and in school including seeing my learning being shared with others online.	• ***Note for teacher: <u>You will need to have set up a class blog</u> if you choose to do this activity. This is an ongoing activity that can continue through the whole year to share learning with parents and carers.*** • Show the children a blog that will let them see what has been happening in a <u>different school</u>. What have these children been doing? Where are they? Who can see this website? Who else might like to look at this website? • Talk about your own class blog and how you will be able to	http://www.creativeeducation.co.uk/blog/index.php /2010/12/how-to-set-up-a-class-blog-quickly-andeasily/ www.primaryblogger.co.uk
	look at it in school or at home. Who might like to look at it? Where are they? What shall we put on the blog? • Show the children how pictures can be uploaded and let them tell you what should be written on the blog.	

• To be able to talk about technology that is used at home and in school including seeing the parts of a computer.	• Show the classroom computers/ tablets. What are the parts of the computer/tablet? (screen, keyboard, CPU, mouse…). • What do you do to make the computer work? (use a mouse, use a trackpad, touch the screen) • For the rest of the session, let the children investigate the computer and practise using the mouse, trackpad etc with simple paint software or an App. How can you make marks? What can you create? • If possible, have an old computer and some screwdrivers that the children can take to pieces. Stress that they must not do this to any other computers or to things at home! Also, that the computer can be taken to pieces but not broken /bashed/snapped, as some components contain unpleasant substances.	A good paint software app is doodlebuddy,, and it's free.
• To create shapes on a screen *using a mouse, trackpad or touch to control a program.*	• Explain that we are going to be drawing a portrait of ourselves to add to our display, using a paint program on the computer (, Fresco, Doodle Buddy App) • Show and model the program / App on the IWB. • Draw attention to use of the mouse button to (1) select and to (2) hold down to either draw or 'drag and drop' (or demonstrate touch screen controls if using laptops/tablets) • Show how the mouse / finger is used to select different colours, line styles and to make marks. • Model drawing a portrait – selecting the right colour for hair, eyes etc, then ask the children to have a go. Adults to support the children, and help them save and print their work. Add the portraits to the "All about us" display, with scribed comments as before, e.g.: 'Charlie said "I used the mouse to click on the brown colour for my hair	Doodle buddy is a free app Fresco app is £1.99

e-safety
 	
• To know o ask an adult when I want to use the Internet.
• To know to tell an adult when something worrying or unexpected happens while I am using the Internet.
	• Talk about "staying safe" – what are some of the things we need to do to be safe? (in the classroom, the playground, out with our families, at home); and explain that there are some rules for using the computers and the internet which help keep us safe too. Remind them of the use of computer tokens (lesson 5). Why do we use them?
	
	• Discuss children's understanding of what 'the internet' is – the idea that there are lots of computers connected together and lots of people on the computers – all round the world. Do they have any existing knowledge of e-safety?
	
	• Together, make a list of rules about how we use computers/tablets in the class.
	
	    o Stay on the page/game/program that the teacher has set up for you, unless the teacher tells you otherwise
	
	    o If you are upset by anything you see, tell the teacher
	
	    o If you think someone is not following the rules, tell the teacher	

• I can operate simple equipment: take a picture using a digital camera or tablet*.*	• Show examples of maps and discuss what children can see. *What are they used for?* Explain that we can use a map to find our way around or to help someone else to find their way. • Explain that today we will make a map of the school using pictures. What can we use to get pictures of the different parts of the school? Remind the children of the earlier experience of taking photographs if that is needed. • Take a walk around the school with children taking photographs on the way. Let the children view these on the projector/IWB and select the best to print out using the criteria they have used before (*is the picture clear? is the picture 'framed' nicely?*). • Print these out and use them to create a map of the school/local area by sticking them on a large piece of display paper, or similar, on the floor of the classroom. (You may need to do a rough outline first.) • The map can be used for small world play and to encourage	

