Digital Musical Creation Knowledge Organiser

❓ What are we learning about digital music creation?

A lot of music is now created using a computer so it is important to understand how this is done and why musicians use computers sometimes instead of really instruments (computers can make it quicker to make music and add effects). We can then have a go at it ourselves, including using programming skills of sequencing, layering, creating loops and adding variables to compose and perform our own music.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

📖 Key knowledge

1. Create ascending and descending scales.
2. Add chords evenly across the scales.
3. Add arpeggios and melodies.
4. Add a steady and even rhythm.
5. Use sampled sounds to create an effective mix.
6. Build beats, melody (tones) and effects.

🔤 Important Vocabulary

🎶 **Scales**	A scale is a sequence of notes played one after the other going up (ascending) or down (descending).
🎹 **Chords**	A group of notes played together to make one sound.
🎶 **Arpeggio**	The notes of a chord played one after the other.
Bars and beats	Music is divided into bars, to measure music and there are beats in each bar. The more beats in a bar, the quicker the music will sound (tempo). We can also adjust this using the BPM (beats per minute).
🎤 **Sampled sound**	A recorded sound that is altered, such as looping or changing the pitch (highs or low notes).
🎧 **Effects**	Change a sound by adding different effects (loops, play it backwards etc).

Digital Storyboards Knowledge Organiser

What are we learning about digital storyboards?

We can use a computer to create digital storyboards, which help us plan scenes of a film before they are recorded. A storyboard saves filmmakers time by letting them know where each character (actor) will stand in a scene and what the background scenery will be. Storyboard software has lots of a tools to help us create storyboards, including pictures and graphics we can use.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

1. Know how to add and edit backgrounds.
2. How how to add and edit characters, including changing posture, expression and clothing.
3. Know how to add narration and speech bubbles, including formatting text.
4. Know how to duplicate objects to match scenes.
5. Know how to search for objects to use.

Important Vocabulary

Panels	Panels are the scenes of the story. You can choose how many panels you want on the page. Each panel can show a different part of the story.
Backgrounds	Each panel will have a background where the scenes are set. E.g a forest, library or swimming pool (see above) etc. The software will have a pictures you can choose from to add to each panel.
Narration and speech	Text boxes can be added to each panel to describe what is happening in each scene (narration) and speech/thought bubbles can show what the characters are saying/thinking.
Format text	Change the colour, style and size of the text (letters and numbers).
Duplicate	To save time, you can make a copy of a panel and everything inside it. E.g if you want the same background and characters but want to change the speech then duplicate it.
Arrange	The software has tools to move the objects or characters around. This includes placing them in front or behind other objects. You can also *flip* (so it faces a different way) or *rotate* (turn) an object.

Digital Art Knowledge Organiser

? What are we learning about digital art?

Art often requires lots of equipment; paper, pencils, colour, paints, rubbers, rulers etc. Creating art on a computer means we can use lots of tools all on one device. We can also speed up processes, such as copying a pattern or make complicated tasks easier, such as flipping or rotating a picture. We can also use tools, such as zoom to add detail to our artwork. Digital artwork tools also allow us to undo a mistake instead of starting it all again.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

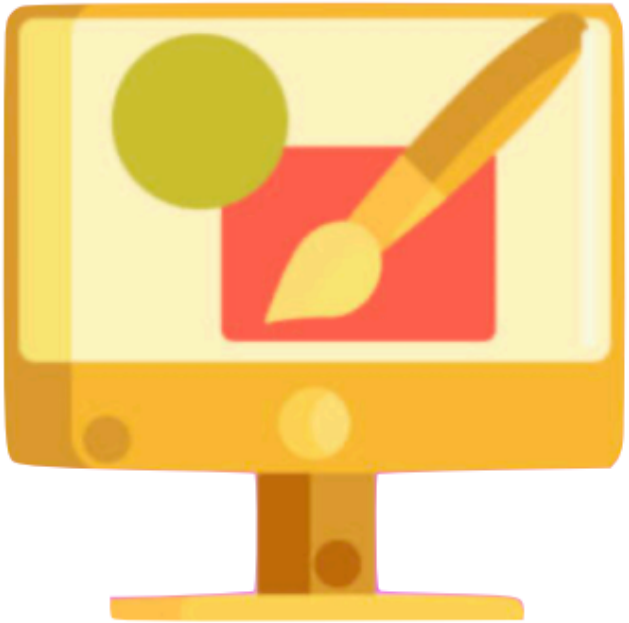
- Use various lines and fill tools plus copy/paste and rotation to create pattern effects.
- Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects.
- Use stamps, copy/paste, layers and multiple frames to create animated GIF computer graphics.

