



**WEST HOVE  
INFANT SCHOOL**  
.....  
**A family of friends**



# **Hove Learning Federation Computing Policy**

**Adopted by Learning & Teaching Committee on behalf of the Governing body:**

**Amended:** January 2023

We are committed to safeguarding and ensuring the health, safety and well-being of all pupils in accordance with safeguarding procedures and guidance for staff outlined in the school's Health and Safety, Child Protection, Security and Safeguarding policies.



# Hove Learning Federation Computing Policy

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## 1. Introduction

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at an age appropriate level and as actively safe and conscientious participants in a digital world.

## 2. Aims

At the Hove Learning Federation we aim to:

- to use technology with purpose, enjoyment and confidence
- to develop their use of software to be able to create a range of digital content
- to inspire pupil curiosity, creativity and understanding of computing as part of everyday life
- to identify situations and opportunities where the use of computing is relevant
- to begin to develop the necessary skills to use a range of devices, applications and programs
- to apply their learning and creativity to solve problems
- to be responsible digital citizens who understand how to keep themselves and others safe online (*for more details of Online Safety please see 'Hove Learning Federation Online Safety Policy'*)
- to build on and apply prior learning to new tasks
- to encourage children's ability to think critically, reflect, debate and evaluate the use of technology

## 3. Intent

Throughout their time in the Hove Learning Federation, children will enjoy carefully and thoughtfully planned units. In all year groups, computing plays an important cross-curricular role.

Our children will experience confidence and enjoyment in computing and will gradually improve and master essential skills, developing a broad base of knowledge and layered understanding by the end of Key Stage 2. Children will be able to self-assess their own progress and will be given opportunities to reflect on their learning and discuss their understanding.

Subject teams will monitor the teaching and learning within computing carefully, ensuring children are making good progress and our curriculum is enjoyable, skills based and supports them to navigate the modern digital world.

## 4. Implementation

Each lesson contains revision, analysis and problem-solving. Through the sequence of lessons, we intend to inspire pupils to develop a love of the digital world, see its place in their future. Cross-curricular links are also important in supporting other areas of learning. Our lesson plans and resources help children to build on prior knowledge at the same time as introducing new skills and challenges. In EYFS, the focus is on learning basic computing skills and introducing digital literacy. In KS1, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In KS2, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Data Handling is featured more heavily in UKS2. Skills learnt through KS1 and LKS2 are used to support data presentation. Subject specific vocabulary is identified within each unit of work to support pupil understanding and explanations. Each unit of work is planned in a logical progression to build upon prior learning and apply existing knowledge and skills.



Across the Federation, each class is allocated time in computer suites. These times are used for the teaching of the computing units of work.

In the EYFS half of each class is taught in the suite at a time, with the other pupils remaining in the classroom with the classroom assistant. The two halves of the class switch over mid-session. Each pupil in EYFS works independently on a computer to ensure they are having ample practice to build up key computing skills such as mouse skills and logging on.

In KS1 and 2 the whole class accesses the computer suite at the same time. Pupils work in pairs and these pairs are selected by the adult to encourage cooperation, communication and collaboration between the partners whilst also allowing the pupils to support each other with their learning in computing.

As well as the school computer suites there is access to further technology. In EYFS and KS1, each class has a set of four iPads that can be used in the classroom to support cross curricular learning. In KS1 there is also a class set of Chromebooks that are currently being implemented to use within the Yr2 classes.

In KS2 there are several sets of Chromebooks and these are used across the Key stage to support cross curricular learning. Each pupil in Key Stage 2 has access to Google Classroom and has their own personal login which can be used to access learning both within the school environment and whilst at home. Teachers manage these Google Classrooms to share work and activities. Home Learning from Year 3 is set on Google Classroom but paper copies are also available for children if these are required.

## 5. Content

### Aims and key principles:

Content and coverage for computing is plotted out in the Progression Ladder which shows the development in skills, knowledge and vocabulary from YR to Y6, and plots out the federation's spiral curriculum for this subject. This makes it clear to see where children have opportunities to revisit skills and understanding in order to achieve mastery.

#### Early Years and Key Stage 1

Teachers use the Computing Curriculum Map (*Appendix 2*) and Progression Ladder (*Appendix 5*), along with termly overviews and weekly plans, to set out the structure and content of computing lessons. Learning objectives are taken from the Early Years Foundation Stage and the National Curriculum and each lesson is carefully sequenced to build knowledge over time.

#### Key Stage 2

As in Key Stage 1, teachers use the History Progression Ladder, along with termly overviews and weekly plans, to create lessons that cover the learning outlined in the National Curriculum. The knowledge and information that children are given in computing lessons has been carefully thought through by our computing subject team and is set out in our Core Knowledge Files (*Appendix 6*) which are presented onto slides and shared in our Google classrooms.

Expectations:	Strategies:
<b>Learning objectives and statements related to the early learning goals are taught in the early years.</b>	<p>The Reception Year classes follow the Early Years Foundation Stage (EYFS) curriculum guidance, as well as 'Development Matters.'</p> <p>The revision of the EYFS in 2020 removed the 'technology' aspects from the framework. As a federation, we have agreed to continue to teach the skills and knowledge that young children need to support their progression into KS1, their use of technology in everyday life and the way in which technology can support learning in other EYFS areas.</p> <p>Our units of work in EYFS focus on mouse skills, technology to help us learn and digital literacy.</p>



