



Y2 Computing – Digital Music

Key Concept – Creating Media and Effective Use of Tools



Essential Knowledge

How can music make us feel?

Different pieces of music can sound different and create different feelings. Music can be described using adjectives, such as loud, quiet, gentle or strong. People may like different pieces of music for different reasons.

How are patterns used in music?

Music is made using patterns called rhythms. A pulse is a steady beat. A rhythm is a pattern of long and short sounds. Rhythm patterns can be created and played using instruments or computers.

How can a computer be used to explore and create sounds?

Sounds can be linked to images, ideas and feelings. Computers can be used to experiment with pitch by changing sounds in different ways. Different sounds and pieces of music can represent objects, places or ideas.

How can a computer be used to create musical patterns?

Music is made from a sequence of notes. Computers can be used to create and change musical patterns by adding or removing notes, choosing different instruments and changing the tempo. Musical patterns can be improved by listening and testing them.

How can music be created for a purpose?

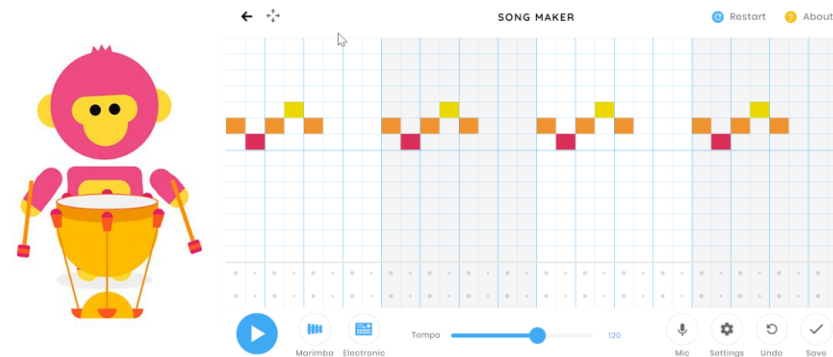
Music can be created to represent ideas, objects or animals. Rhythms and sequences of notes can be chosen to match an animal's movements or characteristics. Computers can be used to create, play and change musical patterns for a specific purpose.

How can we improve digital music?

Digital music can be reviewed, edited and improved on a computer. Listening back to music helps identify changes that could make it better. Musicians can explain how they refined their work and describe how different pieces of music make them feel.

Key Vocabulary

rhythm	a repeated pattern of sounds
beat	the steady pulse in music
pitch	how high or low a sound is
tempo	how fast or slow music is played
create	to make something new using a computer or device



Aspirational Knowledge

Digital music is created by combining sounds, rhythms and notes. Computers can be used to experiment with music, create patterns, represent ideas and improve musical compositions through reviewing and editing.



Y2 Computing – Digital Music

Key Concept – Creating Media and Effective Use of Tools



Key Knowledge

How can music make us feel?

Music can make us feel happy, sad, calm or excited. Music can be **loud** or **quiet**. Different people may like different music.

How do we use patterns in music?

Music has patterns. A **pulse** is a steady beat. A **rhythm** is a pattern of sounds. We can make rhythms with instruments or a computer.

How can we use a computer to make sounds?

A computer can make different sounds. Sounds can match pictures, places or feelings. We can change sounds to make them higher or lower.

How can we use a computer to make music?

Music is made from notes. We can use a computer to add, change or remove notes. We can listen to our music and make it better.

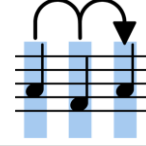
How can we make music for a reason?

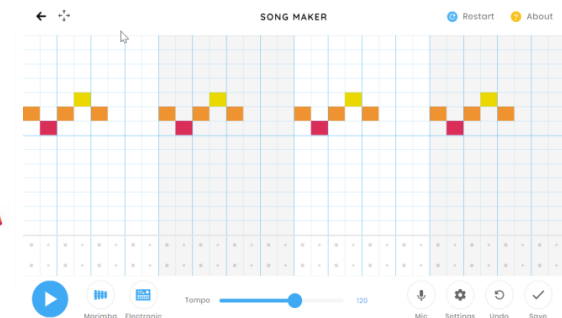
We can make music to match an animal, object or idea. We can choose sounds and rhythms that fit. A computer can help us create and change the music.

How can we make our digital music better?