Quick tips

- Use the zoom tool to add more detail.
- Copy and paste a part of your artwork to repeat it, to save time when you have lots of the same objects.
- Use the undo/redo arrows if you make a mistake to go back and forward steps.

Important Vocabulary

Rotation	Turn an object or objects to point in a different direction.
Zoom	Move closer to the art work to add detail, such as adding small lights to a tower block or facial features to a self portrait.
Flip	Make an object face the opposite way, this can be done vertical (left to right/ right to left) or horizontally (up to down/down to up).
Symmetry	Copy an object or picture to make it the same on both sides.
Stamp	An object found in the software, such as a star, character etc, which can be added to the artwork.
GIF	An animated set of images that are played on a loop.



Digital Comic Creation Knowledge Organiser

? What are we learning about with digital comic creation?

You may have read comics in magazines, they are a fun way to tell a story. We can use a computer to make our own comics using background pictures, characters, text and stickers. Making comics on computers can be quicker than making a comic on paper because all the tools and pictures are already made.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

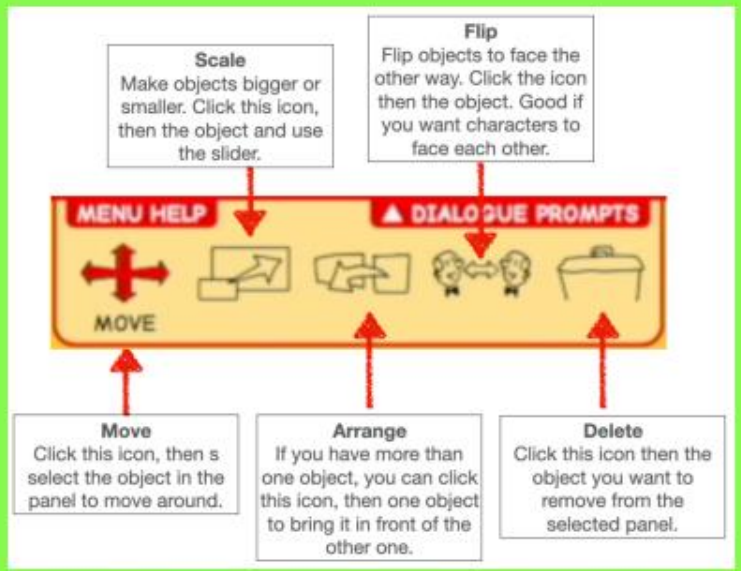
- Know the advantages of creating comics digitally (e.g speed of production)
- Know the different aspects of a comic; scenes, backgrounds, characters, narration, speech bubbles and stickers.
- Know how to add, resize and organise colour or picture backgrounds.
- Know how to add, resize, organise characters/objects to different panels.
- Know how to add narration using text and direct speech using speech bubbles.

Important Vocabulary

Panel	A comic is divided into panels, which are the scenes of the story.
Narration	Tells the story in words.
Stickers	These can be added to the panels to show effects, such as a bang or visual sound effect.
Scale	Change the size of an object.
Arrange	Put the objects in front or behind each other (e.g a character in front of background)
Flip	Turn an object, such as a character, to face the other way.

