

**COMPUTING: PROGRAMMING- Moving a Robot**

KNOWLEDGE ORGANISER

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| **Overview** |  | **Buttons and Programs** |
| Image result for household robots cartoon **Moving a Robot**- **Programming** is when we make a set of instructions for computers to follow.-**Robots** are one type of machine that can follow programs. Floor robots include Bee-bots and Blue-bots.-**Floor robots** have buttons which help us to direct them. We can use algorithms (a set of instructions to perform a task) to program floor robots along routes.  |  | Image result for beebot eyes light up-**Buttons**: Bee-bots have buttons on the top. They each make the Beebot do something different (see picture).-The **arrows** move the Bee-bot in different directions. -The **GO** button makes the Bee-bot start its program. (on some models, it also pauses the Beebot in-program).-**Programs**: A program is a series of instructions. We can program the Bee-bot by pressing the direction buttons (in order) that we want it to move in, followed by GO.-The **X** **button** makes the Bee-bot delete the program and make a new program. Switching the Bee-bot off and on again also deletes the program. |
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| **Robots and Floor Robots** |  |
| -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. |  |
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| **Directions** | **Routes and Algorithms** |
|  | -In order create clear routes for our Bee-bots, we need to be sure of our directions.ForwardRightLeftBackwardMake sure that you stand behind Bee-bot. | -A **route** is the course that we travel to get somewhere. We use **algorithms** (a set of guidelines to complete a task) 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. |
| -**Bee-bots**: Bee-bots are a type of floor robot. -We can programme Bee-bots to move around.Bee-bots should only be used on the floor, and not tables etc. They can be damaged if they fall from high surfaces.  | -Turning on a Bee-bot: Before we use a Beebot, we need to make sure it is charged. To turn it on, using the switch underneath. You can tell that the Bee-bot is on because its eyes light up. Switch it back off again after you have finished using it. |  |
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**Important Vocabulary**

Bee-bot forwards backwards turn clear go commands instructions directions plan algorithm program route