	use of positional and directional language "*If I want the doll to go into the school hall, does she go forwards, or does she have to turn?*"	
Programming • To be able to make a floor robot move. • To be able to make choices about the buttons and icons I press.	• Show Bee-Bot (or other device) to the children and tell them that we are going to introduce it to our school. Children work in small groups. What can you make it do? Guide children where necessary to find the on/off button. Allow them to push buttons to see what happens. • Reinforce the positional language used previously. Can you make it go forwards? Can you help your friends to make their Bee-Bot go forwards? … Guide the children to discover the purpose of the Go button. • *What do you think happens when I press this button? (*indicate the button to clear the memory, help them to discover its function). *What happens if I press it twice?* Don't "teach" at this point –just give prompts for the children to go off and explore for themselves. However, do stress that the devise must not be forced along or used like a friction car or it will break. • Encourage the children to take Bee-Bot to different parts of the school. Let them introduce Bee-Bot to the part of the school. Can you make it move around this area? What can it find?	
• To be able make a floor robot move.	• With the whole class: Explain that this session they will teach their Bee-Bot to travel around the map of the school they made. Gather the children on the carpet and talk about what they have discovered with Bee-Bot. *What happens when I press this button? …* • Let the children use the Bee-Bot to travel around the map of the school made previously. Watch and prompt and encourage children to try different commands and sequences. Some children will need to continue to use one directional button at a time. Others will begin to combine 2 or more forwards/backwards movements. • Model positional/directional language – start, go, stop, forwards, backwards, turn (right, clockwise) (left, anticlockwise). "Let's start from the beginning again…" – remind the children how to clear the Bee-Bot's memory. • Set the children challenges: "Can you get the Bee-Bot from the hall to the climbing frame? Can you get the Bee-Bot to	

| | go from the hall to the climbing frame and back again? Should the Bee-Bot go forwards or turn clockwise first? | |
| | • At the end of the session, gather the children and show the Bee-Bot's buttons on the board. Get the children to explain what they do. Get a child to stand and 'act out' what happens if a button is pressed. *("OK, Jack – Go forwards one step. Turn to the side. Go forwards 2 steps…")* | |

Year 1- ICT Curriculum.

Learning Objectives	Key Skills	Notes
Using technology		
• To become skilful in using different tools to control technology. • To understand the purpose of, and begin to use a range of different technology. To begin to develop typing speed and accuracy to enable independent access to a computer.	• Continue to develop their familiarity with a computer and keyboards • Continue to develop their skills in using a mouse and/or trackpad to control a computer/laptop. • Begin to develop their typing speed, using a range of games and programs in school. Children should also be encouraged to play these games at home. • Continue exposure to a range of technology, including cameras, tablets, microphones/recording devices and computers.	
Using the Internet		
• To understand that information comes from different sources e.g. books, web sites, TV etc • To understand that ICT can give access quickly to a wide variety of resources To talk about their use of ICT and the Internet and other methods to find information • To be able to explore a variety of electronic information as part of a given topic To know buttons/icons can represent different • functions e.g. record, pause, play	• Select appropriate buttons to navigate web sites or stored information • Begin to understand that computers use icons, menus, hyperlinks to provide information and instructions e.g. Select a specific part of the CBeebies site to find an activity • Access different types of information from different sources e.g. using CD players, web sites, TV, video, DVD etc ***These skills rely on the teacher directing children to specific content. It is not expected for children to do open searching at this stage.***	

Communicating and collaborating online

• To start to understand that messages can *access* be sent electronically over 'fictitious' characters.	• Contribute ideas to a **class** email and distances. together respond to messages-	*Check children's email* this can be to real life of

Creating and Publishing

• To use technology to combine text with • drawings photographs, graphics and • To create their own text based content, • including adding basic effects to sections of text.	Add text to photographs, graphics, drawings. and sound using a computer. Use simple authoring tools to create their own content and begin to add basic effects to sections of text, changing the font size and colour.	

Digital Media

• To know they can explore sound and music using technology and that they can create sound using computer programs. • To know they can record sound using ICT that can be stored and played back • To take photographs for a range of different purposes. • To understand that video can be recorded using technology and to begin to record video. • To understand that a range of different technology can be used to record sounds.	• Use a computer to compose and record basic rhythms. • Continue to take photographs for a range of different purposes. • Begin to record video • Begin to record sounds using a range of different tools.	*Possibly introduce garage band*

Using Data

• To use ICT to begin to organise items.. • begin to use technology to create graphs pictograms, recognising there is a link between data collected and the information on screen. graphs and pictograms.	• Use ICT to sort objects into groups To according to a give criteria, or criteria and which the child identifies themselves. • Begin to use technology to create presented	

Programming and Control

• To understand that devices respond to commands • To begin to understand how a computer processes instructions and commands (computational thinking) • To understand that they can programme a	• Explore a range of control toys and devices • Begin to develop computational thinking by following instructions to move around a course and creating a series of instructions to move their peers around a course • Explore outcomes when individual buttons	*Beebots* *Daisy the dinosaur*

simple sequence of commands into a programmable robot or toy to send it on a route	are pressed on robots, such as floor turtles and combine these together to draw simple shapes or follow a route.	

