Mount Carmel R.C Primary School
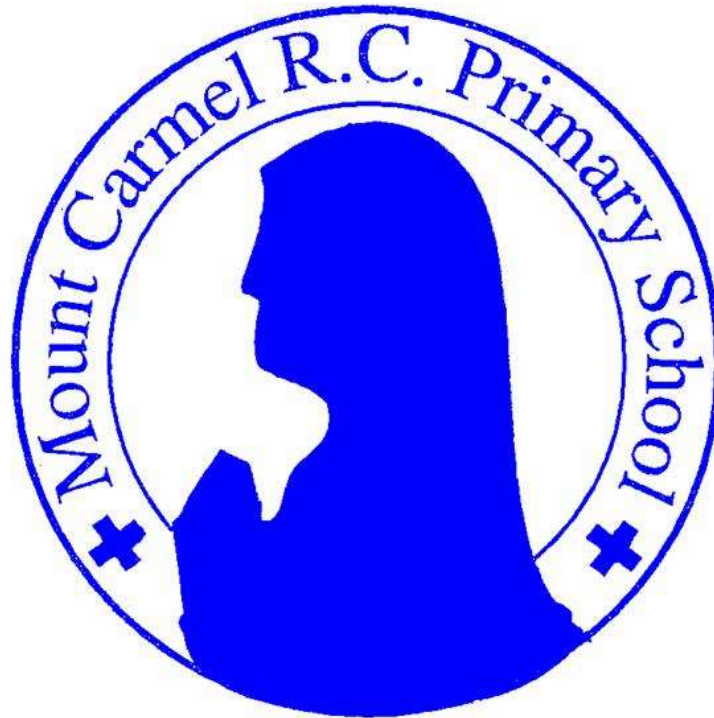## Scheme of Work 2014-

"Proclaiming Christ's message of hope, we live as a caring family of faith and mutual respect."

Year 3- Computing Curriculum Overview- 2014-15

This overview should be read in conjunction with the Computing Curriculum document which gives a full overview of the learning objectives and skills for each year group.

The Computing curriculum will be covered through integration with other subjects and cross curricular work, and a hour session in the Computing suite each week, which will focus on contextual skill development and will provide experiences which can then be applied in other work. The Framework for creating the school's Computing Curriculum has been adapted from Switched On ICT (Rising Stars Ltd) and the DFES 'Computing Programme of Study.'

Suggested skills to be taught as part of weekly session in the Computing suite, using cross curricular links and real life contexts:-

- Learn how to save and open documents safely.
- Understand how to manipulate text in Word based programs.
- ***Create Graphs from pre-made databases, and enter their own data into a database, generating graphs using these. Use other software to present these findings as appropriate***- Database work, for example on Olympic and Paralympic medals-***5 Hours.***
- ***Begin to plan more complex sequences of instructions for on screen and floor turtles, testing and amending these instructions***- Problem solving work using software such as RoboMind- **4 hours.**
- ***Use software to make basic puzzle and quizzes, changing parameters to customise the puzzle***- Creating puzzles using the computer, for example using 2DIY. -**3 hours.**
- ***Understand the difference between a Word Processor and Desktop Publisher and use Desktop Publishing tools to create posters, leaflets and other documents which require specific formatting.*** Using desktop publishing tools to create posters etc- tools such as 2Publish and Microsoft Publisher can be used here. – **6 hours**
- ***Use a computer to preform simple photo edits, including using on-line tools to apply a arrange of different effects to photographs***- Using tools such as RealBigLabs to produce simple creations using photographs, progressing to more complex editing using on-line tools such as SumoPaint and Aviary- ***6 hours***
- ***Continue to increase typing speed***- Using software such as Dance Mat Typing and on-line games to increase typing speed- **5 hours (spread throughout year)**

The suggested timeframes above account for 35 hours out of approximately 38 hours of timetabled Computing suite time in the 2014-15 academic year, the remaining time is to be used to develop the skills further, provide additional time for e-safety delivery, and/or support Computing in projects being delivered across the curriculum.