We can listen to our music again. We can change parts we do not like. We can explain how our music makes us feel.

Key Vocabulary

loud		music with a big sound
quiet		music with a soft sound
beat		the steady pulse in music
rhythm		a pattern of sounds
create		to make something





Y2 Computing – Digital Photography

Key Concept – Creating Media



<u>Essential Knowledge</u>
How can we use a digital device to take a photograph? Cameras, tablets and phones can be used to take digital photographs. Careful choices help us take good photos.
What is the difference between portrait and landscape? Good photographs can be taken in portrait or landscape format. Choosing the best format helps show the picture clearly.
What makes a good photograph? Photographs can sometimes be improved by taking them again. Looking at a photo helps us spot what could be better and take a clearer picture.
Why are light and focus important when taking a photo? Light affects how clear a photograph looks. Using different light sources can change a picture, and poor lighting can make a photo unclear.
How can I 'adjust' my photo? Images can be changed using editing tools. Different tools can create different effects, helping to improve a picture or make it look the way you want.
How can I tell if a photo has been changed? Photos can be changed using editing tools. Some photos are real and some have been edited to look different.

<u>Key Vocabulary</u>	
image	a digital picture that is stored on a computer, tablet or phone
landscape	a way of taking a photo or viewing an image where it is wider than it is tall
portrait	a way of taking a photo or viewing an image where it is taller than it is wide
editing	making changes to a picture, such as changing the colour, brightness or size
focus	a photo is in focus when the main thing in the picture is clear and easy to see



<u>Aspirational Knowledge</u>
Digital devices can be used to take, improve and change photographs.



Y2 Computing – Digital Photography

Key Concept – Creating Media



<u>Key Knowledge</u>
How do we take a photo? Cameras, tablets and phones can take photos.
What are portrait and landscape? A portrait photo is tall. A landscape photo is wide.
How do we take a good photo? We can look at a photo and take it again if it is not clear.
Why are light and focus important? Good light helps us see the picture clearly. A photo can look blurry if it is out of focus.
How can I change a photo? Editing tools can change how a photo looks.
How can I tell if a photo has been changed? Some photos have been changed with editing tools.

<u>Key Vocabulary</u>		
image		a picture that can be seen on a computer, tablet, or phone
editing		changing a picture to make it look different or better
landscape		a picture that is wide across the screen, like a television
portrait		a picture that is tall, like a door



Y2 Computing – Pictograms

Key Concept – Data and Information



Essential Knowledge

Why do we count and compare data?

Tally charts can be used to count and record data. The totals can be compared to find which group has more or fewer objects.

What is a pictogram?

Pictograms use pictures to show data. They help us answer questions about information.

How do I create a pictogram?

A pictogram uses pictures to show data. It can be made from a tally chart and helps us understand information quickly.

What is an attribute?

Objects can be sorted by their features, called attributes. Pictograms can be used to compare data and answer questions about which groups have more, fewer, the most or the least.

How do we compare people using attributes?

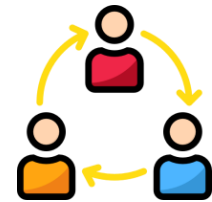
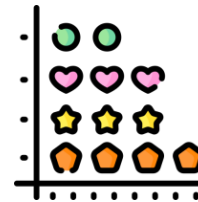
People can be described by their features, called attributes. Data about people can be collected and shown in a pictogram to help compare information and answer questions.

How can I present and share information using a computer?

Computers can present information in different ways. Information can be shared using a computer, and some information should be kept private and not shared with others.

Key Vocabulary

organise	to sort things into groups
data	information that we collect and use to answer questions
pictogram	a chart that uses pictures to show data
compare	to look at two or more things to see how they are the same or different
sharing	showing or giving information to other people



Aspirational Knowledge

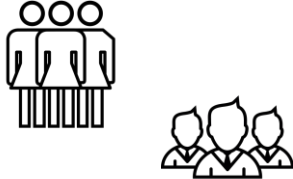
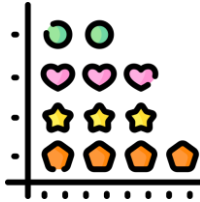
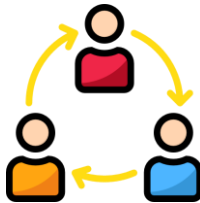
Data helps us answer questions and make decisions. Pictograms and charts help us understand information quickly and compare people, objects and groups. Computers can also help us present and share information clearly.