Modelling and Simulations

• To understand computers can represent real or fantasy situations • To understand computer representations allows the user to make choices and that different decisions produce different outcomes •	Understand that computers and technology can be used to represent and model situations. Use an art package or drag and drop software to create a representation of a real or a fantasy situation Explore a simulation to support a given topic and talk about what happens and why	
E-Safety		
E-Safety E-Awareness • To understand that some information (full name, address, birthday etc…) is 'special' as it applies to them. • To understand that personal information is as valuable online as offline and that it should not be shared without a parent, carer or teacher's permission. • To understand the importance of talking to a trusted adult about their online experiences.	• Children discuss, understand and abide by the school's e-Safety SMART Rules.	

Year 2- ICT Curriculum.

Learning Objectives	Key Skills	Notes
	Using technology	
• To continue to develop typing speed and • to enable independent and aiming for a computer. by the end of the year. To understand the purpose of, and begin independently use a range of different technology. technology, including microphones/recording devices and	• Work on developing typing speed, Typing minimum speed of 13wpm composition WPM • Continue exposure to and increasingly to independently use a range of cameras, tablets, computers	speed refers to copying WPM, accuracy will be slower. efficient access to a
	Using the Internet	
• To talk about the different forms of • useful information (text, images, sound, and understand some are more • Use useful than others to questions • To understand and talk about how the • information can be used to answer specific questions questions • To begin to develop key questions and find information to answer them hyperlinks and • layout of a web page, information recognise web addresses, menu buttons • and links and paste for a specific purpose • To understand that the internet contains a find large amount of information and the need to use search tools and search • specific engines to begin to find	Recognise that not all information is some information is more useful multimodal) web based resources to find answers Develop questions about a specific topic and use information to answer those • Begin to navigate within a website using menu buttons to locate To recognise the • Enter <u>given</u> text into a search engine to recognise specific given web sites Understand that web sites have a information address e.g. www.bbc.co.uk/ • Locate links to web sites from Favourites or saved hyperlinks, intranet or from the Learning Platform • Use basic information from the internet.	

messages- this can be to real life of 'fictitious' characters.

Communicating and collaborating online		
• To start to understand that messages can be sent electronically over distances. To • understand that email can be used to send messages electronically and people can reply to emails	• Look at the different ways that messages can be sent, letters, telephone, email, text, instant messaging etc • Continue to contribute ideas to a **class or group** email and together respond to	*Check children's email access*
Creating and Publishing		
• To use technology to word process work, • making a wide range of edits and using common features of word processing tools. • To use technology to create basic presentations giving consideration to the layout of slides and combining images and sound. • • To use the skills and techniques learnt to organise, reorganise and communicate ideas for a specific purpose in different contexts	Word process work, changing the font, font size, colour and adding images and using text boxes, word art, and cut, copy and paste ensuring they can save and load their work. Create basic presentations (for example using Microsoft PowerPoint) changing the layout of slides and adding images and sound.	
Digital Media		
• To know they can explore sound and music in ICT using keyboards, and onscreen music software • To know they can record sound using ICT that can be stored and played back and independently using a **range of tools** to record sound. • To independently record video and sound using a range of tools. • To use the computer to create basic images. • To choose to take photographs for a range of different purposes.	• *Use a computer to compose and record basic rhythms.* • Record video for a range of purposes. • Use a computer to create basic images. • Continue to take photographs for a range of different purposes, developing independence. • Independently record sounds using a range of different tools.	Images- paint and http://canvastic.net, and http://pencilmadness.com/pencil_madness (canvastic is similar to microsoft paint)
Using Data		

• To use technology to create graphs and • amend created graphs. • To begin to create their own branching databases using ICT, identifying objects and • questions to classify data.	Use technology to create graphs and pictograms, adding labels and amending the charts as appropriate. Begin to create their own branching database using ICT, identifying objects using yes or no questions.	

Programming and Control

• To continue to develop their understanding of how a computer processes instructions	• Further develop their understanding of computational thinking.	*(e.g. Beebot iPad app, Turtle in textease,*
• and commands. To understand that devices or on screen turtles are controlled by sequences of instructions or actions, and that these can be inputted using icons of by text. • To create, edit and refine sequences of instructions for a variety of programmable devices.	• Continue to explore floor turtles, combining sequences of instructions to follow a pattern or create a shape. • Explore an on screen turtle navigate it around a course or grid and/or draw shapes by inputting a sequence of instructions. • Begin to understand that the on screen turtle can be directed through the use of text.	*various on-line apps)*

Modelling and Simulations

• To use a range of basic simulations to represent real life situations and explore the effects of changing variable and the benefits of using the simulations.	• Enter information into a basic computer simulation and explore the effects of changing the variables in simulations and discuss the benefits of using these simulations. • Discuss their use of simulations and compare with reality .	

