



Y1 Computing – Digital Painting

Key Concept – Creating Media



Essential Knowledge

How can a computer be used to create pictures?

Computers can be used to create digital artwork using different paint tools. Different tools make different marks, lines and patterns. Digital pictures can be changed easily while they are being created.

Why do different paint tools create different effects?

Each paint tool has a different purpose. Brush, line and shape tools help create different types of pictures. Choosing the right tool helps artists create the effect they want.

How do artists make careful choices when creating digital pictures?

Artists choose colours, shapes and tools to match their ideas. Different choices can change the look and feel of a picture. Careful decisions help communicate ideas clearly.

How do different tools help us improve our artwork?

Different digital tools are useful for different jobs. Artists choose tools that help them create the picture they have planned. Looking back at a picture helps decide whether changes have improved it.

How can digital painting help us create our own artwork?

Digital paint programs allow artists to experiment with colours, brushes and shapes. Pictures can be edited without needing to start again. Digital tools make it easy to try new ideas.

How is painting on a computer different from painting on paper?

Pictures can be created using both digital and traditional materials. Digital artwork can be edited, resized and changed more easily than artwork on paper. Both methods allow artists to be creative in different ways.

Key Vocabulary

paint program



a website or app which lets you create artwork on a laptop, PC or iPad

digital painting



creating a piece of artwork using a laptop, PC or iPad

undo



to cancel or reverse the last action you made

tool

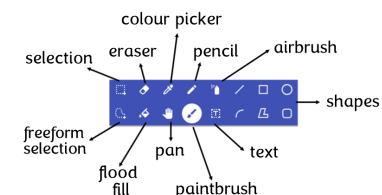


these can help create different effects such as paint strokes, line styles and colours

Aspirational Knowledge

Digital painting is still real art.

Digital artists **paint using a screen instead of paper**. They use tools like a **stylus** (digital pen) or their finger. Digital painting uses **brushes, colour and imagination**, just like real paint.



Y1 Computing – Digital Painting

Key Concept – Creating Media

Key Knowledge

How can we use a computer to make pictures?

We can use a computer to make digital pictures. A paint program has different tools that help us draw, colour and create artwork.

Why do paint tools make different marks?

Different paint tools do different jobs. A brush tool makes brush marks, a line tool makes straight lines and a shape tool makes shapes.

How do we choose what our picture looks like?

We can choose colours, shapes and tools to create our picture. These choices change how the picture looks and help us share our ideas with others.

How can tools help us make our picture better?

Different tools can help us improve our artwork. We can look at our picture, think about what works well and make changes to make it even better.

How can digital painting help us make our own artwork?

Digital painting lets us try different colours, brushes and shapes. If we make a mistake, we can change it without starting again.

How is painting on a computer different from painting on paper?

We can create artwork on both a computer and on paper. Digital pictures are easier to edit, move and resize, but both ways let us create and share our ideas.

Key Vocabulary

paint program



a website or app which lets you create artwork on a laptop, PC or iPad

digital painting



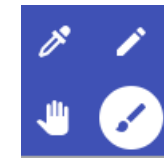
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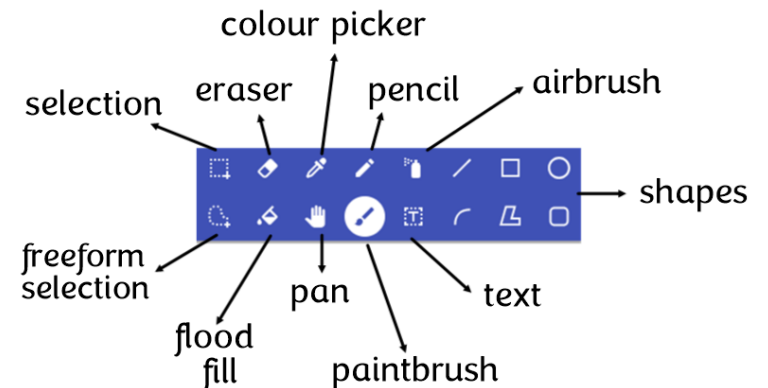


to cancel or reverse the last action you made

tool



these can help create different effects such as paint strokes, line styles and colours





Y1 Computing – Digital Writing

Key Concept – Creating Media



Essential Knowledge

What is technology and how does it help us?

Technology helps people complete everyday tasks. Computers are one type of technology that can be used to create, store and change information. Different technologies are designed for different purposes.

