



# **Fernwood Primary and Nursery School**

## **Subject Implementation Overview**

### **Computing**



#### **Important note:**

Below there are 2 sets of objectives for each lesson to be taught.

The lesson in blue is the main Computing objective.

The objective in black is the e-safety component for that lesson. These should be treated as a warmup for the main computing lesson and should not take more than 10-15 minutes. All resources for these orange activities can be found at:

<https://projectevolve.co.uk/toolkit/resources/years/>

You will need to log in to Project Evolve and create yourself an account to access the free resources.



# Fernwood Primary and Nursery School

## Subject Implementation Overview

### Computing



Nursery + Foundation		
Autumn 1	Spring 1	Summer 1
<p><b>eSafety &amp; Online Communication</b></p> <ul style="list-style-type: none"> <li>- I can recognise, online or offline, that anyone can say 'no' - 'please stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.</li> <li>- I can recognise some ways in which the internet can be used to communicate.</li> </ul>	<p><b>eSafety &amp; Digital Literacy</b></p> <p>To use an ipad or tablet to access a game</p> <ul style="list-style-type: none"> <li>- I can describe ways that some people can be unkind online.</li> <li>- I can offer examples of how this can make others feel</li> </ul>	<p><b>eSafety &amp; Personal Information</b></p> <ul style="list-style-type: none"> <li>- I can identify rules that help keep us safe and healthy in and beyond the home when using technology</li> <li>- I can give some simple examples of these rules</li> <li>- I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).</li> </ul>
Autumn 2	Spring 2	Summer 2
<p><b>eSafety &amp; Using Technology to Communicate</b></p> <p>To know who to speak to when things go wrong</p> <ul style="list-style-type: none"> <li>- I can give examples of how I (might) use technology to communicate with people I know</li> <li>- I can identify ways that I can put information on the internet.</li> </ul>	<p><b>eSafety &amp; Finding Information</b></p> <ul style="list-style-type: none"> <li>- I can talk about how to use the internet as a way of finding information online.</li> <li>- I can identify devices I could use to access information on the internet.</li> </ul>	<p><b>eSafety &amp; Coding</b></p> <p>To follow instructions using an `unplugged` game</p> <ul style="list-style-type: none"> <li>- I can describe who would be trustworthy to share this information with; I can explain why they are trusted.</li> <li>- I know that work I create belongs to me.</li> <li>- I can name my work so that others know it belongs to me.</li> </ul>



# Fernwood Primary and Nursery School

## Subject Implementation Overview

### Computing



Y1		
Autumn 1	Spring 1	Summer 1
<p><b>Technology Around us</b></p> <p>1) To identify technology</p> <ul style="list-style-type: none"> <li>- I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.</li> </ul> <p>2) To identify a computer and its main parts</p> <ul style="list-style-type: none"> <li>- If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.</li> </ul> <p>3) To use a mouse in different ways</p> <ul style="list-style-type: none"> <li>- I can give examples of when I should ask permission to do something online and explain why this is important.</li> </ul> <p>4) To use a keyboard to type on a computer</p> <p>5) To use the keyboard to edit text</p> <p>6) To create rules for using technology responsibly</p>	<p><b>Moving a Robot</b></p> <p>1) To explain what a given command will do</p> <p>2) To act out a given word</p> <ul style="list-style-type: none"> <li>- I can describe what information I should not put online without asking a trusted adult first.</li> </ul> <p>3) To combine 'forwards' and 'backwards' commands to make a sequence</p> <ul style="list-style-type: none"> <li>- I can describe how to behave online in ways that do not upset others and can give examples.</li> </ul> <p>4) To combine four direction commands to make sequences</p> <ul style="list-style-type: none"> <li>- I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching.</li> </ul> <p>5) To plan a simple program</p> <p>6) To find more than one solution to a problem</p>	<p><b>Digital Writing</b></p> <p>1) To use a computer to write</p> <ul style="list-style-type: none"> <li>- I can explain rules to keep myself safe when using technology both in and beyond the home.</li> </ul> <p>2) To add and remove text on a computer</p> <ul style="list-style-type: none"> <li>- I can explain how passwords are used to protect information, accounts and devices.</li> </ul> <p>3) To identify that the look of text can be changed on a computer</p> <ul style="list-style-type: none"> <li>- I can recognise more detailed examples of information that is personal to someone (e.g. where someone lives and goes to school, family names).</li> </ul> <p>4) To make careful choices when changing text</p> <ul style="list-style-type: none"> <li>- I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.</li> </ul> <p>5) To explain why I used the tools that I chose</p> <p>6) To compare typing on a computer to writing on paper</p>
Autumn 2	Spring 2	Summer 2
<p><b>Digital Painting</b></p> <p>1) To describe what different freehand tools do</p>	<p><b>Grouping Data</b></p> <p>1) To label objects</p> <ul style="list-style-type: none"> <li>- I know / understand that we can encounter a range of things online including things we like</li> </ul>	<p><b>Programming animations</b></p> <p>1) To choose a command for a given purpose</p> <ul style="list-style-type: none"> <li>- I can explain why work I create using technology belongs to me</li> </ul>