E-Safety

• To ensure that children are aware that not everyone they meet online is automatically trustworthy.		

• To ensure that children understand that personal information is unique to them and should not be shared without a teacher or parent's permission. • To ensure that children identify characteristics of people who are worthy of their trust.		

Year 3- ICT Curriculum.

Learning Objectives	Key Skills	Notes
Using technology (objectives throughout KS2)		
• To continue to develop typing speed and accuracy to develop competency in typing • To understand the purpose of and use independently a range of different technology. • To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.	Throughout KS2 children should:- • Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** • Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of **20WPM** by the end of Year 4. • Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use a microphone rather than the computer to record sound.	*Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be!* Typing speed refers to copying WPM, composition WPM will be slower.
Using the Internet		
• To follow a simple search to find specific information from a web site • To find and use appropriate information • To identify how different web pages are organised e.g. graphics, hyperlinks, text • To navigate a web page to locate specific information • To know that ICT enables access to a wider range of information and tools to help find specific information quickly • To understand a website has a unique address	• Develop key questions to search for specific information with purpose to answer a problem e.g. to find out about different Greek Gods. • Understand how a search engine works and begin to create and enter appropriate search strings. • Save and retrieve accessed information through the use of Favourites, History, and Save As • Understand that some information found through searching is more relevant than others	

	• Use the information purposefully to	
	complete specific tasks e.g. copy, paste and edit relevant information (ref. creating and publishing unit) • Talk about and describe the process of finding specific information	

<p align="center"><strong style="color:#2e86ab">Communicating and collaborating online</p>

• To understand that Cloud based tools can *access* allow multiple people to shared documents and Google Sites to a word bank, write a shared story	• Begin to use on-line tools, such as contribute to docs and sites to collaborate example by working together to add ideas	Google *Check children's email* together- for

<p align="center"><strong style="color:#6fbf2e">Creating and Publishing</p>

• To continue to produce work using a computer, using more advanced features of programs and tools. • To work collaboratively together to create documents, including presentations. • To use desk top publishing tools effectively and understand the differences between a word processor and desk top publisher.	• Continue to word process a range of work in other curriculum areas, using more advanced word processing features such as columns and borders. • Work together to collaboratively produce a presentation using cloud based tools. • Understand the differences between a word processor and desktop publishing tools and use desk top publishing tools to create posters, leaflets and other documents which require specific formatting.	

<div align="center">

Digital Media

</div>

• To understand they can compose music using icons to represent musical phrases • To understand ICT allows easy creation, manipulation and change • To know they can record sound using ICT that can be stored and played back and independently using a **range of tools** to record sound. • To independently record video using a range of devices and for a range of purposes.	• Use a computer to sequence short pieces of music using a small selection of pre-record sounds. • Independently record video for a range of purpose, paying attention to the quality of the video capture. • Take photographs for a specific reason or project and/or find appropriate images on-line. • Create a video out of still images. • Use the computer to preform photo	Audio- use 2simple 2sequence.

• To independently take photographs taking into account the audience and/or purpose for the image. • To create digital artefacts using photographs which they have taken or found. • To edit photographs using a range of basic tools.	edits and create a range of digital creations using photos.	

<div align="center">

Using Data

</div>

• To understand the basic structure of a graphs and charts. • To be able to add data to a pre-made database. basic structure of a database. • To use the data in a pre-made database to databases, generate graphs and charts. • use technology to create graphs and and charts. other software to present these	• Continue to use technology to create *Use* Understand which a database is, and the • Create graphs from pre-made and enter their own data into a database To generate graphs using these. Use findings as apppropaite.	*TextEase Data for database work.* database.

