



Y3 Computing – Branching Databases

Key Concept – Data and Information



Essential Knowledge

What is the best way to sort different objects?

Objects can be grouped by looking at their features and similarities. Sorting helps us organise information, so it is easier to understand. Different groups can be created using different characteristics.

How do yes-or-no questions help us identify objects?

A branching database uses questions with two possible answers, such as yes or no. Each answer leads to another question until the correct object is found. Good questions help separate objects clearly.

Why do the questions in a branching database matter?

Each question should help divide objects into smaller groups. Questions that are clear and specific make the database easier to use. Poor questions can make it difficult to identify the correct object.

How can we create our own branching database?

A branching database is built by organising questions in a logical order. Every object should have one correct pathway through the database. Careful planning helps the database work successfully.

Where could branching databases be useful?

Branching databases can help identify plants, animals, materials and many other objects. They are useful whenever people need to sort information using simple choices. Different jobs use classification to organise information efficiently.

How can we improve a branching database?

Testing helps us check whether every object can be identified correctly. If questions are confusing or repeated, they can be changed to improve the database. Reviewing information helps make databases more accurate.

Aspirational Knowledge

Organising information carefully makes it easier to find answers and solve problems. Well-designed databases help people classify, search and understand information efficiently.

Key Vocabulary

questions	open questions have many ways to answer them closed questions have yes or no answers
attribute	the properties of an object e.g. colour, size, shape, material etc.
database	information about objects arranged in a certain way
branching	an upside-down tree shaped way of making a database
value	a number given to an object in a database
decision tree	a flow chart that splits the information – or data – into smaller sets

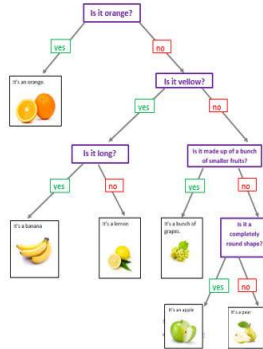


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Y3 Computing – Connecting Computers

Key Concept – Computing Systems and Networks



Essential Knowledge

How does a digital device work?

Digital devices take in information called an input, process it and produce an output. This process helps computers and other devices complete useful tasks.

What parts make up a digital device?

Input devices send information to a computer, while output devices show or play the results. A keyboard and microphone are examples of inputs, and a monitor and speaker are examples of outputs.

How do digital devices help us?

Digital devices can make some jobs quicker, easier and more accurate. They can help people create, communicate and organise information.

How do computers share information with each other?

Computers can be connected in a network to share information. Messages travel through different connections to reach the correct device.

How are computers connected?

A computer network is made up of different devices that each have an important role. A switch connects devices together, a server stores and shares information, and a wireless access point allows devices to connect without cables.

What does my school network look like?

Computer networks are found in schools, homes, businesses and many public places. Devices are connected so they can share files, printers and internet access.

Aspirational Knowledge

Computer networks allow people and devices to communicate and share information across the world. Understanding how connected systems work helps us appreciate the technology we use every day.

Key Vocabulary

digital device	an electronic device that uses computer technology to complete tasks
input	information that is sent into a computer, such as pressing a key or clicking a mouse
output	information produced by a computer, such as words, pictures or sounds
network	a group of computers and devices connected so they can share information
server	a computer that stores files and shares them with other computers on a network



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Y3 Computing – Desktop Publishing

Key Concept – Creating Media



Essential Knowledge

What makes a publication easy to read?

A clear layout helps readers find important information quickly. Titles, pictures and text should be organised carefully. Good organisation makes publications more effective.

How do different fonts create different effects?

Fonts can change the way information looks and feels. Some fonts are easier to read than others, depending on their purpose. Choosing suitable fonts helps communicate ideas clearly.

How do text and pictures work together?

Images can explain or support written information. Carefully placed pictures help readers understand the message more easily. Both text and images should work together as one design.

Which layout works best for different audiences?

Different audiences need different types of publications. The position of text, images and headings affects how people read the page. Designers choose layouts that suit the purpose.

How can changing the design improve a publication?

Editing a publication helps improve its appearance and clarity. Small changes to spacing, colours or images can make information easier to understand. Designers often review and improve their work.

How does desktop publishing help people communicate?

Desktop publishing software allows people to create professional-looking documents. Combining design and information helps share ideas effectively. Digital tools make it easier to edit and improve publications.

Aspirational Knowledge

Good design helps people communicate information clearly and effectively. Digital publishing allows ideas to be shared in creative and engaging ways.

Key Vocabulary

orientation

orientation is the positioning layout of an item (landscape/portrait)

template

a template is like a special guide or a pattern that helps you make things

cut

to remove a word, phrase or image from a document

copy

copying a piece of data or information to place it somewhere else on a document

paste

taking a word, phrase or image from one part of a document and placing it somewhere else

layout

the way that something is designed or arranged



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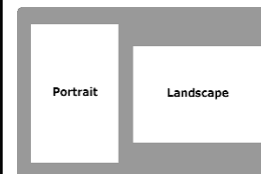
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Y3 Computing – Sequencing Sounds

Key Concept – Programming



Essential Knowledge

What are the objects in a Scratch project and what are they linked to?