How can we type words on a computer?

A keyboard is used to type letters, numbers and spaces. Each key has a different job. The cursor shows where new text will appear.

How can we change the way our writing looks?

Digital text can be edited without writing it again. Fonts can be changed to make writing look different. Bold, italic and underline help important words stand out.

Why is it useful to edit digital writing?

Words can be selected before they are changed. Changing the font, size or style can make writing clearer and easier to read. Digital writing can be improved at any time.

How do editing tools improve our work?

Editing tools help us correct mistakes and improve our writing. Undo removes the last change if it was not the right choice. Looking back at our work helps us decide if changes have made it better.

How is typing different from writing on paper?

Typing and handwriting are both ways to communicate ideas. Writing on a computer is easier to edit because changes can be made without starting again. Both methods have different advantages depending on the task.

Key Vocabulary

keyboard



used to type letters, numbers, and symbols

mouse



used to move and click on things on the screen

edit



to change or improve work

text



words that have been typed

Aspirational Knowledge

Digital writing makes it easy to create, edit and improve ideas. Understanding how computers help us write prepares us to communicate confidently using technology.



Y1 Computing – Digital Writing

Key Concept – Creating Media



Key Knowledge

What is technology and how does it help us?

Technology helps us do jobs and learn new things. Computers and tablets are types of technology. We can use them to make, save and change our work.

How can we type words on a computer?

We use a keyboard to type letters and words. Each key does a different job. The cursor shows where our words will appear.

How can we change the way our writing looks?

We can change how our writing looks on a computer. We can make the words bigger, smaller or different styles. This helps our writing look clear and interesting.

Why is it useful to edit digital writing?

We can change our writing if we make a mistake. We can add, remove or change words. We do not need to start all over again.

How do editing tools help us?

Editing tools help us make our work better. We can fix mistakes and change things we do not like. We can look at our work and make improvements.

How is typing different from writing on paper?

We can share ideas by typing or by writing on paper. Typing is easy to change and edit. Both typing and handwriting help us create and communicate our ideas.

Key Vocabulary

keyboard



used to type letters, numbers, and symbols

mouse



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edit



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text



words that have been typed

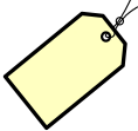
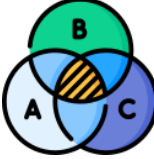


Y1 Computing – Grouping Data

Key Concept – Data and Information



Essential Knowledge
How can labels help us group and find information? When we label things, we can see which ones go together. This helps people and computers sort information and find things more easily.
Why is grouping objects helpful when we count them? Grouping things helps us count them more easily. When objects are in groups, we can see which ones we have counted and which ones we still need to count. People and computers use groups to count quickly and carefully.
How can describing an object help us group and find information? We can describe things by their colour, size or shape. Things that are the same can be put into groups. People and computers use groups and labels to sort information and find things more easily.
How do we group objects in more than one way? Objects can be grouped in more than one way. We can use different properties, such as colour, size, shape or type, to create different groups.
How can we compare different groups of objects? We can compare groups by looking at what is the same and what is different. We can count how many things are in each group. This helps us compare the groups and answer questions about them.
How can grouping objects help us answer questions? Grouping things helps us answer questions more easily. By counting and comparing groups, we can find out which group has the most, the least, more, or fewer objects.

Key Vocabulary		
object		a thing that we can see, use, describe or sort
label		a word used to name or describe an object or group
property		a feature of an object, such as its colour, size or shape
group		objects that belong together because they share the same property

Aspirational Knowledge
Data experts think carefully about the best way to group information so they can answer questions and spot patterns. They know that an object can belong to more than one group and can explain why. Just like real computers, they collect, sort and use data to learn new things about the world.

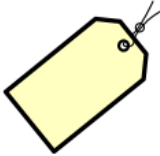
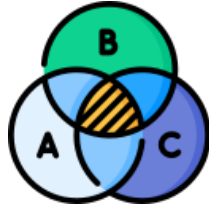


Y1 Computing – Grouping Data

Key Concept – Data and Information



Key Knowledge
How do labels help us group things? Labels tell us what something is. Labels help us put things into groups and find them more easily.
Why is grouping things helpful when we count them? When objects are in groups, they are easier to count. We can see what we have counted and what is left to count.
How can saying what an object looks like help us find out things? We can say what an object looks like. Objects that look the same can go in the same group.
How can objects be grouped in more than one way? We can sort the same objects by colour, shape, size or type.
What can we find out about different groups of objects? We can count each group. Then we can see which group has more, less or the same number of objects.
How can putting things in groups help us answer questions? Counting and comparing groups helps us answer questions.