<table>
<tr><td colspan="3" align="center">**Programming and Control**</td></tr>
<tr>
<td>• To continue to develop their understanding of how computer and technology works and how computers process instructions and commands.
 • To create, edit and refine more complex sequences of instructions for a variety of programmable devices.
 • To use a computer to create basic applications, investigating how different variables can be changed and the effect this has..</td>
<td>• Continue to develop understanding of how a computer and technology works, focusing on computational thinking.
 • Begin to plan more complex sequences of instructions for on-screen and floor turtles test and amend these instructions. (e.g. using RoboMind)</td>
<td>Blog by Simon Haughton with lots of ideas and lesson plans <br> http://www.simonhaughton.co.uk/scratchprogramming/</td>
</tr>
<tr><td colspan="3" align="center">**Modelling and Simulations**</td></tr>
<tr>
<td>• To use a range of increasingly simulations to represent real life situations.
 • Use simulations to make and test predictions.</td>
<td>• Continue to explore simulations as appropriate and as link with other curriculum areas and discuss the benefits of using these simulations
 • Use simulations to make and test</td>
<td></td>
</tr>
</table>

	predictions.	
	E-Safety E-Awareness	

• Develop awareness of relevant e-Safety issues, such as cyber bullying. • Children understand and abide by the school's 'Being SMART Online' Rules and know that it contains rules that exist in order to keep children safe online. • Understand what personal information should be kept private. • Know that passwords keep information secure and that they should be kept private	•	*http://www.kidsmart.org.uk/beingsmart/*

Year 4- ICT Curriculum.

Learning Objectives	Key Skills	Notes
Using technology	
• To continue to develop typing speed and accuracy to develop competency in typing • To understand the purpose of and use independently a range of different technology. • To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.	Throughout KS2 children should:- • Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** • Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of **20WPM** by the end of Year 4. • Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use a microphone rather than the computer to record sound.	*Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be!* Typing speed refers to copying WPM, composition WPM will be slower.
Using the Internet	
• To draw information from a question to develop keywords to find relevant information e.g. What did Romans eat? • To understand the dynamics of a search engine and know that there are different search engines (some within specific sites e.g. BBC, and some the whole of the Internet e.g. Google, Yahooligans, Ask Jeeves) • To be able to skim read and sift information to check its relevance and modify their search strategies if necessary • To understand that the information they use needs to be appropriate for the audience	• Know that they can use search engine tools for different types of media e.g. Google Image Search, video, sound but understand that the results are not always what you expect • Be aware that web sites are not always accurate and that information should be checked before it is used. • Develop keywords and enter them into a chosen search engine, using more advanced search engine features.	

	• Present their findings using a word processing or multimedia/publishing package for a specific audience	
they are writing for e.g. copying and pasting difficult language • To evaluate different search engines and explain their choices for using these for different purposes • To begin to recognise that anyone can author on the Internet and sometimes authors on the Internet can produce content which is offensive, rude and upsetting and to follow school rules if anything is found		
Communicating and collaborating online		

To understand a small range of web 2.0 tools that can help them work together and collaborate; forums, shared documents etc • To use the web 2.0 tools to work collaboratively on a project (e.g. sharing comparative data, creating a story) • To understand how e-mails work and be able to send an e-mail, including choosing a suitable subject and entering addresses in the 'to', 'cc' and 'bcc' fields. • To share and exchange their ideas using e-mail and electronic communication- inside the school environment.	• Understand how e-mails work, and send emails between people within the woodlands-primary domain, including using the 'cc' and 'bcc' fields. • Use e-mail to e-mail work completed in school to their teachers and peers. • Collaborate with peers on a project to produce a finished piece to support topic work- using google documents within the woodlands-primary domain. • Contribute/edit/refine contributions to a shared document and understand that all changes are visible	

<div align="center">

Creating and Publishing

</div>

• To create a website, giving thought to it's audience and including links, images and embedded media and documents. • To understand that evaluation and	• Work together to create a website based on a topic, area of interest or event (for example using goggle sites) which incorporates hyperlinks, images and embedded	

improvement is a vital part of a design process and ICT allows changes to be made quickly and efficiently	media/documents. • Use ICT to create a finished product or set of linked products, making revisions to their work.	

