Computing / ICT Aims

Through computing, pupils are more able to actively participate in a rapidly changing technological world.

Computing teaches pupils how to keep safe online, and where to go for help and support.

Critical thinking and analytical skills are developed through computing.

Why is Computing / ICT important?

Through computing, we not only learn to use technology purposefully and effectively, but become aware of the underlying processes involved, helping us to understand how best to apply skills safely and ethically. Learning about control systems and robots increases awareness of many of the operating systems we use to manage our everyday lives.

The internet helps us to rapidly access ideas and experiences from a wide range of individuals, communities, countries and cultures.

In computing, we develop essential skills for life in a digital age, learning to apply critical thinking and problem-solving skills.

When is Computing / ICT taught?

Computing / ICT is taught primarily linked to thematic units. The attached overview (Appendix 1) maps out which thematic units feature this subject and the Long-Term Plan (Appendix 2) clearly shows the objectives taught.

How is Computing / ICT taught?

Computing / ICT is taught through a combination of subject knowledge and development of specific skills and competencies. Learning takes place mainly inside the classroom.

What do we learn about in Computing / ICT?

We learn about the following:-

Programming

Networking

Sequencing

Multimedia

Data Handling

Presentations

Word Processing

Animation

Email

E-Safety

Computer-Aided Design

Research

Podcasts

Sound FX

How do we assess and monitor Computing / ICT?

Assessment is an ongoing process in the classroom as teachers observe pupils' oral and written responses. Opportunities for assessment exist in medium term plans and are built into all activities. When a new unit is introduced the title and supporting materials are displayed to a class. Pupils use their existing knowledge to summarise what they already know about the topic and consider what will be taught. At the end of a unit pupils are encouraged to reflect on their learning against unit knowledge ladders. As a class a theme review sheet will be completed (Appendix 3)

The learning objectives and outcomes within each lesson offer teachers opportunities for checking progress. Consistency of judgment is ensured by using skills ladders (Appendix 4) and advice by the coordinator. The main method of assessing children's knowledge, skills and understanding is through the use of Assessment for Learning. Parents are informed of curriculum coverage in a curriculum newsletter sent out each term and the progress achieved by their child in the end of year report.

CURRICULUM SUBJECTS OVERVIEW

ICT / COMPUTING

Learning Pathways	Cr		C📷		C📶		C💧	
Pathfinders	**Unity in the Community**	**Land Ahoy!**	**Zero to Hero**	**Come Fly With Me! The Arctic Circle**	**Happily Ever After**	**Inter-Nation Media Station**	**Going Wild**	**Light Up the World**
	Computer Science	Computer Science	Research Multimedia	Multimedia	Multimedia - Computer Science	Multimedia	Multimedia	Data Handling
Adventurers	**Athens v Sparta**	**Law and Order**	**A World of Difference**	**Come Fly With Me! Africa**	**That's All Folks!**	**Lightning Speed**	**Picture Our Planet**	**Under The Canopy**
	E-Safety	Computer Science	Multimedia	Multimedia	Animation	Networks	Email	Computer Science
Navigators	**Wars of the World**	**You're Not Invited**	**I Have a Dream…**	**Come Fly With Me! America**	**Mission Control**	**A World of Bright Ideas**	**Full of Beans**	**Global Warning**
	Multimedia	Computer-Aided Design	Multimedia	Multimedia Data Handling	Multimedia	Computer Science	Multimedia	Multimedia

W Issues

© Dimensions Curriculum Ltd.