Key Vocabulary		
object		a thing that we can see, use, describe or sort
label		a word used to name or describe an object or group
property		a feature of an object, such as its colour, size or shape
group		objects that belong together because they share the same property





Y1 Computing – Moving a Robot (Bee-Bots)

Key Concept – Programming



Essential Knowledge

What happens when a Bee-Bot follows a command?

A command tells the Bee-Bot exactly what to do. The Bee-Bot follows each command in the order it is given. Different commands make the Bee-Bot move in different ways.

How can words become instructions?

Some words tell us how to move, such as forwards, backwards, left and right. These words can be used as commands for a Bee-Bot. Clear instructions help the Bee-Bot reach the correct place.

Why does the order of commands matter?

A sequence is a set of commands placed in the correct order. If the order changes, the Bee-Bot will travel to a different place. Computers always follow instructions exactly as they are programmed.

How can we create longer sequences?

Several commands can be joined together to make a longer sequence. Turn and move commands work together to help the Bee-Bot follow different routes. Careful planning helps the Bee-Bot reach its destination.

How can we check that a program works?

A program should be tested to see if it gives the expected result. If something goes wrong, the commands can be changed to fix the mistake. Finding and fixing mistakes is called debugging.

Which solutions could be correct for the same problem?

The same problem can sometimes be solved in different ways. Different sequences of commands can help the Bee-Bot reach the same destination. Programmers compare solutions to find the most suitable one.

Key Vocabulary

algorithm



a set of instructions that a computer follows

debug



fixing a problem in the instructions

code



the instructions you can program into the device

improve



a way to make a sequence of code better – maybe by reducing the number of steps needed

Aspirational Knowledge

Programs are made from clear instructions that computers and robots follow exactly. Learning how to sequence commands helps us understand how technology solves problems and carries out tasks.





Y1 Computing – Moving a Robot (Bee-Bots)

Key Concept – Programming



Key Knowledge

What happens when a Bee-Bot follows a command?

A command tells the Bee-Bot what to do. The Bee-Bot follows the command and moves. Different commands make the Bee-Bot move in different ways.

How can words become instructions?

Words like forwards, backwards, left and right can be instructions. These instructions tell the Bee-Bot where to go. Clear instructions help the Bee-Bot move to the right place.

Why is the order of instructions important?

The Bee-Bot follows instructions in order. If we change the order, the Bee-Bot will go somewhere different. The Bee-Bot does exactly what we tell it to do.

How can we make a longer set of instructions?

We can put lots of instructions together. We can use move and turn commands to make a route. Planning our instructions helps the Bee-Bot reach the place we want.

How can we check if our Bee-Bot instructions work?

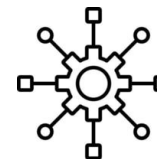
We can test our instructions to see if the Bee-Bot goes to the right place. If it makes a mistake, we can change the instructions. Finding and fixing mistakes is called debugging.

Why can there be more than one correct solution?

Sometimes there is more than one way to solve a problem. Different sets of instructions can help the Bee-Bot reach the same place. We can compare solutions and choose the one we like best.

Key Vocabulary

algorithm



a set of instructions that a computer follows

debug



fixing a problem in the instructions

code



the instructions you can program into the device

improve



a way to make a sequence of code better – maybe by reducing the number of steps needed





Y1 Computing – Programming Animations

Key Concept – Programming



Essential Knowledge

How do commands help us control a sprite?

Commands tell a sprite what to do. We can choose different commands to make a sprite move left, right, up or down.

Why do we join blocks together in a program?

We join blocks together to make a sequence of commands. A program can use more than one block to tell a sprite what to do.

What happens when we change a number in a block?

Changing a number in a block changes what the sprite does. These numbers are called values. When we change the value, we can make a sprite move further, turn more or grow bigger.

How can we control more than one sprite in a project?

Each sprite has its own set of instructions. We can add new sprites, remove sprites, and make a different program for each one. This helps the sprites move and do different things.

How do programmers plan a project before they start coding?

Programmers plan what they want to make before they start. They choose a background and sprites and decide what the sprites will do. Then they make the code for each sprite. Planning helps them make their project more easily.