<p><b>The National Curriculum objectives are used to support planning in KS1 and KS2.</b></p>	<ul style="list-style-type: none"> <li>• Core knowledge, skills and vocabulary are mapped in the progression ladder to ensure children are covering the correct content and knowledge is sequential (<i>Appendix 5</i>).</li> <li>• In Key Stage 1, the scheme of work has been developed from the Primary National Curriculum Programmes of Study for Computing, alongside our school's curriculum drivers: Standards, Engagement, Enquiry and Diversity - SEED (<i>Appendix 1</i>). Our computing objectives have been chosen to best suit the termly topics, and to reflect continuity and progression in children's knowledge, skills and understanding. Each unit focuses on a different strand within computing. Within each year group, pupils will be taught elements from all four strands of computing. <ul style="list-style-type: none"> <li>○ Programming</li> <li>○ Online safety</li> <li>○ Digital literacy (the use of software to create content)</li> <li>○ Handling data</li> </ul> </li> </ul>
<p><b>A clear spiral curriculum that progresses throughout each key stage builds on prior learning and introduces age-appropriate concepts, knowledge and skills.</b></p>	<ul style="list-style-type: none"> <li>• Please see (<i>Appendices 2 to 5</i>) for detailed progression ladder and curriculum content for EYFS, Key Stage 1 and Key Stage 2.</li> <li>• Pupils have opportunities to revisit skills and understanding in order to achieve mastery.</li> </ul>
<p><b>Computing links to other areas of the curriculum</b></p>	<p>Computing is a subject that links many subject areas together. For instance, internet searches are a fundamental part of research in most subjects, while skills in using authoring, spreadsheet and presentation software programs may be used to completing schoolwork and home learning. This becomes even more prevalent when pupils progress to KS3. Projects can be linked to other areas of the curriculum, perhaps using Humanities or Science themes, or a project-based approach. At Hove Learning Federation, we try to promote an integrated, cross-curricular approach, where computing content is embedded in other areas of the curriculum. A few clear examples are: the links between algorithms and maths, looping sequences and music, data capture and maths/science, as well as online safety and PSHE. Pupils in KS2 use Chromebooks in the classroom to support with maths and English interventions (Word Shark, Spelling Shed and Times Tables Rockstars). At Hove Learning Federation, we believe pupils should be given opportunities to apply and develop their computing capability by using information and communication technology (ICT) tools to support their learning in all subjects.</p> <p>Other examples of cross curricular computing skills include:</p> <p><u>English</u></p> <ul style="list-style-type: none"> <li>• Digital literacy promotes the skills of reading, writing, speaking and listening.</li> <li>• Pupils are encouraged to ask and answer their own questions</li> <li>• Pupils demonstrate their knowledge and understanding in a variety of ways including: digital posters, PowerPoint presentations and presented research</li> <li>• Pupils develop their understanding of a range of core vocabulary</li> </ul> <p><u>Maths</u></p> <ul style="list-style-type: none"> <li>• Data handling units</li> <li>• Programming (involving aspects of shape, space, position and direction)</li> </ul> <p><u>PSHE and Citizenship</u></p> <ul style="list-style-type: none"> <li>• Online safety</li> <li>• Digital Citizenship</li> </ul>



	<ul style="list-style-type: none"> <li>• Paired working</li> </ul> <u>Design and Technology and Science</u> <ul style="list-style-type: none"> <li>• SketchUp architectural design</li> <li>• Research based tasks</li> </ul> <u>Creative and Art</u> <ul style="list-style-type: none"> <li>• Graphics programs and Graphic design of digital products</li> <li>• Digital photography and videography</li> <li>• Generating art using Scratch and Inkscape</li> </ul>
<b>Computing lessons are hands on and active.</b>	<ul style="list-style-type: none"> <li>• Lessons are planned so that pupils have access to technology on a regular basis</li> <li>• Pupils are taught the skills to allow them to progress in their use of software and hardware across their time in school</li> <li>• Opportunities to apply skills and explore software are planned for</li> <li>• Pupils are actively encouraged to use problem solving skills to deal with technical issues, support their natural curiosity and develop new ways of tackling tasks</li> </ul>
<b>Year Group Specific Content</b>	<ul style="list-style-type: none"> <li>• Year R begin their computing learning with mouse skills and then discover how using technology can help them learn in subjects such as phonics and maths. They also begin to learn how give simple commands to control a BeeBot floor robot. They will then begin to learn basic keyboard skills and write labels and sentences to accompany images. They are also introduced to Online Safety and how it is important to only use agreed activities whilst online and to report any concerns to an adult.</li> <li>• Year 1 children learn about graphics programs and adding images and photographs to create a digital Christmas card. They also explore pictograms and simple graphs as ways to show data. Further programming skills and algorithms are introduced as they learn to move BeeBots in a more controlled way. In Year One the children are introduced to how Online communication is communicating with people from anywhere within the world and this needs to be respectful and that some communication online may be harmful. In Year one further digital literacy skills and online searches for information are taught during the creation of fact sheets about Minibeasts.</li> <li>• In Year 2, the children apply their developing coding skills to a new program when they begin to use Scratch. They learn the basics of this program and use it to create and move screen characters. They carry out simple debugging tasks and write their own simple algorithms. They will learn how to save and retrieve their work from folders as well as use PowerPoint to make presentations about Jungle Animals, adding in text, images and videos to bring these presentations to life. Children in Year 2 also learn about safe searching and to begin to learn to question the validity of information sources.</li> <li>• Year 3 learn how to access and navigate their own Google accounts, accessing the Google Classroom to support home and school learning. They also begin to develop word processing and spreadsheet skills, before moving on to creating content using presentation applications. They further develop coding skills using Scratch and Turtle Logo, creating and debugging simple algorithms. Pupils are introduced to email and other forms of online communication. They will look at how to write and send emails, as well as how to decide if an email is safe to open. They will build on their existing knowledge of cyberbullying and how to deal with unkind behaviour online. The use and importance of</li> </ul>