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## Subject Implementation Overview

### Computing



<p>- I can use the internet with adult support to communicate with people I know (e.g. video call apps or services).</p> <p>2) To use the shape tool and the line tools</p> <p>- I can explain why it is important to be considerate and kind to people online and to respect their choices.</p> <p>3) To make careful choices when painting a digital picture</p> <p>- I can explain why things one person finds funny or sad online may not always be seen in the same way by others.</p> <p>4) To explain why I chose the tools I used</p> <p>- I can recognise that information can stay online and could be copied.</p> <p>5) To use a computer on my own to paint a picture</p> <p>6) To compare painting a picture on a computer and on paper</p>	<p>and don't like as well as things which are real or make believe / a joke.</p> <p>2) To identify that objects can be counted</p> <p>- I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</p> <p>3) To describe objects in different ways</p> <p>- I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</p> <p>4) To count objects with the same properties</p> <p>5) To compare groups of objects</p> <p>6) To answer questions about groups of objects</p>	<p>2) To show that a series of commands can be joined together</p> <p>- I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it')</p> <p>3) To identify the effect of changing a value</p> <p>- I can save my work under a suitable title or name so that others know it belongs to me (e.g. filename, name on content)</p> <p>4) To explain that each sprite has its own instructions</p> <p>- I understand that work created by others does not belong to me even if I save a copy</p> <p>5) To design the parts of a project</p> <p>6) To use my algorithm to create a program</p>
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# Fernwood Primary and Nursery School

## Subject Implementation Overview

### Computing



Y2		
Autumn 1	Spring 1	Summer 1
<p><b>Information Technology Around Us</b></p> <ol style="list-style-type: none"> <li>To recognise the uses and features of information technology           <ul style="list-style-type: none"> <li>I can explain how other people may look and act differently online and offline.</li> </ul> </li> <li>To identify the uses of information technology in the school           <ul style="list-style-type: none"> <li>I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help.</li> </ul> </li> <li>To identify information technology beyond school           <ul style="list-style-type: none"> <li>I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).</li> </ul> </li> <li>To explain how to use information technology safely           <ul style="list-style-type: none"> <li>I can explain who I should ask before sharing things about myself or others online.</li> </ul> </li> <li>To explain how to use information technology safely           <ul style="list-style-type: none"> <li>I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure.</li> </ul> </li> <li>To recognise that choices are made when using information technology</li> </ol>	<p><b>Robot Algorithm</b></p> <ol style="list-style-type: none"> <li>To describe a series of instructions as a sequence           <ul style="list-style-type: none"> <li>I can recognise that content on the internet may belong to other people.</li> </ul> </li> <li>To explain what happens when we change the order of instructions           <ul style="list-style-type: none"> <li>I can describe why other people's work belongs to them</li> </ul> </li> <li>To use logical reasoning to predict the outcome of a program</li> <li>To explain that programming projects can have code and artwork</li> <li>To design an algorithm</li> <li>To create and debug a program that I have written</li> </ol>	<p><b>Digital Music</b></p> <ol style="list-style-type: none"> <li>To say how music can make us feel           <ul style="list-style-type: none"> <li>I can explain and give examples of what is meant by 'private' and 'keeping things private'.</li> </ul> </li> <li>To identify that there are patterns in music           <ul style="list-style-type: none"> <li>I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords).</li> </ul> </li> <li>To experiment with sound using a computer           <ul style="list-style-type: none"> <li>I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).</li> </ul> </li> <li>To use a computer to create a musical pattern</li> <li>To create music for a purpose</li> <li>To review and refine our computer work</li> </ol>