The remainder of the skills in the Year 3 curriculum should be covered as part of teaching across the curriculum. It is especially important that the following experiences are offered to children in Year 3 using IPADs.

- Researching on the internet, including creating their own search terms to answer a specific question and using the information found in their work.
- Recording video and taking photographs for a range of different purposes.
- Continue to word process work, introducing more advanced formatting such as columns and borders. Typing with an awareness of capital letters and lower case letters using caps lock.
- Using technology to colour and design.
- Exploring simulations and models as they link in with other curriculum areas.

In addition, children in Year 3 will have a developing set of computing skills and experiences, which should be used and applied throughout the curriculum, these include:-
- Presenting information on the computer.
- Collaborative working.

It is important that technology is used as a day-day element of school life and across all subject areas, therefore if opportunities to use Computing arise which do not fall within the curriculum for Year 3 these should be taken advantage of. Children should be encouraged to develop independence in the use of technology, as well as in the choice of when to use technology and which pieces of technology to use.

Year 4- Computing Curriculum Overview- 2014-15

This overview should be read in conjunction with the Computing Curriculum document which gives a full overview of the learning objectives and skills for each year group.

The Computing curriculum will be covered through integration with other subjects and cross curricular work, and a hour session in the Computing suite each week, which will focus on contextual skill development and will provide experiences which can then be applied in other work.

Suggested skills to be taught as part of weekly session in the Computing suite, using cross curricular links and real life contexts:-

- *Begin to use software to represent 3D objects or items*- for example, using Lego Digital Designer to create a virtual Lego model and generate building instructions. **– 3 Hours.**
- *Using Sploder.*com to develop a video game; manipulating objects, thinking about challenge and difficulty as well as producing a set of instructions.
- *Understand how e-mails work and send e-mails between people within the woodlands-primary domain, including using the 'cc' and 'bcc' fields-* E-mail introduction session- **1 hour.**
- *Use computer game design software to plan, design and make their own, multi-level game, controllable by external inputs, changing parameters and responses*- For example making a game which links into a topic or theme using 2DIY (possible extension to Kodu) **6 hours**
- *Create simple Stop Motion animations*- Use either I can Animate and/or Windows Movie Maker to create stop motion animations, linking into a theme or topic. -**4 hours**
- *Use a range of tools to create more complex images using a computer*- Using online tools such as Sumo Paint to create more complex images, including applying a range of effects- 4 **hours.**
- *Plan, create and query their own database, creating fields and applying simple data validation*- Creating a database, for example on Paralympic medals- **6 hours**
- *Edit video using a range of basic video editing applications*- Creating and editing their own video, for example using *iMovie* on the iPad.- **4 hours.**
- *Create a collaborative website based on a topic, area of interest or event, which incorporate hyper links, images and embedded media/documents- 4 hours*

The suggested timeframes above account for 32 hours out of approximately 38 hours of timetabled Computing suite time in the 2014-15 academic year, the remaining time is to be used to develop the skills further, provide additional time for e-safety delivery, and/or support Computing in projects being delivered across the curriculum.

The remainder of the skills in the Year 4 curriculum should be covered as part of teaching across the curriculum.   It is especially important that the following experiences are offered to children in Year 4

- Exploring simulations and models as they link in with other curriculum areas.
- Using e-mail to share work with teachers and peers, and collaborating together with others on-line (for example using Google Docs) to create, edit and review documents.
- Develop typing speed- Increase typing speed, aiming for 20WPM by end of Y4- this could be for example, 5 minute 'challenges' at the end of some Computing sessions.
- Researching on the internet, including creating their own search terms to answer a specific question and using the information found in their work, with a focus on the accuracy of information found on-line.
- Recording video and taking photographs for a range of different purposes.
- Continue to word process work and use desktop publishing software, introducing more advanced formatting such as columns and borders.
- Using technology to create graphs and charts.
- *Use a range of devices to create extend pieces of music using a range of pre-recorded samples (as part of the music curriculum)*

In addition, children in Year 4 will have an increasing set of ICT skills and experiences, which should be used and applied throughout the curriculum, these include:-

- Presenting information on the computer- presentations, word processing and desktop publishing.
- Collaborative working.
- Editing photographs and using these across a range of media.