<div align="center">

Digital Media

</div>

• To know they can record sound using ICT that can be stored and played back and independently using a **range of tools** to record sound, choosing appropriate tools for the situation and purpose. • To use a range of technology to sequence sound samples, giving consideration to the audience and purpose. • To create basic stop motion animations using technology. • To independently record video using a range of devices and for a range of purposes. • To use technology to create images and apply effects to these images. • To use technology to edit video, applying basic effects and transitions. • To independently take photographs taking into account the audience and/or purpose for the image.	• Create simple stop motion animations. • Use a range of devices to create extended pieces of music using a wide range of pre-recorded samples. • Independently choose to record video for a range of purposes, paying attention to the quality of video capture. • Use a range of tools to create more complex images using a computer (no layering) • Edit video using a range of basic video editing applications. • Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	
Using Data		
• To continue to use technology, including spreadsheets to create graphs and present data in different ways. • To be able to design and create a basic database, including using basic data validation. • To use a database to answer questions by constructing queries.	• Plan and create their own database, creating fields and applying simple data validation. • Use pre-made databases and those which they have created themselves to answer questions by constructing basic queries. Understand how to translate questions into queries to find information e..g to find the most common etc. Use other software to present these findings as appropriate • *Begin to use a spread sheet to enter data and create graphs.*	
Programming and Control		
• To continue to develop their understanding of how computer and technology works and	• *Begin to plan more complex sequences of instructions for on-screen and floor turtles,*	

• how computers process instructions and commands. *To create, edit and refine more complex sequences of instructions for a variety of programmable devices* • Use templates on a computer to create a game, which can be controlled by external inputs, changing parameters and algorithms and investigating the effect this has on the response.	• *test and amend these instructions. (e.g. using RoboMind)* Use computer game design software to plan, design and make their own, multi-level game, controllable by external inputs, changing parameters and responses. (e.gf using 2DIY)	
Modelling and Simulations		
• To understand that ICT allows for situations to be modelled, or those which it would be impractical to try out in real life and investigate the effect of changing variables in these simulations. • TO use software to model 3D objects made up of cuboids.	• • Begin to use software to represent 3D objects or items. Continue to explore simulations as appropriate and as link with other curriculum areas.	Use Lego Digital Designer for 3D modelling task.

E-Safety E-Awareness		
• Children understand and abide by the school's 'Being SMART Online' rules and aware of the implications of not following the rules. • Children understand that a password can keep information secure and the need to keep it a secret.		http://www.kidsmart.org.uk/beingsmart/

Year 5- ICT Curriculum.

Learning Objectives	Key Skills	Notes
Using technology		
• To continue to develop typing speed and accuracy to develop competency in typing • To understand the purpose of and use independently a range of different technology. • To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.	Throughout KS2 children should:- • Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** • Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. • Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.	*Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be!* Typing speed refers to copying WPM, composition WPM will be slower.
Using the Internet		
• To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data • To save and use pictures, text and sound and be able to import into a document for presentation (ref. multimedia presentation) • To recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate • To understand the issues of copyright and how they apply to their own work	• Discuss different strategies for finding relevant information e.g. using different keywords to find information on a given enquiry • Use a range of keywords to find different sources of information and enter them into a chosen search engine • Modify searches further to find relevant information for a report • Select and combine information from a range of different sources and present their findings using a word processing or multimedia/publishing package for a specific audience	Delivered alongside 'Creating and Publishing' unit.

	• Be aware that web sites are not always accurate and that information should be checked before it is used.	
	• Discuss issues of copyright and downloading material e.g. mp3s, images, videos etc. Find images which are creative common licenced and understand the importance of stating their sources.	
Communicating and collaborating online		
• To share and exchange their ideas using email and electronic communication- inside the school environment. • To use collaboration tools to work together to produce a joint piece of work	• Continue to use e-mail to e-mail within woodlands-primary and to e-mail work completed in and out of school to their teachers and peers. • Collaborate on a project using a range of web 2.0 tools to support their work- including, but not limited to , google documents and sites (within the woodlandsprimary domain) • Begin to collaborate with other children outside of school (e-safety paramount)- **possible opportunity to create links with another primary school in the area** • Upload files to an online area e.g. video, photo story, sounds, images	All delivered as part as general curriculum.
Creating and Publishing		

• To create non-traditional presentations using a range of tools, for a specific purpose . • To create websites for a specific purpose and improve these sites. • To use technology to help them present their work, showing an increasing degree of skill and using advanced features of software and tools. • To select tools which they can use to help them achieve a specific aim and justify these choices to others.	• Use an alternative presentation tool (for example *Prezi* or *Ahead*) to create a presentation linking into a topic, area of interest or event. • Continue to create websites based on topics, area of interest or events, increasing the complexity of these sites. • Continue to regularly use word processing and desktop publishing to present their work, combing formatted text with other media and making choices about programs and features to use and justifying these choices to others. • Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products.	
Digital Media		