- I can explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do.

**Autumn 2**

**Spring 2**

**Summer 2**

**Digital Photography**

1. **To use a digital device to take a photograph**
  - I can identify who can help me if something happens online without my consent.
2. **To make choices when taking a photograph**
  - I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online.
3. **To describe what makes a good photograph**
  - I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online
4. **To decide how photographs can be improved**
  - I can explain how information put online about someone can last for a long time.
5. **To use tools to change an image**
  - I can describe how anyone's online information could be seen by others.
6. **To recognise that photos can be changed**
  - I know who to talk to if something has been put online without consent or if it is incorrect.

**Pictograms**

1. **To recognise that we can count and compare objects using tally charts**
  - I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'
2. **To recognise that objects can be represented as pictures**
  - I can explain why some information I find online may not be real or true.
3. **To create a pictogram**
  - I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.
4. **To select objects by attribute and make comparisons**
  - I can say how those rules / guides can help anyone accessing online technologies
5. **To recognise that people can be described by attributes**
  - I can explain how passwords can be used to protect information, accounts and devices.
6. **To explain that we can present information using a computer**

**Programming Quizzes**

1. **To explain that a sequence of commands has a start**
  - I can explain what bullying is, how people may bully others and how bullying can make someone feel.
2. **To explain that a sequence of commands has an outcome**
  - I can explain why anyone who experiences bullying is not to blame
3. **To create a program using a given design**
  - I can talk about how anyone experiencing bullying can get help.
4. **To change a given design**
  - I can use simple keywords in search engines
5. **To create a program using my own design**
  - I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).
6. **To decide how my project can be improved**
  - I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri).



Y3		
Autumn 1	Spring 1	Summer 1
<p><b>Connecting Computers</b></p> <ol style="list-style-type: none"> <li>1. To explain how digital devices function               <ul style="list-style-type: none"> <li>- I can explain what is meant by the term 'identity'.</li> </ul> </li> <li>2. To identify input and output devices               <ul style="list-style-type: none"> <li>- I can explain how people can represent themselves in different ways online</li> </ul> </li> <li>3. To recognise how digital devices can change the way that we work               <ul style="list-style-type: none"> <li>- I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why.</li> </ul> </li> <li>4. To explain how a computer network can be used to share information               <ul style="list-style-type: none"> <li>- I can describe ways people who have similar likes and interests can get together online.</li> </ul> </li> <li>5. To explore how digital devices can be connected</li> <li>6. To recognise the physical components of a network</li> </ol>	<p><b>Sequencing Sounds</b></p> <ol style="list-style-type: none"> <li>1. To explore a new programming environment               <ul style="list-style-type: none"> <li>- I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal.</li> </ul> </li> <li>2. To identify that commands have an outcome               <ul style="list-style-type: none"> <li>- I can explain who someone can ask if they are unsure about putting something online.</li> </ul> </li> <li>3. To explain that a program has a start               <ul style="list-style-type: none"> <li>- I can explain how someone's feelings can be hurt by what is said or written online.</li> </ul> </li> <li>4. To recognise that a sequence of commands can have an order               <ul style="list-style-type: none"> <li>- I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos.</li> </ul> </li> <li>5. To change the appearance of my project</li> <li>6. To create a project from a task description</li> </ol>	<p><b>Desktop Publishing</b></p> <ol style="list-style-type: none"> <li>1. To recognise how text and images convey information               <ul style="list-style-type: none"> <li>- I can explain how the internet can be used to sell and buy things</li> </ul> </li> <li>2. To recognise that text and layout can be edited               <ul style="list-style-type: none"> <li>- I can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.</li> </ul> </li> <li>3. To choose appropriate page settings               <ul style="list-style-type: none"> <li>- I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed).</li> </ul> </li> <li>4. To add content to a desktop publishing publication               <ul style="list-style-type: none"> <li>- I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</li> </ul> </li> <li>5. To consider how different layouts can suit different purposes               <ul style="list-style-type: none"> <li>- I can explain why spending too much time using technology can sometimes have a negative impact on anyone; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged</li> </ul> </li> <li>6. To consider the benefits of desktop publishing</li> </ol>



