Long term planning- Autumn A

Curriculum area: Computing- Data Handling

National curriculum links	As Computer Scientists we are getting better at:	Success criteria (differentiated)	Activities to develop this learning	Cross curricular – including school values
Foundation stage • Personal, Social & Emotional Development • Communication & Language • Physical Development • Literacy • Mathematics • Understanding the World • Expressive Arts & Design	**Literacy** Reading 40 – 60 mths -Knows that information can be retrieved from books and computers. **Understanding of the World** Technology 30 – 50 mths Technology 40 – 60 mths -Completes a simple program on the computer. -Uses ICT hardware to interact with age-appropriate computer software. SEN – RL 22-36 mths -Seeks to acquire basic skills in turning on and operating some ICT equipment. **Early Learning Goal** – Children recognise that a range of technology is used in places such as homes and schools. They select and use Technology for particular purposes.		**Use 2Count (Purple Mash)** **2Count** Create a class pictogram (use the emotions images to ask the children how they are feeling today). This could be done as part of a circle time activity. Start to add the images to the pictogram as you ask the children to choose the right picture. happy sad upset angry poorly tired Count the numbers as you add the children to the pictogram. When all the children are added, find out how many children feel happy, how many are sad. Are there any poorly children? Are any children feeling sleepy? How many are there? From September look out for **MiniMash** for Foundation and Reception.	Maths Links Communication

National curriculum links	As Computer Scientists we are getting better at:	Success criteria (differentiated)	Activities to develop this learning	Cross curricular – including school values
Key Stage 1 (Years 1 and 2)	▪ Understand that IT can be used to sort items and information. ▪ Understand that IT can be used to create and display charts graphs. ▪ Develop an understanding of what datalogging can be used for (Science). ▪ Understand that IT can be used to add to and change charts and graphs quite easily. ▪ Begin to understand that unless data has been entered accurately it cannot be used to provide correct answers to questions.	Year 1: • I can create digital content. • I can store digital content. • I can retrieve digital content. Year 2 • I can organise digital content. • I can retrieve and manipulate digital content.	▪ Develop classification skills by carrying out sorting activities ▪ Use simple graphing software to produce pictograms and other basic tables, charts or graphs. ▪ Use graphing software to enter data and change a graph type, e.g. pictogram to bar chart. ▪ Interpret the graphs, discuss the information contained and answer simple questions. ▪ Sort and classify a group of items by asking simple yes / no questions. This may take place away from the computer, e.g. a 'Guess Who' game. ▪ Use a branching database program to sort and identify items. ▪ Use basic search tools in a prepared database to answer simple questions e.g. how many children have brown hair? <u>Purple Mash activities:</u> Use 2graph to create graphs Use 2investiate to make simple databases.	Maths Science Literac
National curriculum links	**As Computer Scientists we are getting better at:**	**Success criteria (differentiated)**	**Activities to develop this learning**	**Cross curricular – including school values**
Lower Key Stage 2 (Year 3 and 4)	▪ Understand that there are different types of data. ▪ Understand the need to structure information properly in a database.	Year 3 • I can use a range of software for similar purposes.	▪ Create frequency diagrams and graphs to answer questions. ▪ Create and use a branching database to organise and analyse information to answer questions.	Maths Science (dataloggers)

