Level 4

# High Level Player Experience

Provide a large sandbox level containing Martian Assets for the students to expand on and build their own world and settlements.

## Key Features:

* Building upon what they learned in previous Levels, students build open worlds and settlements based on real world science
* Program interactive simulations of potential Martian environments and settlements

# Design Details

**Details**

**Audience:** Grades 5-8

**Time Length:** 4 hours; teach research, design (of terrain), features, events, and presentation skills

**Level Type:** Various; mostly a 3rd person experience, but students may try various angles.

**Layout:** Various

**Button layout:** Incorporate use of “inspect”, “beam”, and “scan” to recreate Rover’s experience

**Goal:** Goal is to build a simulation of Martian environments, highlighting the following key elements:

* **Terrain types**: Different areas of terrain have different composition, which can be explained as Rovers visit this rock types.
* **Formations**: camera angles can change depending on location/formation. Players can “jump” to different levels showcasing different formations
* **Paths**: What path did previous rovers take? What would be optimal based on landing information?
* **Settlements**: simulations of a potential Martian settlement.

**Obstacles:** There are a few obstacles:

* Different land types causes vehicles to speed up/slow down
* Certain gradients of terrain are not traversable

**Environment:**

* Students then would open a “template” world that contains different samples of famous features of Mars. Their goal is to create a Martian simulation
* Students then walk their teacher/class through that experience and explain why they chose certain options, highlight interesting features, and how they would expose the current knowledge of Mars to the player.

**Motivation:** Students collaborate as a team to build a simulation based on real science and possible Martian conditions from the past as well as potential settlements.

**Curriculum:**

* Review and understanding of Martian geography.
* Research and design potential settlements.
* Research into different terrain types, and impact.
* Applying principles learned in previous Levels regarding where to place level elements to create gameplay and learning opportunities for the player.

**Layout**

The terrain will be designed to be large and contain many recognizable features of mars.

* Olympus Mons
* Gale Crater
* Sharp Mountain

### In Kudo

We will use real data from Mars to generate a large piece of terrain containing various Martian features. The students must have enough room to build their levels out as per the curriculum.