Autumn 2	Spring 2	Summer 2
<p><b>Stop-frame Animation</b></p> <ol style="list-style-type: none"> <li>To explain that animation is a sequence of drawings or photographs           <ul style="list-style-type: none"> <li>I can explain what it means to 'know someone' online and why this might be different from knowing someone offline.</li> </ul> </li> <li>To relate animated movement with a sequence of images           <ul style="list-style-type: none"> <li>I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.</li> </ul> </li> <li>To plan an animation           <ul style="list-style-type: none"> <li>I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried.</li> </ul> </li> <li>To identify the need to work consistently and carefully           <ul style="list-style-type: none"> <li>I can explain how to search for information about others online</li> </ul> </li> <li>To review and improve an animation</li> <li>To evaluate the impact of adding other media to an animation</li> </ol>	<p><b>Branching Databases</b></p> <ol style="list-style-type: none"> <li>To create questions with yes/no answers           <ul style="list-style-type: none"> <li>I can describe appropriate ways to behave towards other people online and why this is important.</li> </ul> </li> <li>To identify the attributes needed to collect data about an object           <ul style="list-style-type: none"> <li>I can give examples of how bullying behaviour could appear online and how someone can get support.</li> </ul> </li> <li>To create a branching database           <ul style="list-style-type: none"> <li>I can demonstrate how to use key phrases in search engines to gather accurate information online.</li> </ul> </li> <li>To explain why it is helpful for a database to be well structured           <ul style="list-style-type: none"> <li>I can demonstrate how to use key phrases in search engines to gather accurate information online.</li> </ul> </li> <li>To plan the structure of a branching database</li> <li>To independently create an identification tool</li> </ol>	<p><b>Events and Actions in Programs</b></p> <ol style="list-style-type: none"> <li>To explain how a sprite moves in an existing project           <ul style="list-style-type: none"> <li>I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).</li> </ul> </li> <li>To create a program to move a sprite in four directions           <ul style="list-style-type: none"> <li>I can describe simple strategies for creating and keeping passwords private.</li> </ul> </li> <li>To adapt a program to a new context           <ul style="list-style-type: none"> <li>I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.</li> </ul> </li> <li>To develop my program by adding features           <ul style="list-style-type: none"> <li>I can describe how connected devices can collect and share anyone's information with others.</li> </ul> </li> <li>To identify and fix bugs in a program           <ul style="list-style-type: none"> <li>I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.</li> </ul> </li> <li>To design and create a maze-based challenge</li> </ol>





