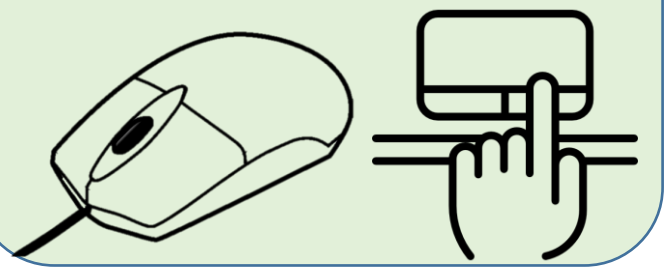
LEARNING JOURNEY

Improving mouse/trackpad skills

Autumn 1 Computing



OUTCOME: **To use computers and Chromebooks more purposefully**
To log in and navigate around a computer/Chromebook.
To know how to drag, drop, click and control a cursor using a mouse/trackpad.
To use software tools to create art on the computer/Chromebook.

Q: Can you log into a computer/ Chromebook?

We are learning to log in to a computer/ Chromebook and access a website.

I can recognise what we mean by a computer and Chromebook.
I can understand why need to log in.
I can log in and out of an account.

Q: What skills do you need to create digital artwork?

We are learning to develop mouse skills.

I can navigate a computer/Chromebook using a mouse/trackpad.
I can understand what we mean by **click** and **drag**.
I can use the fill and stamp tools in Sketchpad.

Q: Can you draw and edit shapes?

We are learning to use mouse skills to draw and edit shapes.

I can click and drag objects to change their size or position.
I can use a mouse to carefully position shapes.
I can move shapes in front of or behind each other.

Q: Can you create a scene using Sketchpad?

We are learning to draw a scene from a story using digital tools.

I can identify the key parts of a story.
I can use drag and drop to move and resize images.
I can use a variety of tools to create different effects.

Q: Can you use a trackpad skills to make a self-portrait?

We are learning to create a self-portrait using digital techniques.

I can identify different facial features.
I can use click and drag to create and layer shapes.
I can resize, move and change the order of shapes.

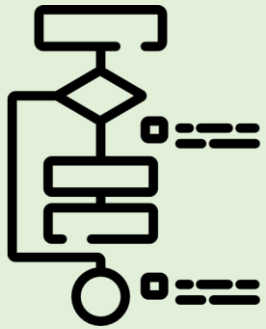
Key vocabulary:

account, click, clipart, computer, drag, drag and drop, layers, log off, log on, mouse, password, predict, resize, screen (monitor), software, tool, trackpad and username.

LEARNING JOURNEY

Programming 1: Algorithms unplugged

Autumn 2 **Computing**



OUTCOME: **To explain what an algorithm is.**
To write clear algorithms.
Follow an algorithm.
Explain what inputs and outputs are.
Create an achieve program.
Decompose a design into steps.
Identify bugs in an algorithm and how to fix them.

Q: Can you use your understanding of algorithms on a set of instructions?

We are learning to understand what an algorithm is.

I can explain that an algorithm is a set of instructions.
I can understand that these instructions sometimes need to be carried out in order.
I can understand there can be more than one way to solve a problem.

Q: Can you develop unique and specific algorithms while following instructions?

We are learning to follow instructions precisely to carry out an action.

I can explain why an algorithm must be clear and precise.
I can explain the problems a robot can have following our instructions.

Q: Do you understand how computer inputs and outputs work?

We are learning to understand that computers and devices around us use inputs and outputs.

I can identify some input devices.
I can identify some output devices.
I can identify some devices that are both input and output devices.

Q: How can you use decomposition to break down a problem into smaller steps?

We are learning to understand and be able to explain what decomposition is.

I can explain what decomposition is.
I can understand how decomposition allows you to solve a problem more easily.
I can explain how we use decomposition in our everyday lives.

Q: Can you explore debugging using maps?

We are learning to know how to debug an algorithm.

I can spot bugs in algorithms.
I can fix the error (debug it) and explain the problem it caused..

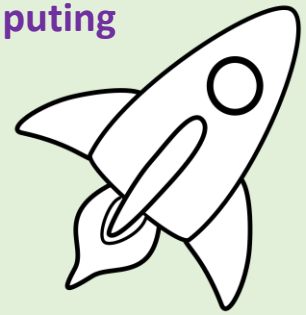
Key vocabulary:

algorithm, artificial intelligence, bug, debug, decompose, directions, input, instructions, order, output, problem and virtual assistant.

