THE AVENUE INFANT SCHOOL

COMPUTING KNOWLEDGE AND BREADTH TRACKER

EYFS	THRESHOLD CONCEPT 1: Computer Science	THRESHOLD CONCEPT 2: Information Technology	THRESHOLD CONCEPT 3: Digital Literacy Online safety
Experiences to build foundations in threshold concepts during EYFS	In Early Years pupils are introduced to computing through access to a variety of different technical devices such as Ipads, Beebots, the Interactive Whiteboard, light box and music playing devices in their continuous provision. Teachers model how to use these and encourage pupils to explore them. Online safety is taught explicitly through PSED sessions. Teachers use both the PSHE resources and online safety resources from Purple Mash to support their planning and teaching of online Safety.		

	THRESHOLD CONCEPT 1: Computer Science Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.	THRESHOLD CONCEPT 2: Information Technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	THRESHOLD CONCEPT 3: Digital Literacy Online safety Recognise common uses of information technology beyond school. 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.
YEAR 1			
TERM 1 Are fairytale characters like you and me?	**Access Purple Mash EYFS resources (General Computing Skills) Prior to starting if needed to support children and enable them to access the KS1 curriculum.** **Unit 1.2 Grouping and sorting** Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand	.	**Unit 1.1 Online Safety and exploring purple mash** Children can log in to Purple Mash using their own login. Children have created their own avatar and understand why they are used. Children can add their name to a picture they created on the computer. Children are beginning to develop an understanding of ownership of work online. Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work. Children can find their saved work in the Online Work area of Purple Mash. Children can find messages that their teacher has left for them on Purple Mash. Children can search Purple Mash to find

	Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program. I can sort sound, pictures and text. I can name my work. I can save my work. I can find my work. Activities, Criteria, Describe, Equal, Groups, Less that, More than, Sort		resources. Children will be able to use the different types of topic templates in the Topics section confidently. Children will be confident with the functionality of the icons in the topic templates. Children will know how to use the different icons and writing cues to add pictures and text to their work. Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. Children have explored the Games section and looked at Table Toons (2x tables). Children can log out of Purple Mash when they have finished using it and know why that is important. I can keep my login information safe. I can save my work in a safe place such as 'My Work' folder. Alert, Avatar, Button, Device, File Name, Filter, Home Screen, Icon, Login, Log out, Menu, My Work Area, Notification, Password, Private, Purple Mash Tools, Saving, Search, Shared Folder, Textbox, Think about box, Topic area, Typing, Writing Template
TERM 2 Do all Superheroes wear capes?	**Unit 1.4 Lego Builders** Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle	**Unit 1.3 Pictograms** Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound. I can change content on a file such as text, sound and images. I can name my work. I can save my work. I can find my work. Collect Data, Compare, Data, Pictogram, Record Results, Title, Totals, Visual	

	in 2Go challenges will end up at the end of the program. I can explain that an algorithm is a set of instructions. I know that a computer program turns an algorithm into code that the computer can understand. I can work out what is wrong when the steps are out of order in instructions. Algorithm, Code, Computer, Debugging, Instructions, Machine, Program, Recipe, Sequence		
TERM 3 **Should we explore north south, east or west?**	**Unit 1.5 Maze explorers** Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program. I can explain that an algorithm is a set of instructions. I can work out what is wrong when the steps are out of order in instructions. I can make good guesses of what is going to happen in a program. For example, where the turtle might go. Algorithm, Challenge, Command, Delete, Direction, Instruction, Left and Right, Route, Undo, Unit		
TERM 4 **Would you like to live like a monkey?**		**1.6 Animated Stories** Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. I can add sound, pictures and text to a program such as 2Create a Story. I can change content on a file such as text, sound and images.	

			I can name my work. I can save my work. I can find my work. Animation, Background, Category, Clip-art Gallery, Copy, Drop-down menu, E-book, Edit, Eraser, Features, Font, Sound, Overwrite, Paint tools, Paste, Play mode, Redo, Save, Sound effect, Text, Undo, Voice recording	
TERM 5 **What did it feel like to be on the Titanic?**	**1.7 Coding** Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program. I know that a computer program turns an algorithm into code that the computer can understand. I can say that if something does not work how it should it is because my code is incorrect. I can try and fix my code if it isn't working properly. I can make good guesses of what is going to happen in a program. For example, where the turtle might go. I can change content on a file such as text, sound and images. I can name my work. I can save my work. I can find my work. Action, Algorithm, Background, Click, Code, Code blocks, Coding, Code view, Command, Debug/Debugging, Design view, Event, Execute, Instruction, Object, Output, Plan, Programmer, Properties, Run, Scale, Scene, Software, Sound, When clicked		
TERM 6 **Can a meerkat live**		**Unit 1.8 Spreadsheets** Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes),	**Unit 1.9 Technology Outside of school** Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between

| in the north pole? | | 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.

I can change content on a file such as text, sound and images.
I can name my work.
I can save my work.
I can find my work.