Y4		
Autumn 1	Spring 1	Summer 1
<p><b>The Internet</b></p> <ol style="list-style-type: none"> <li>1. To describe how networks physically connect to other networks               <ul style="list-style-type: none"> <li>- I can explain how my online identity can be different to my offline identity.</li> </ul> </li> <li>2. To recognise how networked devices make up the internet               <ul style="list-style-type: none"> <li>- I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.</li> </ul> </li> <li>3. To outline how websites can be shared via the World Wide Web (WWW)               <ul style="list-style-type: none"> <li>- I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.</li> </ul> </li> <li>4. To describe how content can be added and accessed on the World Wide Web (WWW)               <ul style="list-style-type: none"> <li>- I can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms)</li> </ul> </li> <li>5. To recognise how the content of the WWW is created by people               <ul style="list-style-type: none"> <li>- I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.</li> </ul> </li> <li>6. To evaluate the consequences of unreliable content</li> </ol>	<p><b>Repetition in Shapes</b></p> <ol style="list-style-type: none"> <li>1. To identify that accuracy in programming is important               <ul style="list-style-type: none"> <li>- I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat).</li> </ul> </li> <li>2. To create a program in a text-based language               <ul style="list-style-type: none"> <li>- I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).</li> </ul> </li> <li>3. To explain what 'repeat' means               <ul style="list-style-type: none"> <li>- I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.</li> </ul> </li> <li>4. To modify a count-controlled loop to produce a given outcome               <ul style="list-style-type: none"> <li>- I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites).</li> </ul> </li> <li>5. To decompose a task into small steps               <ul style="list-style-type: none"> <li>- I can describe some of the methods used to encourage people to buy things online (e.g.</li> </ul> </li> </ol>	<p><b>Photo Editing</b></p> <ol style="list-style-type: none"> <li>1. To explain that the composition of digital images can be changed               <ul style="list-style-type: none"> <li>- I can describe strategies for keeping personal information private, depending on context.</li> </ul> </li> <li>2. To explain that colours can be changed in digital images               <ul style="list-style-type: none"> <li>- I can explain that internet use is never fully private and is monitored, e.g. adult supervision.</li> </ul> </li> <li>3. To explain how cloning can be used in photo editing               <ul style="list-style-type: none"> <li>- I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.</li> </ul> </li> <li>4. To explain that images can be combined</li> <li>5. To combine images for a purpose</li> <li>6. To evaluate how changes can improve an image</li> </ol>



	<p>advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online.</p> <p>6. To create a program that uses count-controlled loops to produce a given outcome</p>	
<b>Autumn 2</b>	<b>Spring 2</b>	<b>Summer 1</b>
<p><b>Audio Production</b></p> <ol style="list-style-type: none"> <li>1. To identify that sound can be recorded <ul style="list-style-type: none"> <li>- I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs.</li> </ul> </li> <li>2. To explain that audio recordings can be edited <ul style="list-style-type: none"> <li>- I can recognise when someone is upset, hurt or angry online.</li> </ul> </li> <li>3. To recognise the different parts of creating a podcast project <ul style="list-style-type: none"> <li>- I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat).</li> </ul> </li> <li>4. To apply audio editing skills independently <ul style="list-style-type: none"> <li>- I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).</li> </ul> </li> <li>5. To combine audio to enhance my podcast project</li> <li>6. To evaluate the effective use of audio</li> </ol>	<p><b>Data Logging</b></p> <ol style="list-style-type: none"> <li>1. To explain that data gathered over time can be used to answer questions <ul style="list-style-type: none"> <li>- I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.</li> </ul> </li> <li>2. To use a digital device to collect data automatically <ul style="list-style-type: none"> <li>- I can explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be.</li> </ul> </li> <li>3. To explain that a data logger collects 'data points' from sensors over time <ul style="list-style-type: none"> <li>- I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.</li> </ul> </li> <li>4. To recognise how a computer can help us analyse data <ul style="list-style-type: none"> <li>- I can explain how using technology can be a distraction from other things, in both a positive and negative way.</li> </ul> </li> </ol>	<p><b>Repetition in Games</b></p> <ol style="list-style-type: none"> <li>1. To develop the use of count-controlled loops in a different programming environment <ul style="list-style-type: none"> <li>- I know what the digital age of consent is and the impact this has on online services asking for consent.</li> </ul> </li> <li>2. To explain that in programming there are infinite loops and count-controlled loops <ul style="list-style-type: none"> <li>- When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.</li> </ul> </li> <li>3. To develop a design that includes two or more loops which run at the same time <ul style="list-style-type: none"> <li>- I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.</li> </ul> </li> <li>4. To modify an infinite loop in a given program</li> <li>5. To design a project that includes repetition</li> <li>6. To create a project that includes repetition</li> </ol>



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## **Subject Implementation Overview**

### **Computing**



5. To identify the data needed to answer questions

- I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.