• *To use a range of technology to sequence sound samples, giving consideration to the audience and purpose.* • To use technology to electronically compose music or sounds including creating melodies and save these as audio files. To use technology to capture and edit video, applying a range of different effects and incorporating numerous video clips. To use technology to create images including using layers. • To understand the difference between a image and a vector drawing. • To independently take photographs and record video taking into account the audience and/or purpose for the image/video.	• *Use a range of devices to create extended pieces of music using a wide range of pre-recorded samples.* • Use a range of devices to create music samples and sequence these. • Create and plan film trailers incorporating a range of different scenes and effects. • Use image creation tools to create more complex images, including using layers. Understand the differences between an image and a vector drawing. • Continue to choose to independently record video for a range of purposes. • Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	Audio- use web based on-line tools and iPad apps.
Using Data		

• To continue to use, search, enter data into • • and create their own databases To continue to use technology, including spreadsheets to create graphs and present • data in different ways..	Continue to use the computer and spreadsheets to create and alter graphs and charts. Continue to use, query and create their own databases as appropriate, linking into work across the curriculum. If appropriate and cross curricular links present the opportunity, begin to explore spreadsheets entering basic formulae. •	
Programming and Control		
• To continue to develop their understanding of how computer and technology works and how computers process instructions and commands, including the use of coding languages. • To explore ways in which software can be planned. • To use assisted programing software to create basic software which interacts with external controllers, and elements on screen, creating algorithms and using logic and calculations.	• Continue to develop an understanding of how technology works, with a focus on developing computational thinking. • Understand that software relies on codes to run and that a range of different coding languages exist. • Explore different ways in which computer software can be planned. • Use a range of assited programing software (e.g Scratch and/or Kodu) to plan, design and create basic software (for example a simple game), which interact with external controllers (e.g. keyboard and/or mouse). Using the software control the movement and responses of different elements on screen. • Use visual programing based software to plan, design and create basic non-game software which use logic, algorithms and calculations. *(e.g. use scratch to create an interactive maths quiz for a KS1 child)*	
Modelling and Simulations		

• To understand that ICT allows for situations to be modelled, or those which it would be impractical to try out in real life and investigate the effect of changing variables in these simulations. • Know that simulations are often guided by hidden rules • To use software to model 3D objects.	• Use software to create models of 3D objects, landscapes or items. • Explore a range of increasingly complex simulations, exploring the effect of changing variables and recording the results.	Use Trimble Sketckup for the 3D modelling task. http://www.sketchup.com/

E-Safety E-Awareness

• Children recognise their own right to be protected from the inappropriate use of technology by others and the need to respect the rights of other users. • Develop strategies to ignore or cancel unsolicited advertising (pop-ups, banners, videos or audio). • Children use websites where resources can be downloaded without infringing copyright.		

Year 6- ICT Curriculum.

Learning Objectives	Key Skills	Notes
Using technology		

• To continue to develop typing speed and accuracy to develop competency in typing • To understand the purpose of and use independently a range of different technology. • To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.	Throughout KS2 children should:- • Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** • Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. • Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.	*Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be!* Typing speed refers to copying WPM, composition WPM will be slower. See 'tools for teaching typing' for software and websites to use.

<p align="center">Using the Internet</p>

• To check plausibility of information from a variety of sources on the same topic To • use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data To • understand plagiarism and the importance of acknowledging sources	• Understand the dynamics of different search engines and know that there are different search engines which may focus on different media • Modify searches further to find relevant information for a report • Talk about where web content might originate from by looking at web address, author, other linked pages • Talk about validity and plausibility of information by checking other sources • Recognise the impact of using incorrect information in their work • Skim and select information checking for bias and different viewpoints	**Useful websites for Plausibility:** • *Investigate plausibility http://www.school-portal.co.uk/GroupHomepage.asp?GroupID=257454* • **Dog Island Free Forever:** A puppy dog paradise. http://www.thedogisland.com • **The Pacific Northwest Tree Octopus:** http://zapatopi.net/treeoctopus.html • **Victorian Robots:** http://www.bigredhair.com/robots/index.html