Appendix 2

Pathfinders Computing/ICT Coverage

COME FLY WITH ME! THE ARCTIC CIRCLE	ZERO TO HERO
MULTIMEDIA	RESEARCH / MULTIMEDIA
- To recognise common uses of information technology beyond school - To use technology purposefully to create, organise, store, manipulate and retrieve digital content - To try alternatives using a range of tools and techniques to alter text, images and sounds - To use ICT to communicate with unknown audiences - To plan, discuss and review work developed using ICT in order to improve it	- To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies - To use technology purposefully to create, organise, store, manipulate and retrieve digital content - To explore digital resources by using hyperlinks and simple menus - To use the internet and other digital sources to find out about significant issues, events and people and explore real and imaginary locations - To use technology purposefully to create, capture, organise, store, manipulate, retrieve and present digital content - To try alternatives using a range of tools and techniques to alter text, images and sounds - To use strategies to stay safe when using ICT and the internet - To plan, discuss and review work developed using ICT in order to improve it - To identify when and where to go for help and support when they have concerns about material on the internet

LAND AHOY!	UNITY IN THE COMMUNITY
COMPUTER SCIENCE	COMPUTER SCIENCE
- To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - To use the 'repeat' (loop) and 'when' (conditional statement) command within a series of instructions - To plan a short 'story' for a sprite and write the commands for this - To edit/refine a sequence of commands	- To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - To use the 'repeat' (loop) and 'when' (conditional statement) command within a series of instructions - To plan a short 'story' for a sprite and write the commands for this - To edit/refine a sequence of commands

HAPPILY EVER AFTER	INTER-NATION MEDIA STATION
MULTIMEDIA / COMPUTER SCIENCE • To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • To explore digital resources by using hyperlinks and simple menus • To identify common uses of information technology beyond school • To give instructions to make things happen using programmable devices • To use technology purposefully to create, capture, organise, store, manipulate, retrieve and present digital content • To try alternatives using a range of tools and techniques to alter text, images and sounds • To combine written text with graphics, tables, sound and images and present work appropriately	**MULTIMEDIA** • To recognise common uses of information technology beyond school • To use technology purposefully to create, organise, store, manipulate and retrieve digital content • To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes • To select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To organise and adjust communication according to the needs of the audience and the technology, including taking account of the quality and content of the communication • To use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions • To use ICT safely, respectfully and responsibly, managing risk and showing awareness of other users

GOING WILD	LIGHT UP THE WORLD
MULTIMEDIA • To use technology purposefully to create, organise, store, manipulate and retrieve digital content • To explore digital resources by using hyperlinks and simple menus • To collect, sort, record and represent information to inform investigations and designs • To draw conclusions from data collected • To use technology purposefully to create, capture, organise, store, manipulate, retrieve and present digital content • To combine written text with graphics, tables, sound and images and present work appropriately • To use strategies to stay safe when using ICT and the internet • To plan, discuss and review work developed using ICT in order to improve it • To identify when and where to go for help and support when they have concerns about material on the internet	**DATA HANDLING** • To use technology purposefully to create, organise, store, manipulate and retrieve digital content • To explore digital resources by using hyperlinks and simple menus • To collect, sort, record and represent information to inform investigations and designs • To draw conclusions from data collected • To use technology purposefully to create, capture, organise, store, manipulate, retrieve and present digital content • To combine written text with graphics, tables, sound and images and present work appropriately • To plan, discuss and review work developed using ICT in order to improve it • To use technology safely and respectfully, keeping personal information private • To identify when and where to go for help and support when they have concerns about material on the internet

Adventurers Computing/ICT Coverage

A WORLD OF DIFFERENCE	COME FLY WITH ME! AFRICA	ATHENS V SPARTA
MULTIMEDIA • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use ICT to explore alternative ideas in order to refine and improve outcomes and performances • To use a variety of ICT tools to create, refine and present work in a variety of ways • To use features of layout, presentation and organisation in print and on screen • To use editing skills for visual effects	**MULTIMEDIA** • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact • To use a variety of ICT tools to create, refine and present work in a variety of ways • To use features of layout, presentation and organisation in print and on screen • To use editing skills for visual effects • To use ICT safely and appreciate the need to keep electronic data secure	**E-SAFETY** • To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact • To identify how ICT can be used to collect and structure information, including the use of surveys, so that it can be searched and analysed • To verify the accuracy and reliability of the information found, distinguishing between fact and opinion • To use key words to search for and select appropriate information from the internet and other digital sources • To use a variety of ICT tools to create, refine and present work in a variety of ways • To use ICT safely and appreciate the need to keep electronic data secure

