Year 1 Computing Knowledge Organiser
Spring 1
Theme: Programming (Moving a Robot)

Computing

Key Knowledge and Skills

By the end of this unit children will…
be introduced to early programming concepts. Pupils will explore using individual commands, identify what each command for the floor robot does, and use that knowledge to start predicting the outcome of programs. They will then plan and debug a simple program.
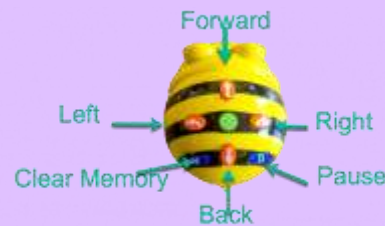
Robots and Floor Robots
Robots are machines that we can program to do human jobs. Robots help us to do things, for example to help us clean, mow and learn! Robots in factories make things, and in hospitals they help make us better.

<u>Bee-bots</u>
Bee-bots are small robots that we can use to learn all about programming! They have buttons on the top that each make the Bee-bot do something different (see picture).
-   The arrows move the Bee-bot in different <u>directions</u>.
-   The GO button makes the Bee-bot starts it's <u>program</u>.
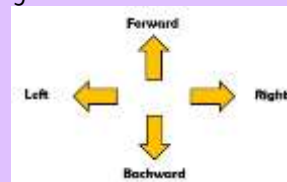
Programs
A program is a series of instructions. We can program the Bee-bot by pressing the direction buttons (in order) that we want to move in, followed by GO.
The X button makes the Bee-bot delete the program and make a new program.

Directions
In order to create clear routes for our Bee-bots, we need to be sure of our directions.
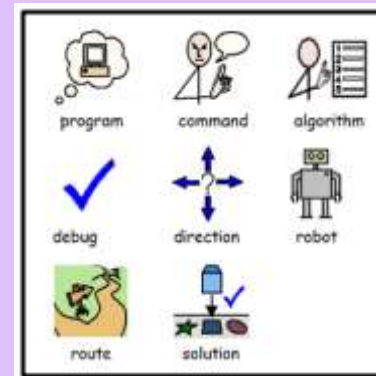Always stand behind the Bee-bot when inputting instructions.

Routes and Algorithms
A route is the course we travel to get somewhere. We use algorithms (a set of instructions) to program our floor robot to take a route to where we want it to go.
We should think carefully about how to avoid obstacles. We should also consider how many times we need to press each button to travel the correct distance.

Key Vocabulary

program – how the algorithm is run as a code on the computer
command – a single, specific instruction
algorithm – a precise set of instructions
debug – finding and fixing errors in our algorithms and programs
directions – the position to which something is moving or facing
robot – machines that we can program to do human jobs
route – the path taken to get from a start point to an end point
solution – an answer to a problem

Online Safety

Online Relationships
The internet is a great way to communicate with others – especially if we don't live near them or get to see them very often!
We need to be aware of how communicating in this way is different from talking face to face.
It is important to still be kind and considerate when talking to others online, just as we would if talking to someone offline. If someone is being unkind to someone else online, it might make them feel sad, upset or angry.
We can always talk to a trusted adult (e.g. family member, teacher) if we see someone being unkind online, or if someone is being unkind to us.