<p align="center">Communicating and collaborating online</p>

• To use appropriate forms of communication to, share information or ideas • To use collaboration tools to work together to produce a joint piece of work with children both inside Woodlands Primary and in other schools.	• Continue to collaborate on a project using a range of web 2.0 tools to support their work- including, but not limited to , goggle documents and sites- both with children in their class, other classes and children from other schools. • Respond to e-mails sent from outside the woodlands-primary domain using their woodlandsprimary e-mail account. (e-safety paramount) • Talk about the different forms of electronic communication and web 2.0 tools, discuss appropriateness of using different tools in different contexts and the advantages and disadvantages	Collaboration and e-mails with others schools as part of transition to high school. .
Creating and Publishing
• To use tools to help them design and create a web based application for smart phones/tablets, giving consideration to the market/audience for their application. • To create websites for a specific purpose and improve these sites. • To use technology to help them present their work, showing an increasing degree of skill and using advanced features of software and tools. • To select tools which they can use to help them achieve a specific aim and justify these choices to others., • Understand the importance of evaluation and adaptation of individual features to enhance the overall product.	• Continue to create websites based on topics, area of interest or events, increasing the complexity of these sites. • Continue to create presentations which link into a topic, area of interest or event, choosing an appropriate tool or service • Create a web based application for a smart phone or tablet with consideration for the audience- containing information about a topic, trip, the school or to support work in other areas of the curriculum. • *Create a non-linear presentation.* • Continue to regularly use word processing and desktop publishing to present their work, combing formatted text with other media and making choices about programs and features to use and justifying these choices to others. • Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products.	
Digital Media

• *To use technology to electronically compose music or sounds including creating melodies and save these as audio files.* • *To begin to recognise the different layers of sound in a professional broadcast and use technology to record and manipulate music/sound refining for a given audience or project* • To use technology to create astop motion animations and add audio and video effects to these animations. • To use a computer to add complex effects to photographs and to preform common photograph edits (e.g. red eye removal) • To compare different image creation and editing tools and select the most appropriate tool to use, justifying their choices. • To independently take photographs and record video taking into account the audience and/or purpose for the image/video.	• Use a range of devices to create music samples and sequence these. • Independently choose and use an appropriate device to record sounds in order to create a sound file and use software manipulate sounds using computer software – e.g. remove unwanted silences/trimming start and end - combine to make a podcast or similar broadcast. • Create stop motion animations and combine with video and audio effects. • Apply more complex effects to photographs using a computer. • Compare and contrast different image creation and editing tools across a range of platforms. • Continue to choose to independently record video for a range of purposes. • Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	Audio- use web based on-line tools, audacity on a computer and iPad apps. Focus on using ambient sounds.
Using Data		
• To continue to use, search, enter data into and create their own databases.. • To continue to use technology, including spreadsheets to create graphs and present data in different ways. To be able to design, construct, evaluate and modify simple models i.e. enter data, enter formulae, copy cells and use simple formatting in a spreadsheet. • To use a spreadsheet to draw a graph to show data • To understand that ICT allows quick and easy changes to be made to different variables once a spreadsheet is set up.	• Continue to use, query and create their own databases as appropriate, linking into work across the curriculum • Understand what a spreadsheet is and the basic features of a spreadsheet and how these may be used in real life applications. • Linked into a theme, or real life application, create a spreadsheet, enter basic formulae (simple calculations and SUM) and change data in a spreadsheet to model situations and answer 'What if…' questions.	

Talk about how the spreadsheet helps them to manipulate a model easily		

Programming and Control

• To continue to develop their • understanding of how computer and technology works and how computers • process instructions and commands, including the use of coding languages. • *To use assisted programing software to • create basic software which interacts with external controllers, and elements on screen, creating algorithms and using • logic and calculations.* • To use assisted programing software to more complex software which interacts • with external controllers, and elements on screen, creating algorithms and using logic and calculations. • To control an on screen icon using text based programing, including writing complex written algorithms which involve sensors. • To begin to write simple scripts in an international recognised coding language	Continue to explore different ways in which computer software can be planned. Continue to develop an understanding of how technology works, with a focus on developing computational thinking Use a range of visual programing software to plan and design more complex software (for example a multi-level game) Control an on-screen icon using text based controls, including responding to sensors and repeating written algorithms (e.g. Robomind) *Begin to explore text based programing languages and create basic scripts (for example writing a python script to identify if a number is odd or even)*	

Modelling and Simulations

• To understand that ICT allows for complex situations to be modelled, or those which it would be impractical to try out in real life investigate the effect of changing variables in these simulations. Know that simulations are often guided by hidden rules • To use software to model 3D objects, working to a scale. • • Be aware of the issues surrounding cyberbullying and understanding the impact on an individual of sending or uploading unkind or inappropriate	• • Use software to create models of 3D objects, landscapes or items, including creating to scale Use a range of more complex simulations, exploring the link to 'real life' and the impact of changing variables. Link the work exploring simulations to creating their own basic simulations in excel	Use Trimble Sketckup for the 3D modelling task. http://www.sketchup.com/

E-Safety E-Awareness

content. • Know that malicious adults use the Internet and attempt to make contact with children and know how to report abuse.		