LEARNING JOURNEY

Skills showcase: Rocket to the Moon

Spring 1 Computing



OUTCOME: **To use a computer to make a list.**
To explain the benefits of making a list on the computer.
To use a basic range of tools on graphics editing software to design a rocket.
To sequence instructions.
To follow instructions to build their model rocket.
To input data about their rockets into a table or spreadsheet.

Q: Can you make a list on the computer?

We are learning to recognise the digital content can be represented in many forms.

I can use a computer to create a list.
I can identify different types of digital content (words and pictures).
I can explain how a list made on a computer can be saved and shared more easily.

Q: Can you design and label a rocket using online drawing software?

We are learning to design a rocket using a graphics editing programme.

I can open a graphics editing program.
I can create a digital image using a graphics editor.
I can save my digital image to the correct folder.

Q: How can you use sequencing to order and adapt instructions?

We are learning to sequence a set of instructions.

I can put a set of instructions in the right order.
I can identify the importance of instructions being in the right order.
I know how to build a model rocket.

Q: Can you follow instructions carefully to build rockets?

We are learning to build a rocket.

I can build a rocket according to instructions.
I can refer to my rocket design.
I can take a clear photo of my finished rocket.
I can add text to evaluate it.

Q: How do you measure and record data in a spreadsheet?

We are learning to test a design and record data.

I can measure distances accurately.
I can record data.
I can evaluate the success of my design.

Key vocabulary:

algorithm, cells, components, computer, create, data, debug, distance, evaluate, input, instructions, list, materials, measure, order, photo, program, save, sequence, share and spreadsheet.

LEARNING JOURNEY

Programming: Bee-bot

Spring 2 Computing

OUTCOME: **To recognise cause and effect when pressing buttons on a Bee-Bot.**
To discuss and demonstrate how the Bee-Bot works.
To record video, ensuring everyone is in the shot.
To give several clear instructions in sequence.
To program a Bee-Bot to reach a destination.
To identify and correct mistakes in their programming.

Q: Can you make predictions of what the bee-bot might do?

We are learning to explore a new device.

I can tinker with the buttons of a Bee-Bot to see what they do.
I can complete a cycle of predict, test and review.

Q: How do you explain how to use a bee-bot whilst considering its functions and operations?

We are learning to create a demonstration video.

I can create a video to explain how to use a Bee-Bot.
I can explain what the buttons on a Bee-Bot do.
I can show how the Bee-Bot moves when you press the different buttons.

Q: How do you create and follow instructions through roleplay in an unplugged lesson?

We are learning to plan and follow a precise set of instructions.

I can follow verbal instructions.
I can give precise instructions.
I can check that the instructions being given are correct.

Q: How do you program bee-bots with instructions to reach an exact destination?

We are learning to program a device.

I can personalise my Bee-Bot world.
I can consider how the Bee-Bot can move from one place to another.
I can plan a Bee-Bot route.
I can program a Bee-Bot to follow my planned route.

Q: Can you program a bee-bot to specific images on a mat?

We are learning to create a program that tells a story.

I can use programming to give the Bee-Bot clear instructions.
I can debug my instructions if they go wrong by identifying and correcting the mistake.

Key vocabulary:

algorithm, Bee-Bot, code, debug, demonstration, explain, explore, filming, inputting, instructions, precise, predict, program, review, test, tinker and video.

LEARNING JOURNEY

Creating Media: Digital Imagery

Summer 1 Computing

OUTCOME: **To plan a pictorial story using photographic images in sequence.**
To explain how to take clear photos.
To take photos using a device.
To edit photos by cropping, filtering and resizing.
To search for and import images from the internet.
To explain what to do if something makes them uncomfortable online.
To organise images on the page, orientating where necessary.

Q: What computational thinking skills will you use to design an individual story?

We are learning to understand and create a sequence of pictures.

I can plan my story.
I can sequence the different parts of my story.
I can explain what is happening in a pictorial story.
I can recognise the importance of sequencing.

Q: How will you take photos of small figures to tell a story?

We are learning to take clear photos.

