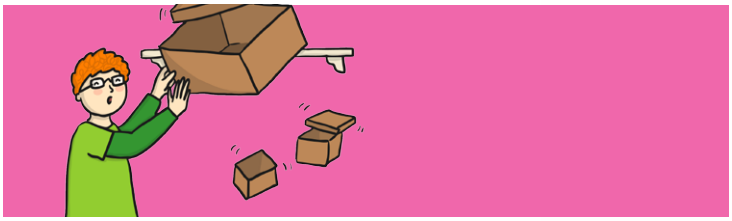
# Programming with ScratchJr

**Computing** | Year 1 | Unit Overview

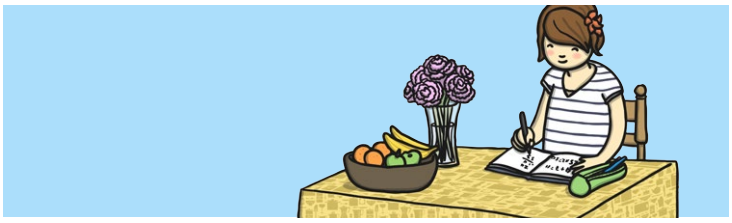
## Introduction

This unit introduces children at Key Stage 1 to the principles of coding, using the age-appropriate ScratchJr software. A more accessible version of the popular Scratch Programming and aimed at age 5-7, ScratchJr is available as a free app for Apple, Amazon and Android tablets. The platform encourages basic understanding of algorithms and how to create precise instructions for visual working programs. It begins to develop a sense of creating, debugging and logical reasoning, which are required for further programming at KS2.



### Health & Safety

Ensure rules are clear for using tablet devices.



### Home Learning

**Task 1 ScratchJr at Home:** An open-ended activity, directed at parents or carers, encouraging them to download the free ScratchJr app and work with their child to explore and get creative!

**Task 2 Theatre Performance:** The ScratchJr app is not required at home for this task. Children are shown an image of the theatre background from ScratchJr. Their challenge is to use words, pictures or even ScratchJr blocks to plan what could happen on stage, deciding on characters and actions.

### Weblinks

ScratchJr homepage

## Assessment Statements

By the end of this unit...

**...all children should be able to:**

- open the ScratchJr app and start a new project;
- add new characters and backgrounds;
- use blocks for movement in different directions;
- create short sets of sequenced instructions.

**...most children will be able to:**

- use different end blocks, including repeat forever;
- change the size of characters to grow or shrink;
- hide and show characters with an instruction block;
- program two or more characters with instructions at the same time.

**...some children will be able to:**

- use a repeat block for a section of instructions and specified number of times;
- predict the behaviour of a character, based on a sequence of instructions;
- edit the colours and other features of characters or sprites;
- create longer sequences of more complex instructions.

**To look at all the resources in the ScratchJr unit click here.**

**To find out more about PlanIt download our free guide here.**

# Lesson Breakdown

## Resources

### 1. Cool Characters

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.


### 2. Grow and Shrink

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language. TCH 1-15a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.


### 3. Time to Move

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language. TCH 1-15a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.


### 4. Repeat

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language. TCH 1-15a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.


### 5. Sounds

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language. TCH 1-15a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.


### 6. Sequencing

I understand the instructions of a visual programming language and can predict the outcome of a program written using the language. TCH 1-14a

I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language. TCH 1-15a

- Tablets required with free ScratchJr App for Apple, Amazon or Android device.

# Lesson Breakdown

## 1. Cool Characters

To understand that programs execute by following precise and unambiguous instructions.

To use logical reasoning to predict the behaviour of simple programs.

Children see a demonstration of a ScratchJr program being created that follows precise instructions. During the sequence, they predict what will happen and afterwards begin adding or editing their own characters and backgrounds.

- I can describe and use instructions to program a character.

## 2. Grow and Shrink

To understand that programs execute by following precise and unambiguous instructions.

To create and debug simple programs.

Children create new projects incorporating the programming blocks for grow and shrink, connecting them in sequence.

- I can program a character to grow and shrink.

## 3. Time to Move

To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

To create and debug simple programs.

To use logical reasoning to predict the behaviour of simple programs.

Children use the context of an animated car (or cars) travelling along a road on a city background. Movement blocks are combined with blocks to change speed, iterations or repetition to program the cars.

- I can use instructions to make characters move at different speeds and distance.

## 4. Repeat

To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

To create and debug simple programs.

To use logical reasoning to predict the behaviour of simple programs.

In the context of a spaceman's movement floating in space, children use the REPEAT FOREVER block and then the REPEAT block in order to create repetition of an instruction sequence.

- I can use a repeat instruction to make a sequence of instructions run more than once.

## 5. Sounds

To understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.

To create and debug simple programs.

Children record animal sounds and then create simple programs to play the recorded sound, when the animal is clicked..

- I can create programs that play a recorded sound.

## 6. Sequencing

To understand that programs execute by following precise and unambiguous instructions.

To create and debug simple programs.

To use logical reasoning to predict the behaviour of simple programs.

Children use a given background and character(s) to create sequences of linked instructions with increasing complexity.

- I can create programs with a sequence of linked instructions.

## Resources

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