LAW AND ORDER	LIGHTNING SPEED	PICTURE OUR PLANET	UNDER THE CANOPY
COMPUTER SCIENCE • To use sequence, selection, and repetition in programs; work with variables and various forms of input and output • To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • To know how to write an algorithm in a flowchart • To understand and use repetition within algorithms	**COMPUTER NETWORKS** • To understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • To understand that the computers in a school are connected together in a network • To understand why computers are networked • To understand the difference between the internet and the World Wide Web (WWW) • To understand that servers on the internet are located across the planet • To understand how email is sent across the internet	**EMAIL** • To understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • To use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact • To identify the opportunities computer networks offer for communication and collaboration, using ICT to exchange ideas and collaborate with others remotely • To use ICT safely and appreciate the need to keep electronic data secure • To use features of layout, presentation and organisation in print and on screen	**COMPUTER SCIENCE** • To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • To use sequence, selection, and repetition in programs; work with variables and various forms of input and output • To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Navigators Computing/ICT Coverage

'I HAVE A DREAM…'	COME AND FLY WITH ME! AMERICA
MULTIMEDIA • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes • To select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information	**DATA HANDLING / MULTIMEDIA** • To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use ICT to explore and develop simple models by changing variables and simple formulae • To answer questions by using ICT to identify, collect, store, analyse and present information • To analyse, describe and discuss the effectiveness of my work with ICT • To represent data from analysis in appropriate ways, including the use of graphs • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes

A WORLD OF BRIGHT IDEAS!

COMPUTER SCIENCE

• To use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact
• To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
• To use sequence, selection, and repetition in programs; work with variables and various forms of input and output
• To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
• To use ICT to create and refine sequences of instructions to explore problems and make controllable systems
• To analyse, describe and discuss the effectiveness of my work with ICT
• To select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information
• To use ICT safely, respectfully and responsibly, managing risk and showing awareness of other users
• To use sequence, selection, and repetition in programs

MISSION CONTROL	GLOBAL WARNING
MULTIMEDIA • To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To verify the accuracy and reliability of the information found online, detect bias and distinguish evidence from opinion • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes	**MULTIMEDIA** • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes • To organise and adjust communication according to the needs of the audience and the technology, including taking account of the quality and content of the communication • To use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions

FULL OF BEANS	WARS OF THE WORLD	YOU'RE NOT INVITED
MULTIMEDIA • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes • To organise and adjust communication according to the needs of the audience and the technology, including taking account of the quality and content of the communication • To use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions	**MULTIMEDIA** • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To organise and adjust communication according to the needs of the audience and the technology, including taking account of the quality and content of the communication • To use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions	**CAD (COMPUTER-AIDED DESIGN)** • To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • To use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact • To use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions • To use ICT safely, respectfully and responsibly, managing risk and showing awareness of other users • To analyse, describe and discuss the effectiveness of their work with ICT • To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

THEME REVIEW

I
_____ PRIMARY SCHOOL
COLLABORATIVE REVIEW

Teacher:	Year:	Class:
W/B:	Theme:	Term:

TEACHER	PUPILS				OTHER STAFF
	WHAT WE NOW KNOW...	WHAT WE NOW CAN DO...	WHAT WE NOW UNDERSTAND...	GENERAL COMMENTS	

Guidance notes:-
This form is to be used as an assessment tool to inform future planning and evaluation. Teachers, pupils and other staff are encouraged to reflect on the learning that has taken place during the half term and write comments above, matched against the success criteria. This is crucial to the successful monitoring of the effectiveness of the thematic approach. Future planning should demonstrate awareness of, and be based on, the feedback on the collaborative review sheet.