Y2 Computing – Pictograms

Key Concept – Data and Information



<u>Key Knowledge</u>		<u>Key Vocabulary</u>		
Why do we count and compare data? Tally charts help us count things. We can compare groups to see which has more or fewer.		organise		put things into groups
What is a pictogram? A pictogram is a chart that uses pictures to show information.		pictogram		a chart using pictures
How do I create a pictogram? A pictogram can be made from a tally chart. It helps us understand information easily.		compare		what is the same or different
What is an attribute? An attribute is something about an object, like its colour, shape or size. We can sort objects by their attributes.		share		showing information to other people
How do we compare people using attributes? People can be sorted by things like hair colour, eye colour or favourite fruit. We can show this information in a pictogram.				
How can I present and share information using a computer? Computers can show information in different ways. We can share information, but some information should stay private.				



Y2 Computing – Programming Quizzes

Key Concept – Design & Development and Programming



Essential Knowledge

How do we start a program in ScratchJr?

A sequence is a set of instructions that has a start. In ScratchJr, every program needs a start block. We can run a program by pressing the green flag.

What happens when we run a program?

An outcome is what happens when a sequence of commands is run. We can predict what a program will do, match programs that have the same outcome and change commands to create a different outcome.

How can we use a design to create a program?

A design can help us plan a program. We can look at an algorithm, choose the correct blocks, and put them in the right order to create a sequence that matches the design.

How can we change a design to make our own quiz?

We can change a design by choosing new backgrounds and characters. We can then use our design to create a program that works as a quiz in ScratchJr.

How can we create a program from our own idea?

We can create our own quiz by choosing images, backgrounds and characters. We can make an algorithm to plan what will happen and build sequences of blocks to match our design.

How can we improve our program?

We can compare our project to our design to check if everything matches. We can improve our project by adding new features and debugging mistakes to make the program work correctly.

Key Vocabulary

program	instructions that tell a computer what to do
sequence	the correct order of steps
sprite	a character you control in ScratchJr
predict	make a good guess about what will happen
debug	find and fix mistakes in your code
algorithm	a set of step-by-step instructions to solve a problem or complete a task



Aspirational Knowledge

Programs are created using algorithms and sequences of commands that have a start and an outcome. Different commands can be combined to create interactive quizzes and animations. Programs can be tested, improved and debugged to make sure they work as intended.

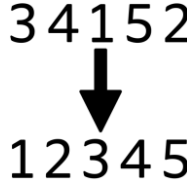
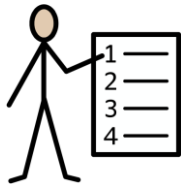


Y2 Computing – Programming Quizzes

Key Concept – Design & Development and Programming



<u>Key Knowledge</u>
How do we start a program? A program tells a character what to do. Every program needs a start block . We press the green flag to start the program.
What happens when we run a program? When we run a program, something happens. This is called the outcome . We can think about what will happen and change blocks to make something different happen.
How can we use a plan to make a program? A plan helps us know what to do. We choose the right blocks and put them in the correct order. This helps us make our program work.
How can we change a plan to make our own quiz? We can choose different backgrounds and characters. We can change the plan to make our own quiz in ScratchJr.
How can we make a program from our own idea? We can choose pictures, backgrounds and characters. We can make a simple plan and use blocks to build our program.
How can we make our program better? We can check if our program matches our plan. We can fix mistakes and add new ideas to make it work better.

<u>Key Vocabulary</u>		
sprite		a character you can make move and do things in ScratchJr
program		instructions that tell a computer what to do
sequence		the order that steps happen in
start		the block that begins a program
algorithm		a set of step-by-step instructions to complete a task



Y2 Computing – Robot Algorithms

Key Concept – Algorithms and Design & Development



Essential Knowledge

How do I give instructions to others?

Instructions need to be given in the correct order to make a sequence. Clear instructions help people follow and complete a task successfully.

What happens when we change the order of instructions?

Changing the order of instructions changes the outcome. The same instructions can make different sequences.

How do I make sensible predictions?

A sequence is a set of instructions in order. We can predict what will happen when we follow a sequence and check if our prediction is correct.

How do I design route for a floor robot?