How can we use an algorithm to create and improve a program?

An algorithm helps us create a program. After creating the program, we test it to check whether it does what we want. If it does not work correctly, we can make changes and improve it.

Key Vocabulary

sprite



is a character or object on the screen that you can make move

command



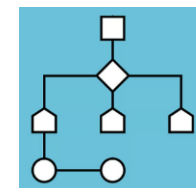
is a sentence that tell someone to do something

block



a picture button that gives an instruction

algorithm



is a set of instructions that helps us plan a program

Aspirational Knowledge

Animation experts think carefully about how to make their projects work. They use commands to control sprites. They plan their ideas, test their programs. They use coding to create animations, games and stories that bring their ideas to life.

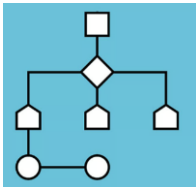


Y1 Computing – Programming Animations

Key Concept – Programming



Key Knowledge
How do commands help us control a sprite? A command tells a sprite what to do. Commands can make a sprite move.
Why do we join blocks together in a program? We join blocks together to make a program. The sprite follows the blocks in order.
What happens when we change a number in a block? Some blocks have numbers. Changing the number changes what the sprite does.
How can we control more than one sprite in a project? A project can have more than one sprite. Each sprite can have its own program.
How do people plan a project before they start coding? They plan before they start. They choose sprites, backgrounds, and what will happen.
How can we use an algorithm to make a program better? An algorithm is a plan. We use it to make a program, test it and make it better.

Key Vocabulary		
sprite		a character or object on the screen that you can make move
command		a sentence that tell someone to do something
block		a picture button that gives an instruction
algorithm		a set of instructions that helps us plan a program





Y1 Computing – Technology Around Us

Key Concept – Networks



Essential Knowledge

What is technology and how does it help us?

Technology helps people in many ways at home, at school and in the community. Computers, tablets and other digital devices are all examples of technology.

What are the main parts of a computer?

A computer has different parts that work together. The screen shows information, the keyboard is used for typing and the mouse helps us control what happens on the screen. Each part has a different purpose.

How does a mouse help us use a computer?

A mouse controls the pointer on the screen. Clicking and dragging allow us to open programs, move objects and create pictures. Different mouse actions help us complete different tasks.

Why do we use a keyboard?

A keyboard is used to type letters, numbers and symbols. It helps us write words and create digital work. Saving our work means we can use it again later.

How can we change text on a computer?

Text can be edited after it has been typed. The cursor shows where changes will be made and the backspace key removes letters. Digital writing is easy to improve without starting again.

How can we use technology safely and responsibly?

Technology should be used carefully to keep ourselves and others safe. Simple rules help protect our health, our personal information and our equipment. Using technology responsibly helps everyone enjoy using digital devices.

Key Vocabulary

	technology	something that helps us do a job or solve a problem
	computer	a machine that can follow instructions and help us do different tasks
	cursor	the flashing line, arrow or finger that shows where typing will appear
	click	pressing a mouse button once

Aspirational Knowledge

Technology can connect people around the world and help us learn, communicate and share information safely. Different devices, such as tablets, laptops and smart speakers, can perform different jobs and work together using the internet.



Y1 Computing – Technology Around Us

Key Concept – Networks



Key Knowledge

What is technology and how does it help us?

Technology helps people at home and at school. Computers, tablets and other digital devices are types of technology. They help us learn, work and communicate with others.

What are the main parts of a computer?

A computer has different parts that work together. The screen shows information, the keyboard is used for typing and the mouse helps us control what happens on the screen. Each part has its own job.

How does a mouse help us use a computer?

A mouse helps us move the pointer on the screen. We can click, double-click and drag to open programs, move objects and create work. Different mouse actions help us do different tasks.

Why do we use a keyboard?

A keyboard is used to type letters, numbers and symbols. It helps us write words and create digital work. We can save our work so that we can find and use it again later.

How can we change text on a computer?

Text can be changed after it has been typed. The cursor shows where we are working, and the backspace key removes letters. This makes it easy to fix mistakes and improve our work.

How can we use technology safely and responsibly?

We should use technology safely and responsibly. We can follow simple rules to protect ourselves, our personal information and our equipment. Using technology carefully helps everyone stay safe and enjoy using digital devices.

Key Vocabulary

	technology	something that helps us do a job or solve a problem
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