

VOCABULARY

Algorithm: A clear set on instructions followed in a specific order

Beebot: A small, bee like robot that can be programmed to move in different directions

Computer: An electronic device used for storing and processing data

Code: A set of instructions used for different programs

Debug: To find and remove errors from computer hardware or software.

Execute: Run a program,press go, start the algorithm or instructions

Input: data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors.

Instructions: A detailed order or directions

Output: the information produced by a computer system for the person using it typically on a screen, through speakers or on a printer, but sometimes through objects

Predict: To use your knowledge to say what you think will happen next

Program: a stored set of instructions put into the computer in a language understood by the computer that does some form of thinking and then creates an outcome

Sequence: to place programming instructions in order

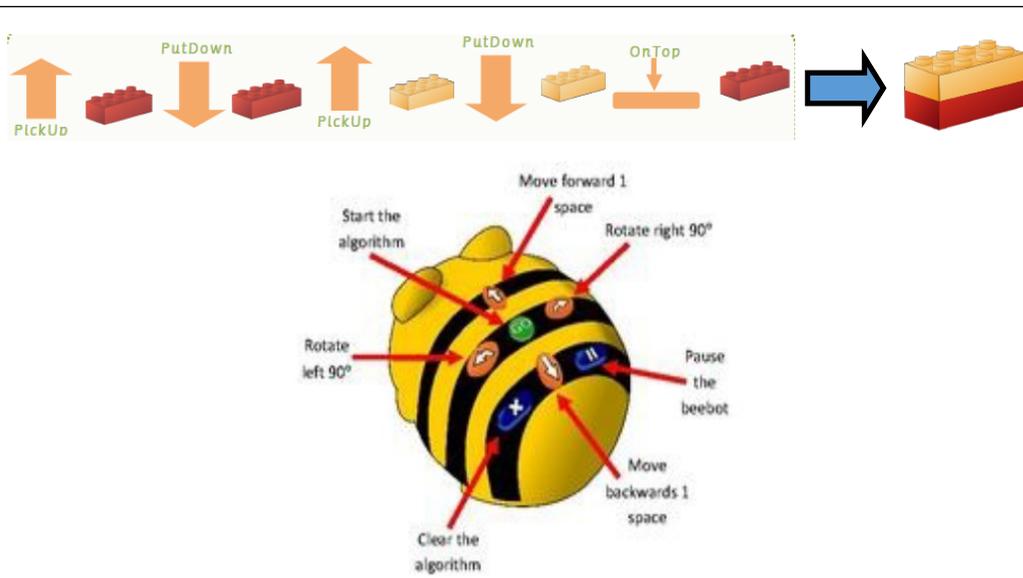


COMPUTING KNOWLEDGE MAT

YEAR 1 COMPUTER SCIENCE

MAIN IDEA

Children will be understand that to make a programme or beebot work correctly, they must give it a precise 'algorithm' that must be followed in a specific order. If an error occurs they will use logical reasoning to 'debug' the program or beebot.



WHAT CAME BEFORE

EYFS—can recognise technology around them and complete a simple programme

WHAT COMES NEXT

Year 2- —to use knowledge of programming and debugging on 'Scratch Junior' programme

WHAT YOU SHOULD ALREADY KNOW

- Recognise a range of technology at home and school.
- Can select and use technology for particular purposes
- Completes a simple program on a computer.

KEY LEARNING

An algorithm is a list of step-by-step instructions that are followed in order to get a task done. Each instruction should be very simple so that a computer can understand exactly what it needs to do. Here is an example for getting changed:



The computer will follow an algorithm precisely so you have to think very carefully about what order you input your instructions. If you input the algorithm in the wrong order, the computer will follow that order and make a mistake.

Pupils will be using lego to create an algorithm for how to build a specific structure. Pupils will need to be able to follow the algorithm and 'debug' errors that occur. They will then use these skills to program a beebot.

INVESTIGATE / QUESTIONS

- What is an algorithm?
- Why do we need to be able to debug code?

VOCABULARY

Bold: a tool that makes writing darker, thicker and stand out more

Computer: An electronic device used for

Copy: To copy or repeat the same piece of text or image

Font: The style of writing

Input: data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors.

Italic: a tool that slants the writing to the right so that it looks different. Titles of books and quotes are often written in '*italic*'

Keyboard: used to type letters and numbers on the screen

Mouse: Used to point and click on objects on screen

Output: the information produced by a computer system for the person using it typically on a screen, through speakers or on a printer, but sometimes through objects

Open: Retrieve your work that you have saved

Paste: Used with 'copy' to use the same information again

Save: Allow your creations to be stored so you can use them again

Underline: A tool that enables a section of work to be underlined to make it stand out or to make it look like a title or heading.



