# Lesson 3 Plan

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| Topic: | 3 – Adding repeating behaviour to Pytch programs using loops. Working with random numbers to make variability. |
| Subject Area: | Python (via Pytch) |
| Class |  |
| Duration (approx.) | 40 Minutes |
| Prior knowledge of students: | Basic computer skills (follow provided link). Some prior exposure to Scratch beneficial but not essential. Previous lessons in series. |

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| Python through Pytch exercise | |
| Activity name: | Continuing the Chase Game from Lesson 2. |
| Activity objective(s): | Continue to build a Pytch project with more complexity.  Add a new sprite, add additional behaviour with infinite loops and random numbers. |
| **Activity details**  Timing and content   |  |  | | --- | --- | | Time (minutes) | Section | | 6 | Pytch and Python main ideas: multiple sprites, while true loops, random numbers | | 5 | Predict (pair work, worksheet 1) | | 3 | Run (pair work, worksheet 1) | | 12 | Investigate (pair work, worksheet 2) | | 12 | Modify/Make (pair work, worksheet 3) | | 2 | Recap |   Pedagogy   |  |  | | --- | --- | | Predict | Understand a multiple-sprite program which has repeating behaviour and uses random numbers | | Run | Verifying understanding by running pre-supplied project | | Investigate | Investigating aspects of Python syntax, while true loops and generation of random numbers via prompted questions (slide 9 / worksheet 2) | | Modify | Confirming understanding via prompted tasks: using random numbers to make the sprite begin the movement from a random position and move around the stage unpredictability (slide 10 / worksheet 3) | | Make | (extension activity) — independently add a third sprite with different looks and behaviour |   Differentiation   |  |  | | --- | --- | | Worksheet 1 | Recognise program elements (statements, declarations). Predict program behaviour, recognise how actual program may vary | | Worksheet 2 | Understand elements of syntax and while true loops | | Worksheet 3 | Create new programs as a modification of an existing program. |  |  |  | | --- | --- | | Equipment required | Computer with internet connection | | Links | <https://pytch.org/app/lesson/sbys/3> | | |