It is important that technology is used as a day-day element of school life and across all subject areas, therefore if opportunities to use Computing arise which do not fall within the curriculum for Year 4 these should be taken advantage of. Children should be encouraged to develop independence in the use of technology, as well as in the choice of when to use technology and which pieces of technology to use.

<u>Year 5 Computing Curriculum Overview- 2014-15</u>

This overview should be read in conjunction with the Computing Curriculum document which gives a full overview of the learning objectives and skills for each year group.

The Computing curriculum will be covered through integration with other subjects and cross curricular work, and a hour session in the Computing suite each week, which will focus on contextual skill development and will provide experiences which can then be applied in other work.

Suggested skills to be taught as part of weekly session in the Computing suite, using cross curricular links and real life contexts:-

- *Create a presentation using an alternative presentation editor*- For example creating a presentation using Prezi, which links into a topic or area. – **3 hours.**
- *Use image creation tools to create more complex images, including using layers and understand the difference between an image and vector drawing*- for example creating layered imaged using SumoPaint and exploring a range of vector based editors- **6 hours**
- *Create and plan film trailers, incorporating a range of different scenes and effects-* for example using iMovie to create film trailers- **4 hours**
- *Use a range of assisted programming software to plan design and create basic software which interacts with external controllers. Using the software control the movement and responses of different elements on screen.* – For example, creating a basic game which is linked into a theme using Scratch and/or Kodu. *6 hours.*
- *Use a range of assisted programming software to plan, design and create a basic non-game application which using logic, algorithms and calculations-* for example, creating a maths game for a KS1 child- **4 hours.**
- *Use software to create models of 3D objects, landscapes or items, including creating models to scale*- for example using Trimble Sketchup to create a city-scape, or model of the coast. -**5 hours**
- *Explore a range of increasingly complex simulations- exploring the effect of changing variables and recording the results*- for examples explore *Lemonade Stand*- and discuss the different variables and how they effect the outcome. – **4 hours**
- *Researching the history of the internet –* looking at the founders and researching the webs development.

The suggested timeframes above account for 32 hours out of approximately 38 hours of timetabled Computing suite time in the 2014-15 academic year, the remaining time is to be used to develop the skills further, provide additional time for e-safety delivery, and/or support Computing in projects being delivered across the curriculum.

The remainder of the skills in the Year 5 curriculum should be covered as part of teaching across the curriculum.   It is especially important that the following experiences are offered to children in Year 5

- Exploring simulations and models as they link in with other curriculum areas.
- Using e-mail to share work with teachers and peers, and collaborating together with others on-line (for example using Google Docs) to create, edit and review documents.
- Continue to develop typing speed- this could be for example, 5 minute 'challenges' at the end of some ICT sessions.
- Researching on the internet, including creating their own search terms to answer a specific question and using the information found in their work, with a focus on the accuracy of information found on-line.
- Recording video and taking photographs for a range of different purposes.
- Continue to create presentations based to support work across the curriculum.
- Continue to word process work and use desktop publishing software, introducing more advanced formatting such as columns and borders.
- Using technology to create graphs and charts.
- *Use a range of devices to create extend pieces of music using a range of pre-recorded samples (as part of the music curriculum)*

In addition, children in Year 5 will have an increasing set of ICT skills and experiences, which should be used and applied throughout the curriculum, these include:-
- Creating websites.
- Presenting information on the computer- presentations, word processing and desktop publishing.
- Collaborative working.
- Stop- motion animation.
- Video editing.
- Editing photographs and using these across a range of media.