	<p>privacy settings is introduced and children will discuss the types of information we should not share online. They will build on the idea of a digital footprint by thinking about how the adverts they see online are targeted at them.</p> <ul style="list-style-type: none"> <li>• Year 4 further develop their word processing skills, create more complex algorithms using Scratch and create digital music. They also learn the principals of simple animation, applying this to create their own content. Pupils learn about preventing and dealing with cyberbullying, how to use search engines efficiently, how to avoid plagiarism online and how to be a good digital citizen.</li> <li>• Year 5 create digital art using a variety of software before then creating architectural designs using 3D design software. They also create algorithms using more complex blocks in Scratch and create their own websites in the Google Suite for Education. Their online safety unit involves learning about email safety with a focus on preventing and dealing with spam. They will consider the importance of strong passwords and learn how to create them. Pupils also build on their knowledge of plagiarism and fair use of people's work by learning how to write citations and references for websites they may use. They also scrutinise photographs that they see online and learn how easy it is to manipulate pictures and present them as reality.</li> <li>• Year 6 learn how to create and edit digital audio recordings and create short films using editing software. They also learn a wider range of functions within spreadsheet applications. Pupils will be taking a more in depth look at a variety of online safety issues, most of which they will have been familiarized with in previous years. They will be introduced to the idea of the internet, as a type of media, and how it can shape our ideas about boys and girls through stereotypes. Pupils will also be given ways to deal with online content that they find worrying or even believe to be dangerous.</li> <li>• <i>For further details regarding Online Safety and Hove Learning Federation's procedures regarding this, please see 'Hove Learning Federation Online Safety Policy'</i></li> </ul>
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## 6. Assessment

### Aims and key principles:

Monitoring children's attainment, understanding and acquisition of skills in our foundation subjects is essential to ensuring we can provide children with the support and challenge they need to access, and flourish within, our curriculum. In history, assessment is carried out using a variety of methods as outlined below. Each teacher will be aware of monitoring this through other subjects where an understanding of history and the ability to use the skills of a historian can be employed.

Expectations:	Strategies:
<b>Assessment is linked to planning and is used to inform future provision, teaching and learning</b>	<ul style="list-style-type: none"> <li>• Teachers plan lessons linked to National Curriculum Objectives.</li> <li>• Previous learning is revisited at the start of every lesson as a form of assessment and to support long term memory retention.</li> <li>• Subject leaders monitor planning and assessment across key stages to ensure knowledge and skills are mapped out across year groups.</li> </ul>



	<ul style="list-style-type: none"> <li>• Knowledge and skills are built on to ensure any gaps are addressed.</li> <li>• Learning objectives and targets for each lesson are shared with the children and assessed at the end of each lesson and unit.</li> </ul>
<b>Formative assessment is continually on going to support our understanding of children's progress</b>	<ul style="list-style-type: none"> <li>• In Early Years, teachers are continuously observing children's independent learning in the learning environment. This includes working independently and collaboratively and is recorded to provide the evidence that informs teacher assessment.</li> <li>• As children progress through Key Stage 1, they will learn to self-assess their work against the objectives for that lesson/unit of work alongside the teacher assessment. This allows children to take ownership of their learning and ensures they understand the lesson objective clearly.</li> <li>• In Key Stage 2 children's understanding is monitored through Assessment for Learning, pupil voice and teacher observation, and support is carefully planned in where appropriate to ensure learning is inclusive.</li> </ul>
<b>Assessment is evidenced in books in KS1 and KS2</b>	<p>At Hove Learning Federation, we support our children by assessing in different ways as they move through the year groups and progress through the curriculum. Our assessments are used as tools to help us assess skills and knowledge, target learning, provide challenge and deepen understanding.</p> <ul style="list-style-type: none"> <li>• During KS1, where the children are learning to structure their work and are developing the ability to reflect and assess their achievements within each lesson, we have a bespoke sheet for each session. These activity sheets include the main task and challenge opportunity along with three differentiated learning outcomes that the children can self-assess against. The teacher will then also tick these.</li> <li>• As the pupils move into KS2 and focus on a self-awareness of their developing knowledge and understanding, we begin each unit by exploring the relevant Core Knowledge file. This may contain knowledge from units in previous years where the current unit builds upon their use of a specific application as well as the new knowledge for the unit. The Core Knowledge files also contain key skills related to the unit. At the end of each lesson or unit, pupils self-assess their confidence with regard to the key skills by circling a relevant symbol (see Appendix 6).</li> </ul>
<b>Assessment and monitoring are ongoing to support future planning</b>	<ul style="list-style-type: none"> <li>• In the Early Years Foundation Stage, the children's knowledge, skills and understanding will be assessed using 'Development Matters,' and the Early Years Learning Goals (predominantly within 'Understanding the World'). These are recorded half termly into Target Tracker and then this information is used towards the end of year feedback given to parents and the final EYFS Profile.</li> <li>• At Key Stage 1, children's progress and attainment is tracked against age-related expectations. Assessment boxes are included in books and teachers assess children based on learning objectives. The learning objectives for each lesson provide a clear focus for assessment. At the end of each school year, every child will be assessed and recorded on Target Tracker, as: 'working below', 'working towards', 'secure' or 'secure plus'. These levels are communicated to parents in the end of year school report. At the end of Year 1, the assessments will be passed to the Year 2 teacher. At the end of Year 2, the accrued assessments will be used by the teacher to make a judgement about each child's ability in computing across the key stage.</li> <li>• At Key Stage 2, teachers assess children's understanding of computing and the knowledge they have acquired within each unit. The learning objectives for each lesson provide a clear focus for the assessment of</li> </ul>



	their skills. Assessment for Learning strategies are utilised during lessons and to review pupil outcomes. Teachers also review pupil self-assessments to inform subsequent lessons and future planning.
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## 7. Skills

### Aims and key principles:

The teaching of computing skills is carefully mapped across the key stages. The children are gradually introduced to the skills alongside the acquisition of substantive knowledge. As computing knowledge and vocabulary are developed through our spiral curriculum, the children have the opportunity to revisit, embed and build on understanding.