COMPUTING KNOWLEDGE MAT

YEAR 1 INFORMATION TECHNOLOGY

MAIN IDEA

Pupils will design their own transport poster using a program called '2Publish' Their poster will reflect what they have learnt during history lessons, either covering an important historical character or a mode of transport.

WHAT CAME BEFORE

EYFS—can recognise technology around them and complete a simple programme

WHAT COMES NEXT

Year 2— To represent data on a graph using the software '2 Calculate'



WHAT YOU SHOULD ALREADY KNOW

- Recognise a range of technology at home and school.
- Can select and use technology for particular purposes
- Completes a simple program on a computer.

KEY LEARNING

In this unit, pupils will learn the basic functions of a computer; how to switch it on, open a new document, save their work and reopen previously saved options. The aim of this unit is to create a poster on an aspect of transport from their history lessons. Pupils will have the opportunity to create their own poster and save and import appropriate images for their poster.

Pupils will need to consider the following main points when creating their poster:

-Basic Layout: Pupils will investigate how to order their work, which information should go where in order to have a meaningful poster that follows a logical order. They will also explore the alignment tool which orders the writing either to the left, centre or right and decide which to use and why

-Font: Pupils will learn about font styles including which is most suitable for a poster and make sure it is easy to read as well as eye catching

-Sizing of letters: Pupils will investigate how to use the sizing button and consider which headings and subheading need to be larger

-Colour of text: Pupils will investigate how changing the colour of text impacts on the overall view of the poster

Bold/Italic/Underlining : Pupils will begin to investigate the use of these tools and decide whether they are needed in their work

Undo/Redo: Pupils will learn how to use the undo and redo button to correct their mistakes without starting all over again

INVESTIGATE / QUESTIONS

Can I read my work?

Does it make sense?

Where can I find _____ button?

VOCABULARY

Adverts: Pop up adverts sometimes appear on screens. They should not be clicked on. Ask an adult to help you close them.

Apps: Short for application. You download apps onto your smart phone/tablet/ computer. They can be games or useful tools etc.

Avatar: A digital picture to represent someone, like a cartoon.

Log out: A button you click so that your work is locked and someone else can enter their details

Passwords: A group of letters, number and/ or symbols that are personal to you so you can access your work.

Personal Information: Information about you that you should not share with strangers e.g. full name, address, phone number

Private: Not sharing information

Username: Usually something similar to your name to identify you on the computer. Used with passwords to log in.



COMPUTING KNOWLEDGE MAT

KS1 Digital Literacy

MAIN IDEA

Children will learn about internet safety and what to do if they experience any problems. They will be taught how to log on and off a computer safely.

WHAT CAME BEFORE

EYFS– Uses ICT hardware to interact with age-appropriate computer software

WHAT COMES NEXT

Year 3 & 4– Understanding about privacy settings and sharing content online

S Stay Safe
Don't give out your personal information to people / places you don't know.

M Don't Meet Up
Meeting someone you have only been in touch with online can be dangerous. Always check with an adult you trust.

A Accepting Files
Accepting emails, files, pictures or texts from people you don't know can cause problems.

R Reliable?
Check information before you believe it. Is the person or website telling the truth?

T Tell Someone
Tell an adult if someone or something makes you feel worried or uncomfortable.

Follow these SMART tips to keep yourself safe online!

WHAT YOU SHOULD ALREADY KNOW

- Recognise a range of technology at home and school.
- Can select and use technology for particular purposes
- Completes a simple program on a computer.

KEY LEARNING

Pupils will sign up to the Brecknock Digital Agreement and discuss what it means to be a 'responsible digital citizen'

Pupils will learn about their unique usernames and passwords that they will use for a variety of websites, such as 'My maths'. They will learn about why it is important to keep their passwords safe and private. Pupils will practise logging on and off the computer and different websites independently.

Pupils will talk about what might upset them online and who to talk to about it if they see something that they are uncomfortable with.

Pupils will learn the rules for **SMART** behaviour. (See poster image)

S– Stay Safe

M– Don't Meet Up

A– Accepting files

R– Reliable

T- Tell someone

Things to remember:

Always ask an adult for help on the computer or iPad if you see something that should not be there. Online dangers include; pop up adverts, inappropriate adverts, stranger danger, unkind messages/ emails and scams.

INVESTIGATE / QUESTIONS

Tell me different ways we can stay safe on the internet? If you have a problem while using the computer or iPad, what should you do? Show me how you switch off the computer safely?