It is important that technology is used as a day-day element of school life and across all subject areas, therefore if opportunities to use ICT arise which do not fall within the curriculum for Year 5 these should be taken advantage of. Children should be encouraged to develop independence in the use of technology, as well as in the choice of when to use technology and which pieces of technology to use.

Year 6 Computing Curriculum Overview- 2014-15

This overview should be read in conjunction with the Computing Curriculum document which gives a full overview of the learning objectives and skills for each year group.

The Computing curriculum will be covered through integration with other subjects and cross curricular work, and a hour session in the Computting suite each week, which will focus on contextual skill development and will provide experiences which can then be applied in other work.

Suggested skills to be taught as part of weekly session in the Computing suite, using cross curricular links and real life contexts.

- *Use a range of assisted programming software to plan design and create basic software which interacts with external controllers. Using the software control the movement and responses of different elements on screen.* – For example, creating a basic game which is linked into a theme using Scratch and/or Espresso. *6 hours.*
- *Control an onscreen icon using text based controls, including responding to sensors and repeating written algorithms-* for example using the advanced features in RoboMind- **4 hours.**
- *Create stop motion animations and combine with video and audio effects-* For example making a stop motion animation using *I Can Animate* and importing this into *iMovie* to add audio and video effects- **5 hours.**
- *Compare and contrast a range of image creation and editing tools across different platforms-* for example comparing SumoPaint, Paint.net and Art Rage, reviews could be written in a collaborative presentation or website. – **5 hours.**
- *Linked into a theme or real life application, create a spreadsheet, enter basic formulate (simple calculations and SUM) and change data to model situations and answer 'What If…' questions-* For example, creating a spreadsheet to support a stall at a school fete, or planning for a Christmas Party/production- **5 hours.**
- *Create a web based application for a smart phone or tables with consideration for the audience, containing information about a topic, trip, the school or to support work in other areas of the curriculum-* For example using AppShed to create a application about the school- *5 hours*
- *Understand that information on the internet may not always be accurate and investigate the plausibility and validity of information-* **2 hours.**
- Researching the history of the internet – looking at the founders and researching the webs development.

The suggested timeframes above account for 32 hours out of approximately 38 hours of timetabled Computing suite time in the 2014-15 academic year, the remaining time is to be used to develop the skills further, provide additional time for e-safety delivery, and/or support Computing in projects being delivered across the curriculum.

The remainder of the skills in the Year 6 curriculum should be covered as part of teaching across the curriculum. It is especially important that the following experiences are offered to children in Year 6

- Exploring simulations and models as they link in with other curriculum areas.
- Using e-mail to share work with teachers and peers, and collaborating together with others on-line (for example using Google Docs) to create, edit and review documents.
- Collaborate with children from other schools- for example as part of a transition project.
- Continue to develop typing speed- this could be for example, 5 minute 'challenges' at the end of some Computing sessions.
- Researching on the internet, including creating their own search terms to answer a specific question and using the information found in their work, with a focus on the accuracy of information found on-line.
- Recording video and taking photographs for a range of different purposes.
- Continue to create presentations based to support work across the curriculum, using a range of presentation styles.
- Continue to word process work and use desktop publishing software, introducing more advanced formatting such as columns and borders.
- Using technology to create graphs and charts.
- *Use a range of devices to create their own music samples and to sequence these (as part of the music curriculum)*

In addition, children in Year 6 will have an increasing set of Computing skills and experiences, which should be used and applied throughout the curriculum, these include:-

- Creating websites.
- Presenting information on the computer- presentations, word processing and desktop publishing.
- Using a range of advanced simulations.
- Collaborative working.
- Stop- motion animation.
- Editing photographs and using these across a range of media.

It is important that technology is used as a day-day element of school life and across all subject areas, therefore if opportunities to use computing arise which do not fall within the curriculum for Year 6 these should be taken advantage of. Children should be encouraged to develop independence in the use of technology, as well as in the choice of when to use technology and which pieces of technology to use.