6. To use data from sensors to answer questions



Y5		
Autumn 1	Spring 1	Summer 1
<p><b>Systems and Searching</b></p> <ol style="list-style-type: none"> <li>1. To explain that computers can be connected together to form systems               <ul style="list-style-type: none"> <li>- I can explain how identity online can be copied, modified or altered.</li> </ul> </li> <li>2. To recognise the role of computer systems in our lives               <ul style="list-style-type: none"> <li>- I can demonstrate how to make responsible choices about having an online identity, depending on context.</li> </ul> </li> <li>3. To identify how to use a search engine               <ul style="list-style-type: none"> <li>- I can give examples of technology-specific forms of communication (e.g. emojis, memes and GIFs).</li> </ul> </li> <li>4. To describe how search engines select results               <ul style="list-style-type: none"> <li>- I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault.</li> </ul> </li> <li>5. To explain how search results are ranked               <ul style="list-style-type: none"> <li>- I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).</li> </ul> </li> <li>6. To recognise why the order of results is important, and to whom</li> </ol>	<p><b>Selection in Physical Computing</b></p> <ol style="list-style-type: none"> <li>1. To control a simple circuit connected to a computer               <ul style="list-style-type: none"> <li>- I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).</li> </ul> </li> <li>2. To write a program that includes count-controlled loops               <ul style="list-style-type: none"> <li>- I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with.</li> </ul> </li> <li>3. To explain that a loop can stop when a condition is met               <ul style="list-style-type: none"> <li>- I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'.</li> </ul> </li> <li>4. To explain that a loop can be used to repeatedly check whether a condition has been met               <ul style="list-style-type: none"> <li>- I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.</li> </ul> </li> <li>5. To design a physical project that includes selection</li> </ol>	<p><b>Vector Drawing</b></p> <ol style="list-style-type: none"> <li>1. To identify that drawing tools can be used to produce different outcomes               <ul style="list-style-type: none"> <li>- I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</li> </ul> </li> <li>2. To create a vector drawing by combining shapes               <ul style="list-style-type: none"> <li>- I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology.</li> </ul> </li> <li>3. To use tools to achieve a desired effect               <ul style="list-style-type: none"> <li>- I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.</li> </ul> </li> <li>4. To recognise that vector drawings consist of layers               <ul style="list-style-type: none"> <li>- I can explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.</li> </ul> </li> <li>5. To group objects to make them easier to work with</li> <li>6. To apply what I have learned about vector drawings</li> </ol>



<ul style="list-style-type: none"> <li>- I can explain how someone can get help if they are having problems and identify when to tell a trusted adult.</li> </ul>	<ul style="list-style-type: none"> <li>- I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence.</li> </ul> <p>6. To create a program that controls a physical computing project</p> <ul style="list-style-type: none"> <li>- I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads</li> </ul>	
<p><b>Autumn 2</b></p>	<p><b>Spring 2</b></p>	<p><b>Summer 2</b></p>
<p><b>Video Production</b></p> <ol style="list-style-type: none"> <li>To explain what makes a video effective             <ul style="list-style-type: none"> <li>- I can demonstrate how to support others (including those who are having difficulties) online.</li> </ul> </li> <li>To use a digital device to record video             <ul style="list-style-type: none"> <li>- I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</li> </ul> </li> <li>To capture video using a range of techniques             <ul style="list-style-type: none"> <li>- I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.</li> </ul> </li> <li>To create a storyboard             <ul style="list-style-type: none"> <li>- I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.</li> </ul> </li> <li>To identify that video can be improved through reshooting and editing</li> </ol>	<p><b>Flat-file Database</b></p> <ol style="list-style-type: none"> <li>To use a form to record information             <ul style="list-style-type: none"> <li>- I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers).</li> </ul> </li> <li>To compare paper and computer-based databases             <ul style="list-style-type: none"> <li>- I can explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others.</li> </ul> </li> <li>To outline how you can answer questions by grouping and then sorting data             <ul style="list-style-type: none"> <li>- I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.</li> </ul> </li> <li>To explain that tools can be used to select specific data             <ul style="list-style-type: none"> <li>- I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share.</li> </ul> </li> </ol>	<p><b>Selection in Quizzes</b></p> <ol style="list-style-type: none"> <li>To explain how selection is used in computer programs             <ul style="list-style-type: none"> <li>- I can explain what a strong password is and demonstrate how to create one.</li> </ul> </li> <li>To relate that a conditional statement connects a condition to an outcome             <ul style="list-style-type: none"> <li>- I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</li> </ul> </li> <li>To explain how selection directs the flow of a program             <ul style="list-style-type: none"> <li>- I can explain what app permissions are and can give some examples.</li> </ul> </li> <li>To design a program that uses selection             <ul style="list-style-type: none"> <li>- I can assess and justify when it is acceptable to use the work of others</li> </ul> </li> <li>To create a program that uses selection</li> </ol>