Expectations:	Strategies:
<b>Computing skills are embedded in each lesson and unit and carefully mapped out across the school</b>	<ul style="list-style-type: none"> <li>• Computing skills are taught alongside the knowledge acquisition aspect of the lesson.</li> <li>• Activity sheets in Key Stage 1 include a section for children to assess the skills they have used in each session.</li> <li>• In Key stage 2, learning objectives are based on computing skills and children are given opportunities to discuss and assess their confidence with the acquisition of these skills.</li> <li>• Activities are planned to ensure children are able to use computing skills to progress their knowledge</li> <li>• Pictures and quotes of children in dedicated computing lessons and using devices in class are included in books and on the EYFS portal.</li> </ul>
<b>Computing skills progress across the Key Stages</b>	<ul style="list-style-type: none"> <li>• Progression in computing skills is included in the Progression Ladder.</li> <li>• Children are aware of the skills they have been using in computing across the key stages and are encouraged to discuss how they have supported their growing understanding.</li> <li>• Evidence in books shows the variety of opportunities for using and applying these skills across both Key Stage 1 and 2 and The Portal.</li> </ul>
<b>Children with SEN or with EAL know the variety of working historically skills they are using to develop their knowledge and understanding with support</b>	<ul style="list-style-type: none"> <li>• Appropriate support is given to children with SEN and EAL children so they can access the learning and understand the skills needed to complete tasks.</li> <li>• Dual coding (using symbols from the Noun Project) is used to support the acquisition of specific vocabulary and is currently included on lesson slides and core knowledge files in Key Stage 2.</li> <li>• Higher level challenge partners are used to ensure children with SEN and or EAL are provided with high quality talk and modelled language of computing skills.</li> <li>• Activities ensure children with SEN or EAL can access tasks appropriately and share their understanding of computing concepts.</li> <li>• Differentiation and scaffolds are included where appropriate to enable access to learning and ensure children make at least expected progress.</li> </ul> <p>Pictures and quotes are taken from children with SEN and or EAL to ensure evidence is recorded in books and on The Portal (EYFS).</p>

## 8. Knowledge and Vocabulary

### Aims and key principles:



Our teaching of computing knowledge and vocabulary is carefully mapped to ensure it is delivered in a manner which will reduce cognitive overload and maximise children's understanding and retention. Knowledge and vocabulary acquisition builds gradually and in a spiral approach, which deepens understanding and encourages individual reflection and exploration of ideas.

Expectations:	Strategies:
<b>Computing vocabulary linked to each unit is included in the Computing Progression Ladder, Core Knowledge Files and Curriculum Maps and progresses with the associated knowledge</b>	<ul style="list-style-type: none"> <li>• Children are taught the specific computing vocabulary as prescribed in the National Curriculum and Development Matters.</li> <li>• Vocabulary is dual coded, to support understanding and recall.</li> <li>• Vocabulary is explored in a variety of ways, including etymological observations, encouraging links to be made within and between computing topics and other subjects.</li> <li>• Children will become confident in using computing terms, and will gradually broaden the range of vocabulary used in cross-curricular work.</li> <li>• In Key Stage 2, Core Knowledge Files may be shared with parents and carers at the start of a unit, to encourage wider discussion and greater familiarity.</li> </ul>
<b>Vocabulary is included in each session and progression across sessions and year groups is evident</b>	<ul style="list-style-type: none"> <li>• Vocabulary is unpicked and explicitly taught each lesson and can be seen on flips/slides.</li> <li>• Children are given time in each lesson to hear and say key vocabulary and question the understanding of key words.</li> <li>• Key vocabulary from prior learning is discussed in the connecting learning flip/slide to embed vocabulary in long term memory.</li> <li>• Flips/slides show clear progression of vocabulary across the key stages.</li> <li>• In Key Stage 1, vocabulary is included on activity sheets in books and high expectations ensure children use this vocabulary in explaining their knowledge and understanding.</li> </ul>
<b>Misconceptions in knowledge and vocabulary are picked up early and addressed within lessons or before the subsequent lesson.</b>	<ul style="list-style-type: none"> <li>• Teachers plan for misconceptions to ensure correct knowledge and vocabulary is taught and understood each lesson.</li> <li>• Adults are confident to pick up on misconceptions in knowledge and vocabulary that the children may have and ensure these are addressed early and clearly.</li> <li>• Higher order questions, challenges and visual prompts are used in lessons to assess and support misconceptions.</li> <li>• Grumpy Frog is used on flips in Key Stage 1 to pre-empt possible misconceptions and address these to support whole class knowledge and understanding.</li> </ul>

## 9. Equal Opportunities, Inclusion and Access

At Hove Learning Federation, we use Quality First Teaching to consistently meet the needs of all pupils. This includes ongoing assessment for learning which guides the path of the lesson, adapting lessons and responding to the needs of the children accordingly.

Challenge activities are included throughout computing lessons to indicate to children how they can deepen their knowledge. In Early Years and Key Stage 1, school characters are used (such as 'scuba diver challenge', 'submarine challenge' and 'Professor Prove-It'), while Key Stage 2 use a range of challenges and higher order questioning.

New topic-specific computing vocabulary (tier 2 or tier 3) is taught using symbols and images (dual coding) to support children's understanding and are pre-taught to children before a lesson, where relevant and purposeful. This vocabulary is displayed on lesson slides and is revisited throughout a unit, and built on year upon year.

Where appropriate in computing lessons, children are provided with tasks that have been broken down into small steps, giving them achievable goals. Some children may be offered a choice of how to record their work in different



ways, such as with a digital camera/ verbally/ with a tape-recorder. At times, tasks are designed so that outcomes can be child-led allowing for a variety of responses and ownership of learning.

Additional materials can be provided to support learning (for example visual aids such as photographs, Makaton symbols, concept boards, dual coding, Communicate in Print resources, adapted scissors or other tools, or larger scale resources). Adult support is allocated to guide learning where needed and we ensure that all children can access trips.

Finally, mutual respect and tolerance for all cultures and different family units will be promoted through the study of computing. Our topics are designed and structured to celebrate different cultures and traditions. People from a range of different races, cultures and backgrounds and their contributions to the development of computing and communication technology will be learnt about. In this way, all children will be enabled to achieve their full potential.