Quick tips

- Plan!! Once you understand how the tools work then plan a story so that you comic makes sense.
- To use the tools below, first select the panel you are editing then select the tool and then choose the object you want to edit.



Document Creation and Editing Knowledge Organiser

? What are we learning about document creation?

A word processor is a piece of software on a computer that can used to create a text document (writing). If you write a story or a letter in your exercise book and want to type it on a computer then a word processor is what to use. There are various word processors on different types of computers, such as Microsoft Word, Google Docs and Apple Pages. The software makes it quick to create and edit text because we can use tools such as copy & paste, find and replace words and also insert images.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

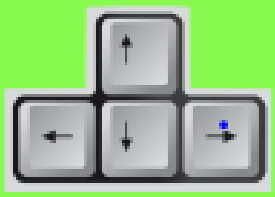
- Understand how word processing
- Know how to copy and paste text and images
- Know how to find and replace words
- Know how to format text for a purpose
- Know how to edit images inside documents
- Know how to add bullet points to make lists
- Know how experiment with keyboard shortcuts

Important Vocabulary

Word processor	A pierce of software to type and edit text.
Find and replace	A tool to automatically find a word and replace it with another. Useful when you want to replace more than one of the same word.
Format	Change the look of text, such as the colour and size.
Text wrapping	Choose how the text appears around an image.
Bullet points	Turn text into a list on different lines above and below each other with a circle at the start of each line.
Keyboard shortcuts	Combine keys together to perform an action quickly. For example Control + c keys to copy a piece of text.

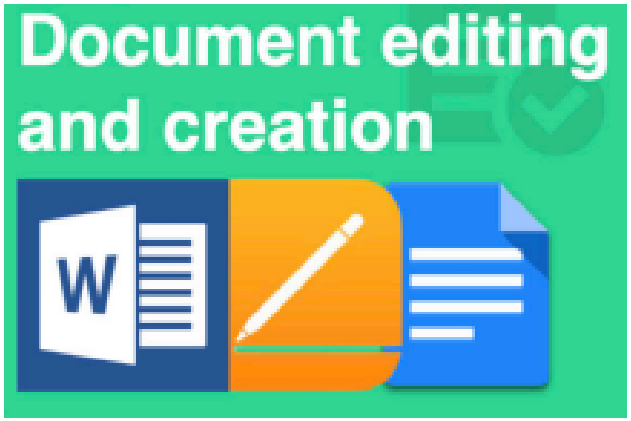
Quick tips

- If you have a physical keyboard, use the arrows keys to move the cursor around the text.
- Use the undo tool if you make a mistake (Edit>undo).



- On a Windows computer or Chromebook, try selecting some text and experimenting with the keyboard shortcuts below.

Apply bold formatting =Ctrl+B
Apply underline formatting = Ctrl+U
Apply italics formatting = Ctrl+I



E-safety Knowledge Organiser (Ages 7-9)

❓ What are we learning about e-safety?

The internet can be amazing, helping us learn, play games and speak to other people. We need to make sure we are safe from people upsetting us and also understanding the dangers of sharing our personal information, such as our address, online.

National Curriculum Content

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

📖 Key knowledge

1. Understand what to do if something upsets you online.
2. Understand why and how people can be nasty online.
3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.
4. Understand why people pretend to be someone else online.
5. Understand why we only talk to people we know in the real world, when online.
6. Understand why we should not always trust what we read online and how to check
7. Understand the importance of being kind in the real world and also online.

