

Year 1 Create Simple Programs Part 2 Knowledge Organiser

Key words and prior learning from Year 1 Simple Algorithms and Programs Part 1

Algorithm – a set of instructions written in plain English – NOT computer code, that a programmer writes to create instructions that will carry out a specific task.

Debug – find the mistake.

Program – instructions written in a language that a standard computer or device understands which is not a language a human would ever use to communicate with another human.

Physical device – something that can be touched can be touched and programmed to move around a playmat e.g. BeeBot

Route-based program – uses simple directional commands forwards, backwards, left and right to control movement.

Encode – turn instructions into code for programming.

How to make a jam sandwich

You need: Bread, Butter, Jam, Plate

1. First pick up the knife.
2. Spread the butter across the bread.
3. Next spread the jam across the butter.
4. Put the second piece of bread on top.
5. Cut the sandwich in half with the knife.
6. Place the sandwich on a plate.
7. Serve the sandwich.

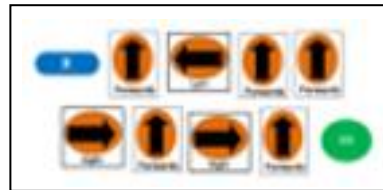
```
public class CreateObjectDemo {
    public static void main(String[] args) {
        // create a point object and two rectangle objects
        Point origin_one = new Point(23, 94);
        Rectangle rect_one = new Rectangle(origin_one, 100, 200);
        Rectangle rect_two = new Rectangle(50, 100);

        // display rect_one's width, height, and area
        System.out.println("Width of rect one: " + rect_one.width);
        System.out.println("Height of rect one: " + rect_one.height);
        System.out.println("Area of rect one: " + rect_one.area());

        // set rect_two's position
        rect_two.origin = origin_one;

        // display rect_two's position
        System.out.println("X Position of rect two: " + rect_two.origin.x);
        System.out.println("Y Position of rect two: " + rect_two.origin.y);

        // move rect_two and display its new position
        rect_two.move(40, 72);
    }
}
```



Who uses skills like these?



- Programmers that update Sat Nav systems
- Programmers that create location services and GPS systems

Key Learning	Self-Assessment		
	WT	A	WA
I understand the importance of sequence when giving instructions			
I can use logical thinking to predict the outcome of an algorithm and a route-based program for a screen turtle			
I can create a simple route-based program for a screen turtle			
I can debug my simple route-based program for a screen turtle			
I know that there is more than one way to solve a problem, but some are more efficient than others			
I can use logical thinking to evaluate my algorithm and route-based program to improve the outcome			

New key words we will use in Year 1 Create Simple Programs Part 2

Sequence – a particular order in which related things follow each other.

Programmer – a person who writes computer programs.

On-screen turtle – acts as a pen on screen that you use for drawing on a virtual canvas.

Predict – say or estimate what you think will happen or will be the consequence of something.

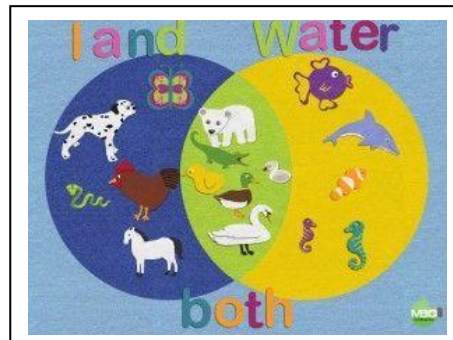
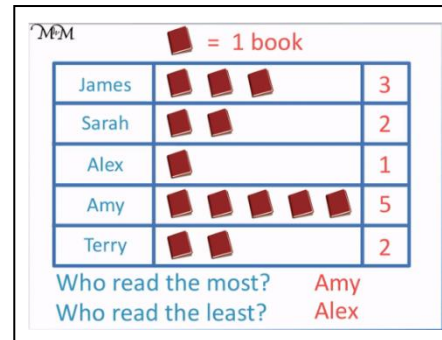
Logical thinking – use what we know and apply it to what might happen to make sense of it all.

Year 1 Gathering Data and Creating Charts – Knowledge Organiser

Key words and prior learning from Reception

Pictograms

Venn Diagrams



Who uses skills like these?



- Market researchers may use tally charts to record how popular items are with customers.
- Shop owners may display data on the items they sell to show them what item is the most popular or what time of year they make the most sales.

Key Learning	Self-Assessment		
	WT	A	WA
I can create a tally chart			
I can analyse data from a tally chart			
I can add data to a pictogram using data from a tally chart			
I can analyse data from a pictogram			
I can add data to a bar chart using data from a pictogram			
I understand about the x and y axis and how this relates to my data			
I can analyse data from a simple bar chart			

New key words we will use in Year 1 'Gathering data and creating charts'

Tally Table – a table used to record data as it is counted. It is a quick way of keeping track of numbers in groups of five. One vertical line is made for each of the first four numbers; the fifth number is represented by a diagonal line across the previous four.

Pictogram - is a chart which uses pictures to show data.

Analyse – to look at something in detail to see what we understand from it.

Chart – used to display and compare data by using rectangular bars of different heights. A bar chart has an x and y axis.

X axis – the horizontal line on a chart or graph showing values of something that has been investigated.

Y axis – the vertical line on a chart or graph that has numbers of it.