A Scratch project is made from sprites, a stage and code blocks. Commands in Scratch are represented as blocks. Code blocks tell sprites what to do.

How can I create a programme following a design?

A programme is a set of instructions. We can plan what a sprite will do before we start coding. Sprites follow the commands we give them.

What is a sequence of commands?

A sequence is a set of commands in the correct order. The order of commands changes what happens. A sprite follows each command in sequence.

How can commands be put to make sounds?

Sound blocks can be added to a sequence. Different commands work together to create a programme. Changing the order of commands changes the result.

How can I change the appearance of my project?

Costumes change how a sprite looks. Backdrops change the appearance of the stage. Motion, sound and costumes can be combined in one programme.

How do you create a musical instrument in Scratch?

We can use code blocks to design an interactive project. We can test our programme and make improvements. A completed project should do what it was designed to do.

Aspirational Knowledge

Computer programs are created by combining sequences of commands to solve problems and bring ideas to life.

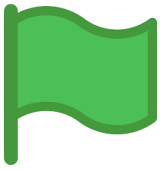
Using Scratch, we can design, test and improve interactive projects that use movement, sound and appearance to engage an audience.

Key Vocabulary

programming	when you give a computer clear instructions, so it knows how to do a job
blocks	puzzle pieces that tell the computer what to do without typing instructions out
sprite	the thing that moves in your scratch project e.g. a cat or piano key
run the code	make the computer follow the instructions you wrote
debug	find and fix the mistakes by thinking about what didn't work and changing it



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Y3 Computing – Events and Actions in Programs

Key Concept – Programming



Essential Knowledge	Aspirational Knowledge	
What is an event in a computer program? An event is something that causes a program to begin or respond. Events can include clicking the green flag, pressing a key or clicking a sprite. Programs wait for events before carrying out instructions.	Events allow computers to respond intelligently to people and other actions. Understanding how programs react to different inputs is an important step towards creating interactive digital experiences.	
How can one action make something happen? When an event happens, the computer follows the attached sequence of commands. Different events can produce different actions. This makes programs interactive.		
Why do different events create different behaviours? Each event block can control a different part of a program. Sprites can respond in unique ways depending on which event occurs. This allows programmers to create more interesting projects.		
What happens when I add more event blocks to a program? Programs can include several event blocks working together. Different events help control movement, sounds and other actions. Combining them creates more engaging programs.		
How can I improve my program? Testing helps identify mistakes or missing instructions. Changing commands and events can improve how the program behaves. Programmers often refine their work after testing.		
What have we learned about events in programming? Events make programs responsive instead of following only one fixed sequence. Combining events with clear instructions allows users to interact with digital projects. Interactive programs are used in games, animations and many everyday technologies		
Key Vocabulary		
test		try out the program to see if it works how we wanted it to
extension		a filename extension, or file extension, is a suffix to the name of a computer file
block		puzzle pieces that tell the computer what to do without typing instructions out
event		event blocks are the light-yellow blocks that sit at the top of your scripts to trigger actions



Y3 Computing – Events and Actions in Programs

Key Concept – Programming



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Key Vocabulary

test



try out the program to see if it works how we wanted it to

interactive



when something is interactive, you get to press buttons, make choices, or ask questions to change what happens

block

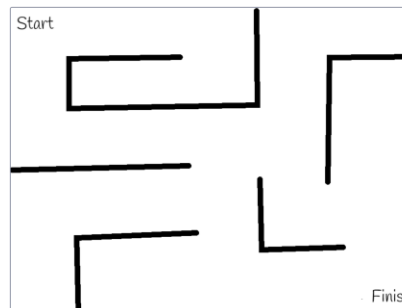


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Y3 Computing – Stop-Frame Animation

Key Concept – Creating Media



Essential Knowledge

How can a picture move?

An animation is made from a sequence of pictures or photographs. Each picture is slightly different from the one before it. When the pictures are shown quickly, they look like they are moving.

How can I make a sequence of images that will be an animation?

A stop-frame animation is created one frame at a time. Small changes between each picture make movement look smooth. The more frames there are, the smoother the animation will look.

How can I plan an animation?

A storyboard helps us plan an animation before we begin. We can plan the characters, settings and events. Good planning makes it easier to create an animation.

How can I identify the need to work consistently and carefully?

Small, careful changes between frames create smooth movement. We should check each frame as we work. Digital tools, such as onion skinning, help us keep movements consistent.

How can I review and improve an animation?

We can watch our animation to check if it works well. Feedback helps us improve our animations. Making changes can make an animation clearer and smoother.

How do I evaluate the impact of adding other media to an animation?

Music, text and sound effects can improve an animation. Other media should match the story and make it more interesting. We can evaluate how these additions affect the final animation.

Aspirational Knowledge

Onion skinning is an animation trick that lets you see faint, ghost-like images of the frames before and after the one you're working on.

Key Vocabulary

stop-frame	stop-frame is a way to make animations by taking lots of pictures of objects and putting them in a sequence
consistent	done in the same way over time
transition	is a change that moves you from one stage to the next
import	bring something in





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Key Concept – Creating Media



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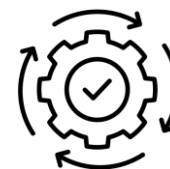
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