

# Swans Computing Spring 1

## Programming

**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!

Key Vocabulary	Definition
<b>algorithm</b>	A set of instructions for solving a problem or completing a task.
<b>chunking</b>	Divide something into chunks.
<b>debugging</b>	The process of removing errors from a computer.
<b>design</b>	A plan produced to show the functions of an object.
<b>direction</b>	A course along which someone or something moves.
<b>error</b>	An action which is inaccurate or incorrect .
<b>obstacle</b>	A thing that blocks one's way or prevents or hinders progress.
<b>robot</b>	A machine capable of carrying out a complex series of actions automatically.
<b>route</b>	A way or course taken in getting from a starting point to a destination.
<b>programming</b>	Writing code to create software, apps, or websites
<b>sequencing</b>	Arrange in a particular order.

### Robots

Robots have a computer inside them; Robots do what we want because they follow instructions. They do not make any choices themselves.



### Algorithms

We use algorithms to help robots do things that we want them to do. It is a set of rules which are followed by computer. We can design an algorithm to help a robot move from one place to another following a specific route. When designing an algorithm it is important to carefully consider the start point and the end point that we want to robot to reach.

### Bee-Bots

A bee-bot is a small robot designed for children to learn new skills like creating algorithms, teaching sequencing, estimation, problem-solving and programming. The buttons on top are used to give the robot directions telling it which way to go.

### Errors

There are different ways which errors might occur when working with robots -

**Sequencing errors:** This is where an instruction in the sequence is wrong or is in the wrong place

**Keying errors:** Typing in the wrong code

**Logical errors:** Mistakes which are made in the planning or thinking

## *End of Unit: Programming A*

*What is an algorithm?*

.....

*Why is it important to clear a previous algorithm?*

.....

*What are the different errors that can be made when working with robots?*

1. ....

2. ....

3. ....