Programming projects can include code and pictures. Routes can be planned and tested to make sure they work.

How do I make my floor robot move?

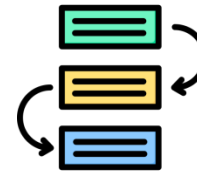
I can use an algorithm. An algorithm is a set of instructions to achieve a goal. It can be used to create a program.

How do I break down an algorithm into chunks?

Programs can be tested to find and fix mistakes. Different algorithms can be combined to create a complete program that works correctly.

Key Vocabulary

instruction	a command that tells something what to do
sequence	a set of instructions in the correct order
algorithm	a set of instructions that tells a computer or robot what to do
program	a set of instructions that a computer or robot can follow
route	the way a robot moves from one place to another



Aspirational Knowledge

Programming helps us control computers and robots. We use careful instructions, called algorithms, to help them do the right thing and solve problems. Programmers create, test and improve programs to make sure they work correctly.

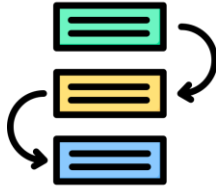


Y2 Computing – Robot Algorithms

Key Concept – Algorithms and Design & Development



<u>Key Knowledge</u>
How do I give instructions to others? Instructions are steps that tell someone what to do. They need to be in the right order.
What happens if we change the order? Changing the order of instructions changes what happens.
How do I make a prediction? A sequence is a set of instructions in order. We can guess what will happen before we try it.
How do I make a route for a floor robot? We can plan and test routes to make sure they work.
How do I make my floor robot move? An algorithm is a set of instructions. It tells a robot what to do.
How do I fix mistakes in a program? We can test a program to find and fix mistakes. We can join instructions together to make a program work.

<u>Key Vocabulary</u>		
instruction		a step to follow
sequence		to follow step by step in the right order
algorithm		a set of steps to follow
program		instructions that tell a computer or robot what to do



Y2 Computing – IT Around Us

Key Concept – Computing Systems and Networks



Essential Knowledge

What is information technology?

Information technology includes computers and devices that work with computers to process information. Computers can be used for many different jobs, such as creating work, storing information and communicating with others.

How is information technology used in school?

Schools use information technology in many ways to help people learn and work. Some devices are used to create work, while others help organise information or communicate with others.

Where can we find information technology beyond school?

Information technology is used in many places, including homes, shops, libraries and hospitals. Different types of IT help people complete everyday tasks, such as buying food, borrowing books and communicating with others.

Where can we find information technology?

Information technology is used in many places, including homes, shops, libraries and hospitals. Different workplaces use different types of IT to help people complete everyday tasks.

How can we use information technology safely?

Different types of IT have different rules to help keep people safe. These rules protect people, equipment and information.

Why do we use information technology in different ways?

People choose different types of IT depending on the task they need to complete. The same device can often be used for many different activities.

Key Vocabulary

information technology (IT)

digital devices and systems that help people create, store or share information

device

a piece of technology used for a particular purpose

barcode scanner

a device that reads barcodes to identify products

responsible

using technology safely and making good choices

purpose

the reason something is used



Aspirational Knowledge

Information technology improves the way people live, learn and work every day. Understanding how and why we use IT helps us become confident, responsible users of technology.



Y2 Computing – IT Around Us

Key Concept – Computing Systems and Networks



Key Knowledge

What is IT?

Information technology includes computers and devices that work with computers to process information. Computers can be used for many different jobs.

How is IT used in school?

Schools use IT in many ways to help people learn and work. Some devices are used to create work, while others help organise information or communicate with others.

Where else find IT?

IT is used in many places, including homes, shops, libraries and hospitals. Different types of IT help people complete everyday tasks.

Where can we find IT?

Information technology is used in many places, including homes, shops, libraries and hospitals. Different workplaces use different types of IT to help people complete everyday tasks.

How can we use IT safely?

Different types of IT have different rules to help keep people safe. These rules protect people, equipment and information.

Why do we use IT in different ways?

People choose different types of IT depending on the task they need to complete. The same device can often be used for many different activities.

Key Vocabulary

information technology (IT)



things like computers and tablets that help us make, keep and share information

device



a piece of technology that does a special job

barcode scanner



a device that scans barcodes on products

responsible



being safe and making good choices when using technology