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| **Date:** Week 8 | **No. Of Pupils:** 30 aprox. | **No. Teachers:** 2 | **Duration:** 1 hour |

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| **Role of Teaching Assistants:**  To provide support to student’s who were absent or struggling. To participate in group performances and discussion. Advanced peers should also be used to assist other peers.  Aid with set up and take down of equipment. |
| **Prior Knowledge of Pupils:**  An understanding of how to operate a Raspberry Pi and write basic coding using the application Sonic Pi.  Commands: *Play, Sleep, Run, use\_synth, loop do, end, use\_sample, sleep sample\_duration, in\_thread, rrand, .choose, with\_fx* |
| **Contents: Lesson 8 of 11(12)**  Students will begin to manipulate sound through parameter functions such as *attack,* and *release.* |
| **Vocabulary/keywords**  Commands: *Attack, sustain, release, soundscape* |
| **Anticipated problems:**  Issues with Raspberry Pi (check all Pi’s before use)  Possibility of absence students (peers/teaching assistants to assist with catch up) |

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| **Learning Objectives**  **1.** To understand the effect: *attack, release, and sustain* has on a note.  **2.** To discuss how to musically recreate a soundscape.  **3.** Apply note parameters to a familiar tune. | **Learning Outcomes**  **All** pupils would be able to use note parameters  **Most** pupils would be able to understand how to musically recreate environmental sounds  **Some** pupils would be able to begin writing their code for the final performance. |

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| **Resources**  Template of tune, Examples of environment |
| **Risk Assessment**  Medium – Trip hazard due to multiple cables, use of electrical equipment. |
| **Ultimate Learning Outcome**  **1.** To compose a piece of music using Sonic Pi  **2.** To create a live performance as a group using Sonic Pi  **3.** To understand how a computer can be used as a musical instrument |

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| **Timing** | **Task/Activity** | **Resources** |
| **Engage** | Live Coding Battle in pairs, each pair should come up to the master Pi to change or input code on screen with the aim to create more interesting sounds. (*emphasis should be placed on last week’s FX work*) |  |
| **Eplain**  **Explore** | Demonstrate the terms *attack, sustain, and release* through a graph diagram before moving into a discussion about the effect it has on the sounds within Sonic Pi. Students should try this with a recognisable tune. | Template of tune |
| **Explain** | Introduce the final performance assessment criteria and objective; *To create a live ensemble performance through the use of live coding and pre-made compositions*. Students should compose a loop for the following environments.  -Space, Underwater, Forest, City | Examples of environments |
| **Evaluate** | Discuss the soundscapes of the above environments and how they might be musically recreated in Sonic Pi. |  |
| **Closing** | Pack up equipment. |  |

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| **Equipment**  x15 Raspberry Pi, x15 Monitors, x15 keyboards and Mouse, x30 sets of headphones, x15 headphone splitters, x15 SD cards, x15 power supplies. |

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| **Possible Questions for Reflection/Recommended Resources** |
| How might a city sound and how would you recreate that in music?  What is a soundscape  What instruments can attack and release be performed on?  Example of Soundscape: *City, Space, Forest, Underwater*  Tune: *Twinkle, Twinkle, Old McDonald, Drunken Sailor* |

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| **Assessment** | **Assessment Criteria** |
| **Individual** – Using all knowledge gathered throughout the course students should create their own personal composition based around the suggested briefs listed (*Can be altered*).  **- Compose an original piece in any style.**  **- Compose a horror soundtrack for a film**  **- Rewrite a famous/well known song using Sonic Pi.**  Documentation on planning and development of the composition is also recommended to aid assessment. This can be completed via: written, audio diary, video diary. (*Due week 10*) | Use a system of 1-4 to assess different aspects of the composition  **Technique**  **1** (*easy*) – correct use of commands: play, sleep, loop do, end  **2** (*Intermediate*) – correct use of commands above plus: use\_synth, use\_sample,  **3** (*Upper Intermediate*) – correct use of commands above plus – in\_thread do, with\_fx, attack, release, sustain.  **4** (*Advance*d) – correct use of commands above plus: rrand, .choose, default.  **Structure/Texture**  **1** (*easy*) – use of 2-4 loops to create different sections  **2** (*Intermediate*) – The above plus use of multiple synths and instruments.  **3** (*Upper Intermediate*) – Use of threads to layer instruments in time  **4** (*Advance*d) – Advanced use of threads and instruments.  **Timbre/FX**  **1** (*easy*) – correct use of at least 2 FX  **2** (*Intermediate*) – the above plus altering parameters of FX throughout piece.  **3** (*Upper Intermediate*) – the above plus use of instrument manipulation.  **4** (*Advance*d) – the above plus combination of other features into FX such as rrand.  **Style/Write Up**  **1** (*easy*) – piece matches overall feel of brief.  **2** (*Intermediate*) – Clear sense of influences and application.  **3** (*Upper Intermediate*) – Detailed reflection using correct musical terms on piece.  **4** (*Advance*d) – piece stands on its own as a composition with a detailed write up explaining thought process of creation. |
| **Performance** – All students will engage in a soundscape performance at the end of the term. There will also be opportunity for students to conduct as well. Possible environments. (*Due week 11*)  - **Space, City, Forest, Underwater** | **Preparation**  **1** (*easy*) – inadequate preparation of 4 soundscapes.  **2** (*Intermediate*) – 4 basic loops for performance with a clear contrast in sound  **3** (*Upper Intermediate*) – use of advanced techniques to create soundscapes.  **4** (*Advance*d) – Loops display clear understanding of sounds in relation to music using advanced techniques  **Performance**  **1** (*easy*) – Compositions are played without interaction.  **2** (*Intermediate*) – correct use of faders to alter dynamics.  **3** (*Upper Intermediate*) – basic use of live coding within performance.  **4** (*Advance*d) – Advanced use of live coding potentially from a blank workspace during the performance. |