🔤 Important Vocabulary

🏠 **Personal information**	This is information about us, including our name, address, telephone number or passwords. We need to make sure that we do not put this information on the internet for people we do not know to see as we would not do this in the real world. For example, if we are playing an online game then do not use your real name, use something else.
📮 **Sharing**	The internet allows us to post photos and videos online for others to see, this is called sharing. We do not want people we don't know to see personal photos of videos of us or our friends and family so we have to check with a grown up we trust before sharing them online. We would not give a photo of ourselves to a stranger in the real world so we do not do it online either.
🗝️ **Permission**	If we have taken a photo of video of someone else then we need to ask their permission before posting it online as they may not want others to see it.
🗣️ **Report**	If we see something online that upsets us or we think is wrong then we need to tell an adult we trust, such as a parent or teacher.
👍 **Trust**	Not everything that we see on the internet is correct and should be trusted. Always check the information with other websites or an adult we trust. People online can also pretend to be someone else so we need to be careful who we are talking to and only speak to people we know in the real world.
😊 **Respect**	When we are talking to people online then we need to make sure we being kind and respectful, treating people as we would want to be treated ourselves. If someone is not being kind then speak to an adult you trust.

Year 3 Programming in Scratch
Knowledge Organiser

? What are we learning about programming in Scratch?

Scratch is a piece of software that helps us program games, quizzes, drawings and much more. It uses code blocks that are different colours with different uses to piece together like a jigsaw to program an object (sprite) to move and interact. Scratch helps us take a big complex task, such as programming a character to draw a square, and break it up into smaller parts (decompose) to make is easier to understand.

National Curriculum Content

Design, write and debug programs that accomplish specific goal, including simulating physical systems. Use sequence and repetition in programs; work with various forms of input.

Key knowledge

- Know that code blocks in Scratch are different colours to help you find the blocks you need.
- Know that code blocks can be used to draw shapes by programming a pen trail and movements.
- Know that a repetition can be used to a make a program simpler.
- Know how to program an input, such as keyboard arrow keys to make a sprite move.
- Know how to find errors in a program and correct them.

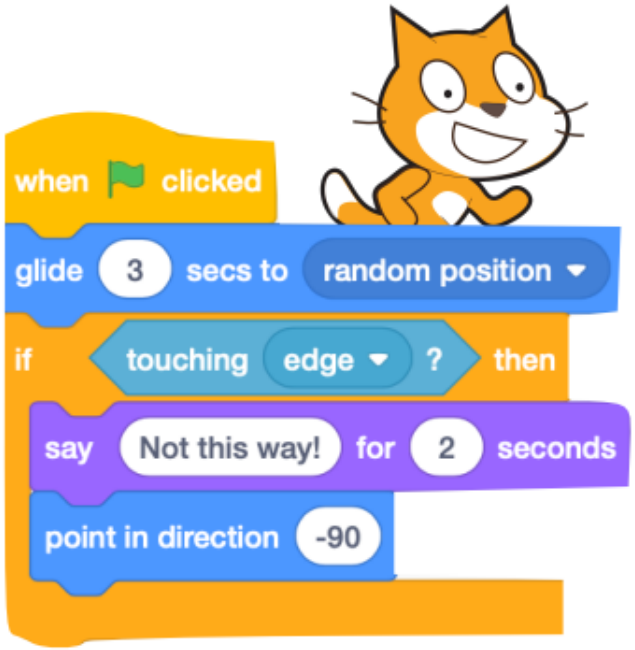
Important Vocabulary

Sprite	The object that we program, such as character or car to move, draw etc.
Stage	The background or scene where the program takes place.
Sequence	Place the code blocks in the correct order (sequence) to make the program work.
Debug	Find an error in your code and correct it.
Loops or repetition	Using a loop or repetition in your program can make your program simpler by using few blocks. It can also make an object follow an instruction more than once. For example, programming a robot to draw a circle 3 times.
Inputs	An example of an input is the keyboard arrow keys, which could be programmed to move a sprite.

Quick tips

- Click or tap a sprite to see how it works with your sprite before you use it in your program.

- Click or tap the erase all block (found in the extensions) to clear any drawings you have programmed.



Infographics Knowledge Organiser

What are we learning about infographics?