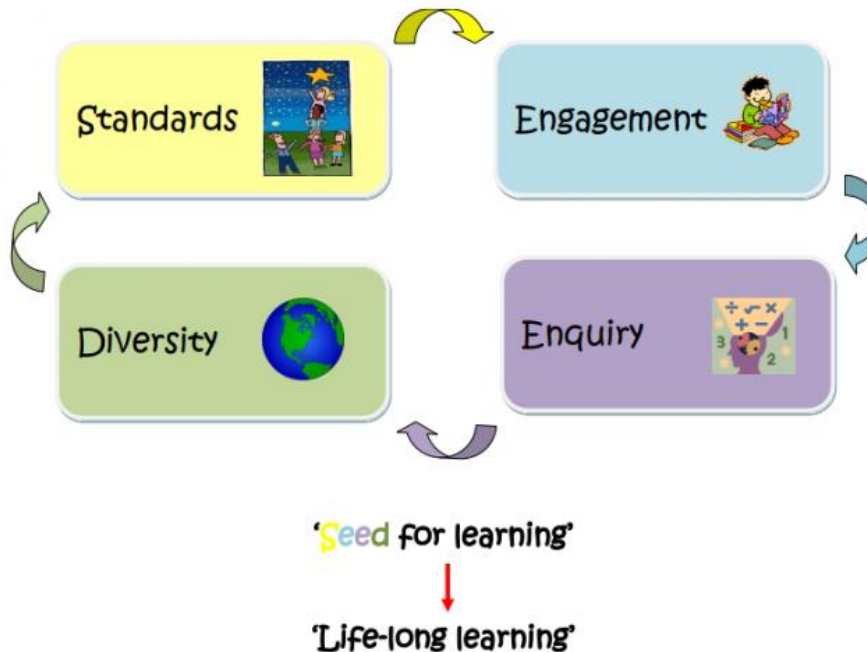


## 10. Appendices

### Appendix 1: Key Stage 1 Curriculum Drivers (SEED)

<https://www.westhoveinfants.co.uk/our-curriculum/curriculum-drivers/>

#### Curriculum Drivers : S.E.E.D.



Appendix 2: Example computing section from Key Stage 1 curriculum map for Year 1 (other Key Stage 1 and Early Years maps can be found using this link <https://www.westhoveinfants.co.uk/our-curriculum/curriculum-map/> )

**WEST HOVE  
INFANT SCHOOL**  
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#### Curriculum Map – Year 1

Computing					
Term	Autumn		Spring	Summer	
Topic	Wild and Wonderful		Castles and Caves	The Secret Garden	
Learning Expectations	By the end of KS1, children will have learned to:				
	<ul style="list-style-type: none"><li>• Debug algorithms</li><li>• Use Flash to create algorithms and simple animations</li><li>• Use the Internet responsibly and learn how to be safe.</li><li>• Locate &amp; Collect information.</li><li>• Safely browse the Internet.</li><li>• Create multimedia presentations.</li><li>• Understand that email can be used to communicate</li><li>• Develop skills in opening, composing and sending emails</li><li>• Gain skills in opening and listening to audio files on the computer</li><li>• Use appropriate language in emails</li><li>• Develop skills in editing and formatting text in emails</li><li>• Be aware of e-safety issues when using email.</li></ul>				
Range of Opportunities	<ul style="list-style-type: none"><li>• Keyboard skills and typing.</li><li>• Online safety skills</li><li>• Computer skills, launching applications, saving into my folder</li></ul>	<ul style="list-style-type: none"><li>• Computer skills, launching applications, saving into my folder</li><li>• Graphics Expert Making -Creating a Christmas Card</li><li>• Inserting pictures and text</li><li>• Editing and improving</li></ul>	<ul style="list-style-type: none"><li>• How to use our online learning platform – seesaw and reading eggs</li><li>• Programming and Algorithms – what can I control, creating algorithms,</li><li>• Busy Things coding and Bee-Bots, program the beebots, follow an algorithm</li><li>• Debugging errors using beebots</li></ul>	<ul style="list-style-type: none"><li>• How to stay safe online and take care of personal information</li><li>• Graphs – create a tally</li><li>• Collecting data</li><li>• Creating bar graphs</li><li>• Grouping objects</li><li>• Graphs – I’m a Data expert</li><li>• Algorithms – follow a list of steps and create</li></ul>	<ul style="list-style-type: none"><li>• How to stay safe online and take care of personal information</li><li>• Ownership of online information</li><li>• To create files in applications</li><li>• Mini Beast information sheet</li><li>• Searching for images</li><li>• Copy and paste</li><li>• Understanding what an email is and how to save work</li></ul>



## Curriculum Map – Year 1

<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Know that we use the internet for lots of different reasons including playing games, listening to music, sending messages, watching movies and finding information</li> <li>Know that children need to ask permission to use the internet and tell a grown up if they see anything strange or unusual</li> <li>Know that not all games and videos are for children</li> <li>Know to not talk to strangers online</li> <li>Know that our personal information is our name, age, address, school and we should not give anyone this online</li> <li>Know to always ask for help if they are unsure</li> <li>Know that a mouse is a small movable device that is used to move the cursor on a screen.</li> <li>Know the left click is the button we use the most to select.</li> </ul>	<ul style="list-style-type: none"> <li>Know that computers are used for communication purposes and that by adding text and images you can communicate with technology</li> <li>Know how to use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape</li> <li>Know how to change the font, size and colour of text</li> <li>Know how to insert pictures and change their size</li> <li>Know how to draw using the shape and pen tools</li> <li>Know the undo tool can be used to correct mistakes</li> <li>Know that we save our work so we can carry on working on it next time</li> </ul>	<ul style="list-style-type: none"> <li>Know that Seesaw is a website with our school learning on for when we are not able to come into school.</li> <li>Know that Collins EBooks is a website where you can read lots of books we have in school.</li> <li>Know how to log on and navigate both of these websites.</li> <li>Know that an algorithm is a list of steps</li> <li>Know that a bug is an error in the algorithm and fixing a bug is called debugging</li> <li>Know that you can program computers to carry out certain tasks. This is called programming and people who do this are called programmers</li> <li>Know a programmable toy (or robot) can be made to move by inputting the algorithm as button presses.</li> <li>Know that a robot is a computer that can move.</li> <li>Know how to program simple algorithms into Beebots and fix any bugs.</li> <li>Know Bee-Bots will follow the instructions that we give them. The instructions must be in the correct order.</li> <li>Know the function of left, right, forwards, backwards and go on a Beebot.</li> <li>Know that when you learn to code you can make things happen on your computer. You must put the code in the right order. It will tell your computer what you want it to do first.</li> <li>Predict where a program will work and where a Beebot will end up.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to take care of my personal information</li> <li>Know how to collect data in different ways</li> <li>Know how to present data in different ways</li> <li>Know how to sort data</li> </ul>	<ul style="list-style-type: none"> <li>Know how to use the internet safely</li> <li>Know to name and save a file</li> <li>Know how to search for an image</li> <li>Know how to copy and paste</li> <li>Know what an email is and different ways to communicate</li> <li>Know how to find information using the internet</li> </ul>

