

Space Adventures Computing Unit 1

Lesson 4 – Mining on the Moon

Curriculum Mapping (Computing KS2)

- ◆ use selection and repetition in programs; work with variables and various forms of input and output
- ◆ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Learning Objective

Add crates of rocks to the moon buggy simulation. Use a variable to count how many have been collected.

Prior Learning

Lesson 3 in this unit.

Introduction

Show pupils the *U1L4 introduction.mp4 video*.

Using the prompts in the video, ask pupils to explain what happens to the crates of rocks at different points the program. (This can be done orally or written in rough, and is known as the algorithm).

Main Activity

Pupils use Scratch to add crates to their moon buggy programs. They use a variable to count how many crates have been collected.

Show the class the *U1L4 demonstration.mp4 video* or how to access it on their own computers.

Hand out the *U1L4 step by step.pdf* guide or show pupils how to access it on their computers.

(Opening a second tab in the browser will allow pupils to switch between the help guide/video and their own work).

Extension Activity

Show pupils the activities on the *U1L4 going further_export.pdf* document. These include experimenting with aspects of the code, and changing the way the variable counting the crates works.

Plenary

Ask pupils to explain how the count variable works. Ask them to list games they have played and how each game use variables to keep the score or the number of lives in the game. Some pupils may be able to think of other examples of variables in programs/apps.

Notes

The program builds on Lesson 3, but adds code to make collectable crates. It introduces a couple of new concepts. The first one is duplicating sprites. A duplicated sprite looks the same as the original sprite, and it also behaves in the same way as all the code from the original sprite is duplicated too.

The program also introduces **variables** to count up the crates. Pupils will be familiar with the idea of the score changing in a game - the crate variable acts in a very similar way.