Button, Calculations, Cell, Clip-art, Column, Count tool, Data, Delete, Image, Lock Cell, Move cell, Row, select, Speak tool, Spreadsheet, value | objects that use modern technology and those that do not e.g. a microwave vs. a chair.
Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons.
Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.

I can say what technology is.
I can say what examples of technology are in school.
I can say what examples of technology are at home.
I know that a chair uses old technology and a smart phone uses new technology.

Computer, technology |

	THRESHOLD CONCEPT 1: **Computer Science** Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs	THRESHOLD CONCEPT 2: **Information Technology** Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	THRESHOLD CONCEPT 3: **Digital Literacy** **Online safety** Recognise common uses of information technology beyond school. 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.
YEAR 2			
TERM 1 **Is a healthy diet all you need to thrive?**	**Unit 2.1 Coding** Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps. Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	.	**Unit 2.2 Online Safety** Children can use the search facility to refine searches on Purple Mash by year group and subject. Children can share the work they have created to a display board. Children understand that the teacher approves work before it is displayed. Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet. Children know that Email is a form of digital communication. Children understand how 2Repond can teach them how to use email. Children can open and send an email to a 2Respond character.

	I can explain an algorithm is a set of instructions to complete a task. I know I need to carefully plan my algorithm so it will work when I make it into code. I can design a simple program using 2Code that achieves a purpose. I can find and correct some errors in my program. I can say what will happen in a program. I can spot something in a program that has an action or effect (does something). I understand that my creations such as programs in 2Code, need similar skills to the adult world. e.g. The program used for collecting money for school trips. Action, Algorithm, Background, Bug, Button, Click events, Collision detection, Collision detection action, Collision detection event, Command, Debug\Debugging, Event, Execute, Image, Instructions, Interaction, Object, Object Name, Output, Predict, Properties, Run, Scale, Scene, Sequence, Test, Timer, Turtle Object, When Clicked, When Key Event, When Swiped Event		Children have discussed their own experiences and understanding of what email is used for. Children have discussed what makes us feel happy and what makes us feel sad. Children can explain what a digital footprint is. Children can give examples of things that they would not want to be in their digital footprint. Children can identify the basic parts of a web search engine search page. Children have learnt to read a web search results page. Children search for answers to a quiz on the Internet. I know the consequences of not searching online safely. I can share work and communicate electronically – for example using 2Email or the display boards. I can report unkind behaviour and things that upset me online, to a trusted adult. I can see where technology is used at school such as in the office or canteen. Attachment, Digital footprint, Display Board, Email, Filter, Identifying, Internet, Personal information, Private information, Protection, Reply, Search, Secure, Sharing
TERM 2 **What is it like to live in Kenya?**		**Unit 2.3 Spreadsheets** **Unit 2.4 Questioning** Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are confident when creating, naming, saving and retrieving content. I can organise data – for example, using a database such as 2Investigate. I can find data using specific searches – for example, using 2Investigate. I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate. I can edit digital data such as data in music composition software like 2Sequence.	

		I can name, save and find my work. Addition, Block graph, Cell, Coins, Column, Copy, Count tool, Cut, Data, Drag, Equals, Equals tool, Image value, Label, Paste, Price, Row, Speak tool, Table, Toolbox, Total Avatar, Binary Tree, Data, Database, Field, Information, Pictogram, Question, Record, Search, Sort	
TERM 3 **Will we ever get to Mars?**			**Unit 2.5 Effective Searching** Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult. I can find information I need using a search engine. I know the consequences of not searching online safely. I can find data using specific searches – for example, using 2Investigate. Browser, Device, Digital Footprint, Domain, Internet, Network, Search Engine, URL, Web address, Web page, Web site, World Wide Web
TERM 4 **TERM 5**		**Unit 2.6 Creating Pictures** Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are confident when creating, naming, saving and retrieving content. Children use	

Where would you build a home, somewhere metropolitan, urban or rural?		a range of media in their digital content including photos, text and sound. I can name, save and find my work. I can include photos, text and sound in my creations. Art, Clip-art, Diagonal, Dilute, eCollage, Fill, Horizontal, Impressionism, Line, Palette, Parallel, Pointillism, Repeating Pattern, Rotated, Stamps, Style, Surrealism, Symmetry, Vertical	
TERM 6 **What is in our oceans?** **Where will my coke bottle end up?**		**Unit 2.7 Making Music** **Unit 2.8 Presenting Ideas** Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are confident when creating, naming, saving and retrieving content. Children are able to edit more complex digital data such as music compositions within 2Sequence. I can edit digital data such as data in music composition software like 2Sequence. I can name, save and find my work. I can include photos, text and sound in my creations. Bars, Beat, Compose, Note, Tune, Repeat, Sound effect, Soundtrack, Speed, Tempo, Volume E-book, Fact file, Fiction, Mind Map, Multiple-choice, Node, Non-fiction, Presentation, Quiz	