## Curriculum Map – Year 1

	<ul style="list-style-type: none"> <li>Know that a 'window' is a viewing area on a computer screen</li> <li>Know that the internet is a network of computers around the world.</li> <li>Know how to use 'minimise' to make the screen disappear but not close.</li> </ul> <p>Know how to click 'X' to close the screen</p>				
<b>Skills</b>	<ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about</li> </ul>	<ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>Manipulating images</li> <li>Manipulating text – font, size, colour</li> <li>Inserting saved pictures.</li> <li>Shape and drawing tools</li> </ul>	<ul style="list-style-type: none"> <li>understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>Coding</li> <li>Writing algorithms</li> <li>Debugging</li> <li>Use home learning websites</li> </ul>	<ul style="list-style-type: none"> <li>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</li> <li>Data manipulation</li> <li>Data collection</li> <li>Creating graphs</li> </ul>	<ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about</li> </ul>





	<p>content or contact on the internet or other online technologies</p> <ul style="list-style-type: none"> <li>• Typing</li> <li>• Keyboard skills</li> <li>• Saving and retrieving work</li> <li>• Use computer language</li> </ul>				<p>content or contact on the internet or other online technologies</p> <ul style="list-style-type: none"> <li>• Searching</li> <li>• Typing</li> <li>• Image manipulation</li> <li>• E-safety</li> </ul>
<b>Environmental Links</b>	•	•	•	•	•
<b>Vocabulary</b>	<p>Computer, mouse, keyboard, typing, key, letter, desktop, icon, logging on, password, program, window, save, folder, file, retrieve, safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet</p>	<p>Image, clipart, rotate, resize, drag, position paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag,</p>	<p>Bee bot, direction, algorithm, instruction, code, program, sequence, forwards,, backwards, turn, left, right, repeat</p>	<p>Graphs, data, organise, order</p>	<p>Information, images, saving, retrieving, facts, safe search, pop-ups</p>



Appendix 3: Example of Year 2 Termly overview (other Key Stage 1 and Early Years Termly overviews can be found using this link <https://www.westhoveinfants.co.uk/our-curriculum/schemes-of-work/>)

Topic: Heroes and Villains		TERM: Autumn 2	Suggested role play areas: Super Hero hideout	
By the end of this topic, children will have learned to:				
English	Spoken Language	<ul style="list-style-type: none"><li>Use sentence stems to explain understanding.</li><li>Ask questions based on discussions.</li><li>Challenge each other to build on and explain ideas.</li><li>Explain and discuss texts read to them and those they have read for themselves.</li><li>Take turns and listen to others.</li><li>Read aloud what they have written with appropriate intonation to make the meaning clear.</li><li>Continue to build, appreciate and recite a repertoire of stories and poems.</li></ul>		
	Phonics + Spelling	<ul style="list-style-type: none"><li>Segment spoken words into phonemes and represent these by graphemes, spelling many of these words correctly and making phonically-plausible attempts at others.</li><li>Spell most Year 1 common exception words (CEWs) and many Year 2 CEWs.</li></ul>		
	Reading	<p>In age-appropriate texts, pupils:</p> <ul style="list-style-type: none"><li>Read words accurately without overt segmenting and blending.</li><li>Read fluently.</li><li>Apply their phonics knowledge</li><li>Understand the text.</li><li>Retrieve information.</li><li>Make simple inferences.</li><li>Understand text structure and organisation.</li><li>Discuss the effects of words and language.</li></ul> <p>Some pupils will:</p> <ul style="list-style-type: none"><li>Make predictions on the basis of what has been read so far.</li><li>Make links between the book they are reading and other books they have read, real-life experiences or films they have seen.</li></ul>		
	Grammar	<ul style="list-style-type: none"><li>Develop a wider vocabulary and use ambitious, topic-related language.</li><li>Demarcate sentences with capital letters and full stops.</li><li>Use question marks when required.</li><li>Use co-ordination (e.g. or / and / but) and some subordination (e.g. when / if / that / because) to join clauses.</li></ul>		
	Transcription	<ul style="list-style-type: none"><li>Form capital letters and digits of the correct size, orientation and relationship to one another and to lower-case letters.</li><li>Use spacing between words that reflects the size of the letters.</li><li>Use cursive handwriting.</li><li>Publish and share work to celebrate their achievements.</li></ul>		
	Composition	<ul style="list-style-type: none"><li>Use present and past tense mostly correctly and consistently.</li><li>Write a range of fiction and non-fiction texts and poetry.</li><li>Use poetic features (alliteration, simile, rhyme, rhythm, structure, etc.)</li></ul>		
	Handwriting	<ul style="list-style-type: none"><li>See spelling rules on weekly breakdown below</li></ul>		
	Evaluation	<ul style="list-style-type: none"><li>Revisit, evaluate and polish their writing.</li></ul>		
Mathematics	<ul style="list-style-type: none"><li>To understand number and place value</li><li>To add and subtract</li><li>To multiply and divide</li><li>To use mathematical language and knowledge to solve problems</li></ul>		<ul style="list-style-type: none"><li>To understand and use &lt; and &gt;</li><li>To solve problems involving money</li></ul>	
Geography	<ul style="list-style-type: none"><li>To investigate and understand places</li><li>To communicate geographically</li></ul>		Art	<ul style="list-style-type: none"><li>To develop ideas</li><li>To master techniques</li></ul>
Science	Chemistry <ul style="list-style-type: none"><li>To understand use of everyday materials</li></ul>		<ul style="list-style-type: none"><li>To take inspiration from the greats</li><li>To learn about the work of a range of artists, describing the similarities and differences and making links to their own work.</li><li>Develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space.</li><li>Use thick and thin brushes. Choice of brush and watercolour.</li><li>Learn about the work of a range of artists, craft-makers and designers describing the similarities and differences and making links to their own work.</li></ul>	
Computing	<ul style="list-style-type: none"><li>To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</li></ul>		<ul style="list-style-type: none"><li>To use logical reasoning to predict behaviour</li><li>To create and debug simple programs.</li><li>To use logical reasoning to predict the behaviour of simple programs.</li><li>To save and open work.</li></ul>	
History	<ul style="list-style-type: none"><li>To investigate and interpret the past</li><li>To understand chronology</li><li>Understand events beyond living memory that are significant nationally.</li><li>Describe historical events.</li></ul>		<ul style="list-style-type: none"><li>To communicate historically</li><li>To build an overview of World history</li></ul>	
PE	<ul style="list-style-type: none"><li>Continue developing skills of throwing and catching.</li><li>Move with agility.</li><li>Children will work individually, with a pair and as part of a group and learn the basic principles of attacking and defending.</li></ul>			
PSHE	<ul style="list-style-type: none"><li>To understand oneself and others</li></ul>			
RE	Light in religion and exploring what light means in different celebrations. <ul style="list-style-type: none"><li>To understand beliefs and teachings</li><li>To understand practices and lifestyles</li><li>To understand how beliefs are conveyed</li><li>To reflect</li><li>To understand values</li></ul>			
Music	<ul style="list-style-type: none"><li>To perform</li><li>To compose</li><li>To appraise music and discuss the differences in music using terms such as timbre, tempo and dynamics.</li><li>To use body percussion and musical instruments and experiment making different sounds.</li></ul>		<ul style="list-style-type: none"><li>To describe music</li></ul>	