# **Fernwood Primary and Nursery School**

## **Subject Implementation Overview**

### **Computing**



<ul style="list-style-type: none"><li>- I can identify a range of ways to report concerns and access support both in school and at home about online bullying.</li></ul> <p>6. To consider the impact of the choices made when making and sharing a video</p> <ul style="list-style-type: none"><li>- I can explain how to block abusive users.</li></ul>	<p>5. To explain that computer programs can be used to compare data visually</p> <ul style="list-style-type: none"><li>- I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with.</li></ul> <p>6. To use a real-world database to answer questions</p>	<ul style="list-style-type: none"><li>- I can give examples of content that is permitted to be reused and know how this content can be found online.</li></ul> <p>6. To evaluate my program</p>
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Y6		
Autumn 1	Spring 1	Summer 1
<p><b>Communication and Collaboration</b></p> <ol style="list-style-type: none"> <li>1. To explain the importance of internet addresses               <ul style="list-style-type: none"> <li>- I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.</li> </ul> </li> <li>2. To recognise how data is transferred across the internet               <ul style="list-style-type: none"> <li>- I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline.</li> </ul> </li> <li>3. To explain how sharing information online can help people to work together               <ul style="list-style-type: none"> <li>- I can explain the importance of asking until I get the help needed.</li> </ul> </li> <li>4. To evaluate different ways of working together online               <ul style="list-style-type: none"> <li>- I can explain how sharing something online may have an impact either positively or negatively</li> </ul> </li> <li>5. To recognise how we communicate using technology               <ul style="list-style-type: none"> <li>- I can describe how to be kind and show respect for others online including the importance of respecting boundaries</li> </ul> </li> </ol>	<p><b>Variables in Games</b></p> <ol style="list-style-type: none"> <li>1. To define a 'variable' as something that is changeable               <ul style="list-style-type: none"> <li>- I can explain how to use search technologies effectively.</li> </ul> </li> <li>2. To explain why a variable is used in a program               <ul style="list-style-type: none"> <li>- I can describe how some online information can be opinion and can offer examples.</li> </ul> </li> <li>3. To choose how to improve a game by using variables               <ul style="list-style-type: none"> <li>- I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.</li> </ul> </li> <li>4. To design a project that builds on a given example               <ul style="list-style-type: none"> <li>- I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news).</li> </ul> </li> <li>5. To use my design to create a project               <ul style="list-style-type: none"> <li>- I understand the concept of persuasive design and how it can be used to influences peoples' choices.</li> </ul> </li> <li>6. To evaluate my project</li> </ol>	<p><b>3D Modelling</b></p> <ol style="list-style-type: none"> <li>1. To recognise that you can work in three dimensions on a computer               <ul style="list-style-type: none"> <li>- I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.</li> </ul> </li> <li>2. To identify that digital 3D objects can be modified               <ul style="list-style-type: none"> <li>- I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this.</li> </ul> </li> <li>3. To recognise that objects can be combined in a 3D model               <ul style="list-style-type: none"> <li>- I can recognise features of persuasive design and how they are used to keep users engaged (current and future use).</li> </ul> </li> <li>4. To create a 3D model for a given purpose               <ul style="list-style-type: none"> <li>- I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).</li> </ul> </li> <li>5. To plan my own 3D model               <ul style="list-style-type: none"> <li>- I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser).</li> </ul> </li> <li>6. To create my own digital 3D model</li> </ol>