	▪ Know, understand and use the vocabulary: file, record, field, sort and search. ▪ Recognise similarities and differences between ICT and paper-based systems. ▪ Talk about the advantages of using IT to sort, interrogate and classify information quickly. ▪ Understand that effective yes / no questions are key to organising data efficiently in a branching database. ▪ Understand that there are different types of data, e.g. numeric, alphabetic, date, alphanumeric. ▪ Know that ICT can enable the creation of a variety of tables and graphs for different purposes. ▪ Understand some graphs and charts are more appropriate and easier to read than others. ▪ Begin to make choices about how to present data to solve a specific problem. ▪ Understand that dataloggers can be used to sense external and physical changes and subsequently collect data in a range of simple investigations. (Science) ▪ Understand that data can be collected more efficiently by a datalogging device compared with manual methods. (Science) ▪ Know that datalogging devices can be pre-programmed to collect data	• I can collect information. • I can design and create content. • I can present information. Year 4 • I can select and use software to accomplish given goals. • I can collect and present data. .	▪ Begin to identify what data should be collected to answer a specific question. ▪ Collect data and enter it into a database under appropriate field headings. ▪ Use a database to answer straightforward questions by searching, matching and ordering the contents of a single field. ▪ Based on the data collected, children should raise their own questions and translate them into search criteria that can be used to find answers to specific questions. ▪ Compare different charts and graphs, e.g., in tables, frequency diagrams, pictograms, bar charts, databases or spreadsheets and understand that different ones are used for different purposes. ▪ Select and use the most appropriate method to organise and present data. ▪ Use dataloggers to capture, record and analyse data continuously over time, including sound, temperature and light. (Science) ▪ Use a data logger to 'snap shot' a series of related but separate readings in the course of an appropriate investigation. (Science) **Activity ideas using purple mash**: http://www.simonhaughton.co.uk/2011/01/introducing-databases-using-2investigate-online.html Use Data Logger (located in the Computing cupboard)	

	for a given time and on different triggers and remotely for a long period of time. (Science).			

National curriculum links	As Computer Scientists we are getting better at:	Success criteria (differentiated)	Activities to develop this learning	Cross curricular – including school values
Upper Key Stage 2 (Year 5 and 6)	▪ Understand that there are different types of data. ▪ Understand the need to structure information properly in a database. ▪ Know, understand and use the vocabulary: file, record, field, sort and search. ▪ Recognise similarities and differences between ICT and paper-based systems. ▪ Talk about the advantages of using IT to sort, interrogate and classify information quickly. ▪ Understand that effective yes / no questions are key to organising data efficiently in a branching database. ▪ Understand that there are different types of data, e.g. numeric, alphabetic, date, alphanumeric. ▪ Know that ICT can enable the creation of a variety of tables and graphs for different purposes. ▪ Understand some graphs and charts are more appropriate and easier to read than others. ▪ Begin to make choices about how to present data to solve a specific problem.	Year 5 • I can analyse information. • I can evaluate information. • I understand how search results are selected and ranked. Year 6 • I can select, use and combine software on a range of digital devices. • I can use a range of technology for a specific project.	▪ Create frequency diagrams and graphs to answer questions. ▪ Create and use a branching database to organise and analyse information to answer questions. ▪ Begin to identify what data should be collected to answer a specific question. ▪ Collect data and enter it into a database under appropriate field headings. ▪ Use a database to answer straightforward questions by searching, matching and ordering the contents of a single field. ▪ Based on the data collected, children should raise their own questions and translate them into search criteria that can be used to find answers to specific questions. ▪ Compare different charts and graphs, e.g., in tables, frequency diagrams, pictograms, bar charts, databases or spreadsheets and understand that different ones are used for different purposes. ▪ Select and use the most appropriate method to organise and present data. ▪ Use dataloggers to capture, record and analyse data continuously over time, including sound, temperature and light. (Science)	Maths Science (dataloggers)

	▪ Understand that dataloggers can be used to sense external and physical changes and subsequently collect data in a range of simple investigations. (Science) ▪ Understand that data can be collected more efficiently by a datalogging device compared with manual methods. (Science) ▪ Know that datalogging devices can be pre-programmed to collect data for a given time and on different triggers and remotely for a long period of time. (Science)		▪ Use a data logger to 'snap shot' a series of related but separate readings in the course of an appropriate investigation. (Science) Purple Mash ideas: http://www.simonhaughton.co.uk/2011/10/developing-database-skills-in-upper-ks2.html Use Data Logger (located in the Computing cupboard)	