Computing

Dimensions CURRICULUM

EYFS

UW29
Completes a simple program on a computer

UW30
Uses ICT hardware to interact with age-appropriate computer software

UW31
Recognises that a range of technology is used in places such as homes and schools

UW32
Selects and uses technology for particular purposes

ICT / Computing

Dimensions CURRICULUM

Skills Ladder

KEY STAGE ONE	KEY STAGE TWO
C1 Recognise and understand that algorithms are implemented as programs on digital devices, executing by following precise and unambiguous instructions **C2** Create and debug simple programs **C3** Use logical reasoning to predict the behaviour of simple programs	**C4** Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems **C5** Solve problems by decomposing them into smaller parts **C6** Use sequence, selection, and repetition in programs **C7** Work with variables and various forms of input and output **C8** Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs **C9** Understand computer networks including the internet, recognising how they can provide multiple services, such as the world-wide web

YEAR ONE / TWO

INVESTIGATION	**Ict1** Explore digital resources by using hyperlinks and simple menus **Ict2** Use the internet and other digital sources to find out about significant issues, events and people and explore real and imaginary locations
OBSERVATION	**Ict3** Collect, sort, record and represent information to inform investigations and designs **Ict4** Draw conclusions from data collected **Ict5** Identify common uses of information technology beyond school
APPLICATION	**Ict6** Give instructions to make things happen using programmable devices **Ict7** Use technology purposefully to create, capture, organise, store, manipulate, retrieve and present digital content **Ict8** Try alternatives using a range of tools and techniques to alter text, images and sounds **Ict9** Combine written text with graphics, tables, sound and images and present work appropriately **Ict10** Use ICT to communicate with unknown audiences **Ict11** Use strategies to stay safe when using ICT and the internet **Ict12** Plan, discuss and review work developed using ICT in order to improve it **Ict13** Use technology safely and respectfully, keeping personal information private **Ict14** Identify when and where to go for help and support when they have concerns about material on the internet

YEAR THREE / FOUR

INVESTIGATION	**Ict15** Use ICT to explore a range of number patterns and models including changing values and asking "what if?" questions **Ict16** Use ICT to explore alternative ideas in order to refine and improve outcomes and performances **Ict17** Explore alternative approaches to develop and refine work **Ict18** Save and use stored information to follow lines of enquiry
OBSERVATION	**Ict19** Identify how ICT can be used to collect and structure information, including the use of surveys, so that it can be searched and analysed **Ict20** Identify the opportunities computer networks offer for communication and collaboration **Ict21** Verify the accuracy and reliability of the information found, distinguishing between fact and opinion
APPLICATION	**Ict22** Use key words to search for and select appropriate information from the internet and other digital sources **Ict23** Capture, record and analyse data using sensors in order to support observations and investigations **Ict24** Refine sequences of instructions to control events or make things happen using ICT **Ict25** Use a variety of ICT tools to create, refine and present work in a variety of ways **Ict26** Use ICT to exchange ideas and collaborate with others remotely **Ict27** Use ICT safely and appreciate the need to keep electronic data secure **Ict28** Use features of layout, presentation and organisation in print and on screen **Ict29** Use editing skills for visual effects

YEAR FIVE / SIX

INVESTIGATION	**Ict30** Use ICT to explore and develop simple models by changing variables and simple formulae **Ict31** Use ICT to create and refine sequences of instructions to explore problems and make controllable systems
OBSERVATION	**Ict32** Answer questions by using ICT to identify, collect, store, analyse and present information **Ict33** Verify the accuracy and reliability of the information found online, detect bias and distinguish evidence from opinion **Ict34** Analyse, describe and discuss the effectiveness of their work with ICT **Ict35** Identify a range of ways to report concerns and inappropriate behaviour
APPLICATION	**Ict36** Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content **Ict37** Represent data from analysis in appropriate ways, including the use of graphs **Ict38** Use a variety of ICT tools to create, develop and refine presentations and performances, integrating effects to enhance outcomes **Ict39** Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information **Ict40** Organise and adjust communication according to the needs of the audience and the technology, including taking account of the quality and content of the communication **Ict41** Use a variety of ICT tools to create, refine and present work in a variety of digital and printed formats using appropriate forms and conventions **Ict42** Use ICT safely, respectfully and responsibly, managing risk and showing awareness of other users