<p>regarding what is shared about them online and how to support them if others do not.</p> <p>6. To evaluate different methods of online communication</p> <ul style="list-style-type: none"> <li>- I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.</li> </ul>		<ul style="list-style-type: none"> <li>- I can explain what to do if a password is shared, lost or stolen.</li> </ul>
<p><b>Autumn 2</b></p>	<p><b>Spring 2</b></p>	<p><b>Summer 2</b></p>
<p><b>Web Page Creation</b></p> <ol style="list-style-type: none"> <li>1. To review an existing website and consider its structure <ul style="list-style-type: none"> <li>- I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.</li> </ul> </li> <li>2. To plan the features of a web page <ul style="list-style-type: none"> <li>- I can explain the ways in which anyone can develop a positive online reputation.</li> </ul> </li> <li>3. To consider the ownership and use of images (copyright) <ul style="list-style-type: none"> <li>- I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.</li> </ul> </li> <li>4. To recognise the need to preview pages <ul style="list-style-type: none"> <li>- I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.</li> </ul> </li> <li>5. To outline the need for a navigation path <ul style="list-style-type: none"> <li>- I can explain how someone would report online bullying in different contexts.</li> </ul> </li> </ol>	<p><b>Introduction to Spreadsheets</b></p> <ol style="list-style-type: none"> <li>1. To create a data set in a spreadsheet <ul style="list-style-type: none"> <li>- I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important.</li> </ul> </li> <li>2. To build a data set in a spreadsheet <ul style="list-style-type: none"> <li>- I can explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this.</li> </ul> </li> <li>3. To explain that formulas can be used to produce calculated data <ul style="list-style-type: none"> <li>- I can describe the difference between online misinformation and dis-information</li> </ul> </li> <li>4. To apply formulas to data- <ul style="list-style-type: none"> <li>- I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation).</li> </ul> </li> <li>5. To create a spreadsheet to plan an event</li> </ol>	<p><b>Sensing</b></p> <ol style="list-style-type: none"> <li>1. To create a program to run on a controllable device <ul style="list-style-type: none"> <li>- I can describe how and why people should keep their software and apps up to date, e.g. auto updates.</li> </ul> </li> <li>2. To explain that selection can control the flow of a program <ul style="list-style-type: none"> <li>- I can describe simple ways to increase privacy on apps and services that provide privacy settings.</li> </ul> </li> <li>3. To update a variable with a user input <ul style="list-style-type: none"> <li>- I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing).</li> </ul> </li> <li>4. To use a conditional statement to compare a variable to a value <ul style="list-style-type: none"> <li>- I know that online services have terms and conditions that govern their use.</li> </ul> </li> </ol>





# **Fernwood Primary and Nursery School**

## **Subject Implementation Overview**

### **Computing**



<p>6. To recognise the implications of linking to content owned by other people</p> <ul style="list-style-type: none"><li>- I can explain how search engines work and how results are selected and ranked.</li></ul>	<ul style="list-style-type: none"><li>- I can identify, flag and report inappropriate content.</li></ul> <p>6. To choose suitable ways to present data</p> <ul style="list-style-type: none"><li>- I can demonstrate how to make references to and acknowledge sources I have used from the internet.</li></ul>	<p>5. To develop a program to use inputs and outputs on a controllable device</p> <ul style="list-style-type: none"><li>- I can demonstrate the use of search tools to find and access online content which can be reused by others.</li></ul>
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