We can use a computer to teach and share important information. For example, in a swimming pool you may see rules about how to stay safe or at the beach in the summer (see example below). This type of information is sometimes presented as infographics. We can create infographics on a computer using text and graphics (pictures) that help the person reading it to understand better and remember it. This is because the graphics show what the text is saying, such as the graphics of the umbrella, sunscreen, water bottle and sunglasses on the 'Stay Safe This Summer' infographic below. If it was just text then it would not stand out as well and be as memorable.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

1. Understand what an infographic is and why we use them.
2. Search for and add suitable graphic elements.
3. Add and format suitable titles and text.
4. Label a graphic using arrows.

Important Vocabulary

Infographics	Share information such as facts and rules with pictures (graphics) and text to make the information easier to remember and understand.
Graphic elements	Graphics are symbols or pictures to represent something else, they are not photos. You can see a graphic of an organiser in the top right of the page. It not a photo of a real organiser but a cartoon-like version of one.
Text	Text (words and numbers) can be put next to the graphics to describe something, such as rule or what a chart shows.

3D Design Knowledge Organiser

? What are we learning about 3D Design?

3D design is used in many ways to design 3D objects, including buildings, furniture and transport. 3D designers use CAD software (Computer Aided Design), which allows them to view 3D objects on a 2D screen by moving around the objects 360 degree. The software includes tools to add 3D objects and resize them, zoom in and out and other options to change the appearance.

National Curriculum Content

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.

Key knowledge

- Understand and place 3D space on a grid to match another design.
- Re-create or design familiar 3D models using cubes, such as tables and chairs.
- Use chisel tool to improve and adapt models.
- Colour individual blocks or whole models.
- Apply 3D skills to your own design.

Important Vocabulary

3D	Three dimensional, to see a shape from different angles and adding depth to a 2D (2 dimensional) object.
Rotate	Turn 3D objects such as a cube to see the different faces of it and edit each face.
Zoom	Zoom in on an object to see more detail or zoom out to see more of the whole design.
Grid	The grid helps you position the 3D objects accurately and adjust their size. You can change the size of the squares in the grid if you are using small or larger shapes.
Chisel, Hammer and Trowel	The trowel builds one cube at a time and the hammer removes one cube at a time. The chisel slices cubes.
Spray	Change the colour of individual cubes.
Bucket	Fill all connected shapes with a colour.

Branching Databases Knowledge Organiser

What are we learning about branching databases?

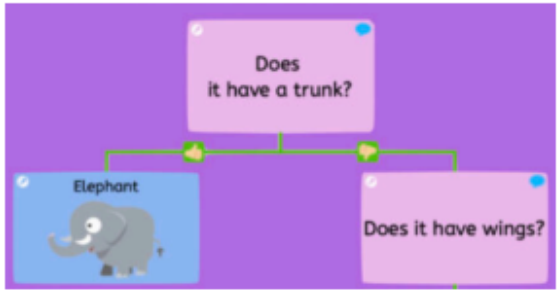
We can use a computer to sort objects, helping people to find the information they are looking for. One way to do this is by creating branching database (it is called a branching database because it looks like the branches of a tree) that people answer yes/no questions about objects, to sort them until there is only one left.

National Curriculum Content

Collect, classify and present data.

Key knowledge

1. Know how to add and label objects.
2. Know how to ask questions to sort (classify) objects correctly.



Important Vocabulary

Branching database	A database is way to organise data (information) so we can use it. A branching database divides the data into questions that look like the branches of a tree.
Data	This is the information we will use in our branching database. For example, it could be objects such as animals, food, planets etc. When you are deciding what data to use, try to choose a topic with different objects that you know about.
Sort	This means we can divide the data (objects) into the smaller parts. For example, we could start with 10 animals and use a branching databases to sort the animals into 2 groups. Then we can sort each of these 2 groups into more groups.
Classify	This is how we put the objects into categories, helping to sort them. For example, we can classify animals by those that lay eggs and those that do not.
Yes/no questions	We can sort and classify the objects by asking yes/no questions where the answer can only be yes or no. For example, does the animal have a trunk?