#### Appendix 4: Example of Year 2 end of unit assessment sheet

## Interactive Poster

Computing Spaces of Vols. 2

**Online Learning**

In this unit, children have learnt to search the internet safely to find out fascinating facts about rare/lost animals. They have used PowerPoint to create interactive posters about these animals and show off everything they have learnt!

**National curriculum K&1:**  
Pupils should be taught to...

- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- 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

**Terrific Tigers!**

Want to find out more about one the largest cats in the world? Then look no further!

**Meet our tigers who weigh 600 lbs!**

**Fascinating Facts:** Tigers are carnivores. They eat prey like deer and even smaller animals.

**Amazing Tigres can run at speeds between 30-40 mph.**




**For more amazing facts, please contact us today!**

**Pan Feline**

A Pan Feline Tiger Project, using Pan Feline's unique pattern of stripes and spots to create a tiger cub.

**Share!**

Using the Tiger Cub Project Kit, you can...

Assessment		
<b>Success Criteria</b>		
<b>E-Safety</b>		
I can use the internet safely to search for content that is appropriate for me		
I know to keep personal information private		
I know where to go for help and support online		
<b>Interactive Poster</b>		
I can open and save my work		
I can format text (font, size, colour)		
I can format the background		
I can insert and format a picture		
I can insert multimedia (video or link)		
		
I can organise my content in a clear way		
I can help others when they are stuck		
I can suggest uses for my multimedia poster		

My rainforest animal poster

Who would like to read your poster?

What could your poster be used for?





	Year R (Computing)		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Nursery	Reception						
Programming	<b>By the end of Reception:</b> There are Computing ELG or statements in the EYFS however the computing we teach in school is supporting children in other areas of the EYFS and providing skills to access an increasingly digital world.		<b>By the end of Year 2:</b> Children understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. They create, debug and use logical reasoning to predict the behaviour of simple programs.		<b>By the end of Year 4, children:</b> Children design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; they solve problems by decomposing them into smaller parts. They use sequence, selection, and repetition in programs and work with variables and various forms of input and output. They use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  Children build on their programming skills by solving problems and programming commands to achieve a specific outcome. They begin to write programs, explain algorithms and identify errors in their work.		<b>By the end of Year 6, children:</b> Children design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; they solve problems by decomposing them into smaller parts. They use sequence, selection, and repetition in programs and work with variables and various forms of input and output. They use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  Children build on their programming skills by using new systems such as a flowchart. They continue to break down problems and create algorithms to solve them. They are able to explain the outcome of an algorithm with confidence and accuracy.	
	Copy the actions of others to operate simple equipment and toys	Help adults operate equipment around the school, independently operating simple equipment	Physically follow & give each other instructions to move around	Physically follow and give each other forward, backward & turn (right-angle) instructions	Create and debug an algorithm using the move, rotate and repeat commands.	Develop an educational computer game using selection and repetition	Design and program a character game.	Investigate and evaluate the features of programming software.
	Explore simple software to make things happen	Use simple software to make things happen	Explore outcomes when buttons are pressed in sequences on a robot	Articulate an algorithm to achieve a purpose	Create and debug algorithms using penup and pendown.	Analyse educational games	Design an original character or backdrop for a game.	Program Kodu using 'When' and 'Do' instructions.
	Use buttons on electronic toys and be able to state what the buttons do.	Press buttons on a floor robot or screen robot and talk about the movements	Begin to use software to create movement & patterns on a screen	Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trail	Create and debug algorithms that draw regular polygons, shapes and patterns in different applications (Scratch and Turtle Logo)	Start to debug computer programs (when creating games)	I can add features or effects to enhance a game (sounds and movement)	Use tools and add features to create an original landscape in Kodu.
	Identify some differences between a variety of toys.	Explore options and make choices with toys, software and websites	Begin to identify an algorithm to achieve a specific purpose	Explore outcomes when giving instructions in a simple Scratch program		Recognize the importance of user interface design, including consideration of input and output.	Create an original animated game with a specific goal.	Analyse and deconstruct code to work out its purpose.
			Execute a program on a floor robot to achieve an algorithm	Watch a simple Scratch program execute & debug any problems		Understand and use variables	Program costume changes for a sprite.	Program a character to be controlled around a custom track to reach a goal.
			Use the word debug to correct any mistakes when programming a floor robot				Add point-scoring and levels to game code.	Program a character to follow an automatic path.
			Begin to predict what will happen for a short sequence of instructions in a program	Predict what will happen & test results				
				Talk about similarities & differences between floor robots and Scratch on screen				
Vocabulary	Press, What happens? Show me.	Choice, program, buttons, up, down, forward, backwards, turn.	Algorithm, debug, instructions, predict, movement,	Commands, debug, programming, sequence, algorithm.	decompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable.	flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, Kodu, world, object, tool palette, program environment, smooth, flatten, raise		