I can adjust my position to match my character's level.
I can check the screen to see what is included in the photo.
I can press the button gently to keep everything steady.
I can ensure my area is well lit and that I move slowly.

Q: How did you transform the look of images taken with effects, filters and editing tools?

We are learning to edit photos.

I can explain that photos can be changed after they have been taken.
I can identify ways to improve my photo.
I can crop, resize and add a colour filter to my photo.

Q: Where can you find images online to add them to a photo library?

We are learning to search for and import images.

I know images can be found online.
I can think of a keyword to search with.
I know what to do if I find something uncomfortable.

Q: Do you know how to create a photo collage with text and effects?

We are learning to create a a photo collage.

I can organise photos on a page.
I can resize and change the orientation of my images.
I can add numbers to show their order.

Key vocabulary:

background, blurred, camera, clear, crop, delete, device, digital camera, download, drag and drop, edit, editing, software, filter, image, import, internet, keyword, online, photograph, resize, save as, screen, search engine, sequence, software, storage space and visual effects.

LEARNING JOURNEY

Data handling: Introduction to data

Summer 2 Computing

OUTCOME: **To represent animal-themed data in different ways, using objects and technology.**
To log in and use mouse and keyboard skills to navigate the computer.
To represent the same data as a pictogram and a table or chart.
To collect data about minibeasts using a tally chart and represent data digitally.
To click and drag objects to sort data using a branching database.
To consider the types of input used to gather different forms of data when designing an invention.

Q: Do you understand the meaning of data to answer questions?

We are learning to show data in different ways.

I know that data can be shown in different ways.
I can show data in different ways.
I can answer questions using data I have collected.

Q: Can you create a pictogram or chart to represent data?

We are learning to use technology to represent data.

I can use a mouse.
I can type using a keyboard.
I can create a pictogram that shows animal data.

Q: Can you collect data and represent it using a chart or pictogram?

We are learning to collect and record data.

I can identify different minibeasts.
I can record the number of different minibeasts I see.
I can show this data digitally.

Q: How do you create a branching database?

We are learning to sort data into a branching database.

I can identify and group different animals.
I can create questions to sort data.
I can create a branching database.

Q: What invention will you design to gather and record data?

We are learning to design an invention to gather data.

I can explain how computers understand different types of inputs.
I can plan an invention that can gather data.
I can explain how my invention works.

Key vocabulary:

bar chart, block graph, branching database, categorise, chart, click and drag, compare, count, data, data collection, data record, data representation, edit, input, keyboard, line graph, mouse, information, label, pictogram, pie chart, process, record, resize, sort, table, tally and values

LEARNING JOURNEY

Online Safety

Computing

OUTCOME: **To discuss what the internet is and how it can be used.**
To recognise that the internet may affect mood or emotions.
To recognise how internet use can affect and upset others.
To identify which information is appropriate to share and post online and which is not.

Q: Do you know sensible steps to take when you are feeling uncomfortable online?

We are learning to recognise what the internet is and how to use it safely.

I can identify when something makes me feel uncomfortable online.
I know who to go to when I need help online.
I can offer advice on how to stay safe online.

Q: Can you identify how using the internet can affect our emotions?

We are learning to identify how people's feelings and emotions can be affected by online content.

I can suggest how a character might be feeling.
I can identify a trusted adult and how they can help.
I can share advice on ways to stay happy and safe online.

Q: How can you be kind towards others online?

We are learning to recognise how to treat others, both online and in person.

I can describe how other people may feel in different situations.
I can recognise how actions on the internet can affect others.
I can identify that feelings are the same whether online or in the real world..

Q: What does digital footprint mean?

We are learning to recognise the importance of being careful when posting and sharing online.

I can identify and group different animals.
I can create questions to sort data.
I can create a branching database.

Q: How do you balance time spent in online and offline activities?

We are learning to discuss way to balance time spent online and offline.

I can name offline and online activities I enjoy.
I can identify how different activities make me feel.
I can make a plan to balance my screen time with other offline activities.

Key vocabulary:

app, appropriate, device, digital footprint, feelings, going online, in-person interactions, internet, kindness, offline activity, online activity, online experience, online interactions, online safety, personal information, pop-up, posting online, report, responsible digital citizen, screen time, sharing online, stranger, technology, trusted adult, unkind and website