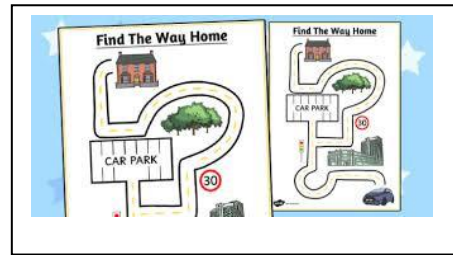
Year 1 Simple Algorithms and Programs Knowledge Organiser

Key words and prior learning from Reception

Sequencing

Following instructions

Controlling a remote-control device



Who uses skills like these?



- Programmers that update Sat Nav systems
- Programmers that create location services and GPS systems

Key Learning	Self-Assessment		
	WT	A	WA
I can explain what an algorithm is			
I can give instructions to complete a task			
I can debug an algorithm			
I can explain what a program is			
I can predict the outcome of a route-based program to control BeeBot			
I can write my own route-based program to control BeeBot			
I can debug my own route-based program to control BeeBot			

New key words we will use in Year 1 Simple Algorithms and Programs Part 1

Algorithm – a set of instructions written in plain English – NOT computer code, that a programmer writes to create instructions that will carry out a specific task.

Debug – find the mistake.

Program – instructions written in a language that a standard computer or device understands which is not a language a human would ever use to communicate with another human.

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Route-based program – uses simple directional commands forwards, backwards, left and right to control movement.

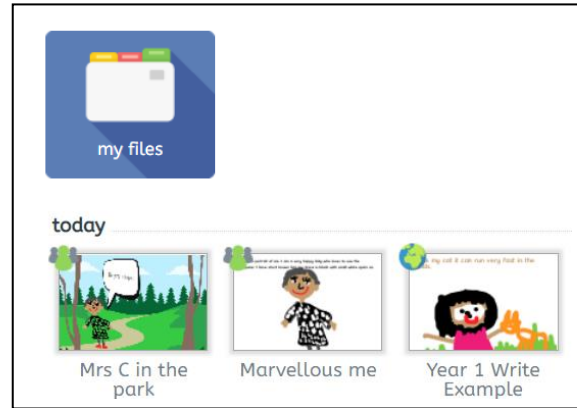
Encode – turn instructions into code for programming.

Year 1 Just Paint and Write Part 1 – All About Me Knowledge Organiser

Key words and prior learning from Reception – This is the first unit that children will use J2e.

Early Learning Goal:

Technology: children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.



Key Learning	Self-Assessment		
	WT	A	WA
I can create paint file in JIT			
I can use the Paint Tools to change colours and texture and fill			
I can save my work as a JIT file I can save my work as an Image (JPEG) I can save my drawing as a Stamp			
I can add text to a Write file			
I can edit my text			
I can add text to a speech bubble stamp			
I can save a JIT file, open it, change my work and resave it.			

Who uses skills like these?



- Digital artist use paint programs to make digital art work.
- Publishers use software to make posters with images and text.



New key words we will use in Year 1 'Just Infant Tools – All About Me'

Online Software – I know this is software on the internet which I have a username and password for.

Paint program - is software that can be used to draw pictures.

Write Program - is software that can be used to write sentences.

My Files – Online storage area in J2e where my work is saved.

Stamps – pictures I can add to an image

Text – writing on a screen is text

Year 1 Collect Photographs and Paint Pictures – Knowledge Organiser

Key words and prior learning from Reception – This is the first unit that children will use J2e.

Early Learning Goal:

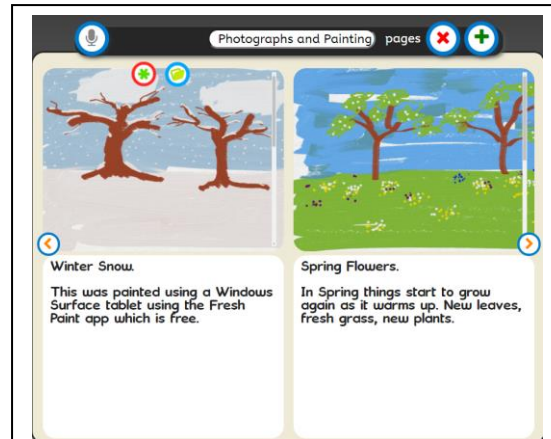
Technology: children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.



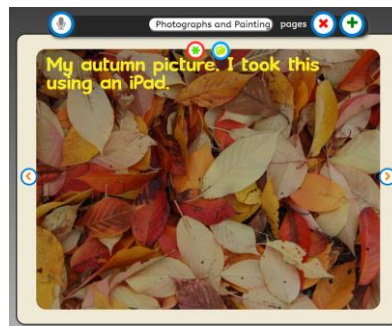
Who uses skills like these?



- Photographers
- Magazine editor - making magazine with images in that people like to buy.
- Advertisers/ promotion



Creating a gallery of artwork in Mix



Key Learning	Self-Assessment		
	WT	A	WA
I can select a photograph and write a sentence about it using JIT5 Write.			
I can take photographs and use them in J2e			
I can use photographs that my teacher has shared with me			
I can edit photographs using camera App in J2e and save them in My Files			
I can upload photographs taken in the J2e App to My Files			
I can add my Write file and Paint Files to a JIT5 Mix			
I can upload photos from the camera roll on an iPad to J2e			

New key words we will use in Year 1 'Collect Photographs and Paint Pictures'

Photo editing – changing a photograph using software

Online Art Gallery – a collection of images online

Drawing App – An App that is specifically designed to draw pictures - such as JIT Paint, Brushes Redux or Sketches School iPad Apps