## Appendix 6: Examples of a Year 3 and Year 5 Core Knowledge file

**Password**  
A string of characters that allow access to a system or service.

**File**  
A computer resource for recording data.

**Folder**  
A virtual location or container used to store other folders and files.

**Search engine**  
A program that searches for information on the internet.

**Word processing**  
A program used for creating texts and documents on a computer.

**Keyboard**  
A device made up of buttons that create letters, numbers and have other functions.

**Delete**  
A button that deletes text.


**Backspace**  
A key to move the cursor backwards.

**Space bar**  
The large button on the keyboard that leaves spaces between letters.


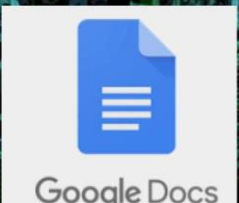
**Undo**  
To go backwards to the previous step.

**Image**  
a picture.

**Font**  
style of the text



Google Slides

Computing Year 3- We are Word Processors Using Word, Google Docs and Google Slides

**Bullet points** are used to introduce items in a list.  
In Word it looks like this.

You can also **number** information.  
In Word it looks like this.

**Text boxes** can be inserted into some word processing documents.  
In Word it looks like this.

The B makes the text **Bold**.  
The I writes the text in *Italics*.  
The U underlines the text.

This will change the **font** (style) of the text. In Word it looks like this.  
In Google Docs it looks like this.

This changes the **size** of the text.  
In Word it looks like this.  
In Google Docs it looks like this.

This changes the **colour** of the text.  
In Word it looks like this.  
In Google Docs it looks like this.

This changes the **alignment** of the text (the position). It can be aligned to the left, the centre, or to the right of the page.  
In Word it looks like this.  
In Google Docs it looks like this.

Undo <ctrl> + z

Cut <ctrl> + x

Copy <ctrl> + c

Paste <ctrl> + v

Select All <ctrl> + a

**Shortcuts**

Save <ctrl> + s

Redo <ctrl> + y

**B** Bold <ctrl> + b

*I* Italics <ctrl> + i

U Underline <ctrl> + u

Computing Year 3- We are Word Processors Using Word, Google Docs and Google Slides



I can identify what makes an effective password.



I can open blank Google Docs and Google Slides in the relevant folder.



I can change the case of text.



I can align text.



I can use bullet points.



I can use the spell check function.



I can insert text boxes.



I can use keyboard shortcuts.



#### Introduction to Inkscape Vector Graphics Software

Vector graphics are made up of lines, curves and points designed to retain their quality and avoid blurring when enlarged. They use colours that are separated into different types and sizes. Conversely, regular pixels are blended together to form a colour. This makes changing colours easier when editing vector graphics. Vector graphics are designed with curved points and lines which create a clean, infinitely scalable picture when combined in vector artwork. Vector graphics are based on mathematical formulas rather than square pixels, allowing for a crisper display.

#### Inkscape vocabulary

Align	Make shapes line up; left, right, centrally
Difference	Removes the overlap of the top shape to the bottom shape
Duplicate	Make many copies of a shape.
Flip	Create a mirror image of a 2D shape, vertically or horizontally.
Group Ungroup	When separate shapes are joined together to create one, or ungrouped (reversed).
Intersection	Leaves behind the shape that was covered by the top shape.
Polygon	2D shape made up of straight lines.
Rotate	To turn a 2D shape, clockwise or anti-clockwise, about a point with a given angle.
Snap	Assumes alignment and clicks a shape to the nearest node.

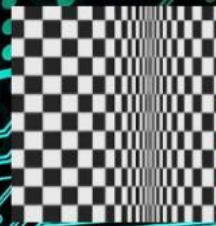
#### Vocabulary

**Tessellation:** A tessellation, also called a tiling, is a way to cover a surface with a repeating pattern of flat shapes such that there are no overlaps or gaps.

**Polygon:** a 2d shape having three or more straight sides.

**Islam:** the world's second-largest religion with 1.9 billion followers or 24.9% of the world's population, known as Muslims. Islamic style art is noted for its use of geometric and floral patterns, tessellation and the absence of figures.

#### Computing Year 5- We are Artists Fusing Geometry and Art



#### Key Individuals:

**Bridget Riley:** born 24th April 1931, she is a British painter famous for her perspective artworks.

**MC Escher (1898-1972):** a Dutch artist, who is famous for his mathematically inspired, perspective art. His pieces also explored impossible objects, tessellation and reflection.

#### Software used:

Inkscape (a graphics editor)  
[Scratch](#) (a block based visual programming language website)





### Unit 5.3 – We are artists

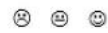
I can create a tessellating pattern.



I can write a program to draw a simple shape.



I can create a pattern using overlapping shapes.



I can create a pattern using different repeated shapes.



I can create a tessellating pattern using more complicated shapes.



I can use repetition in Scratch to draw a complicated geometric shape.



I can use the tile clone tool to create a pattern using different kinds of shapes.



I can write blocks of script in Scratch to create a complicated geometric shape.









