



Lesson	Subject / Title
Lesson 1	Computing—Flight School. Students will design simple algorithms to control their drone.
Lesson 2	Computing—Loops. Students will explore iteration (Repeat and Forever loops) to control their drone.
Lesson 3	Computing—Dancing Drones. Students will understand and use procedures and functions.
Lesson 4	Computing—Obstacles. Students will navigate their drone round a series of obstacle courses.
Lesson 5	Maths—Flipping Drones. Students will work out the probability of a drone flipping in various directions.
Lesson 6	Maths/Science—Speed. Students will calculate and compare speeds, times, and distances.
Lesson 7	Maths—Making Shapes. Students will create regular polygon shapes with their drone.
Lesson 8	Computing—Programming with Python. Students will learn to control a drone using python.
Lesson 9	Engineering—Theory of flight: Part 1. Students will learn about the four fundamental forces of flight.
Lesson 10	Engineering—Theory of flight: Part 2. Students will build and test a wing for a drone / plane.
Lesson 11	Engineering— Students design and build a simple glider.
Lesson 12	Engineering— Drone Technology. Students explore the history of drone technology.

Lesson 1—Flight School (Computing)

In this gentle introduction to programming lesson, students will learn how to write an algorithm (sequence of instructions) to control their drone.

Lesson 2—Loops (Computing)

In this lesson, students will explore iteration (Repeat and Forever loops) to control their drone and make their code more efficient.

Lesson 3—Dancing Drones (Computing)

In this lesson, students will learn how to use procedures and functions to program their drone. Using what they have learnt, students will create a simple dance routine for their drone.



Lesson 4—Obstacles (Computing)

In this lesson, students will use what they have learnt in the previous lessons to navigate their drone round a series of obstacle courses.

Lesson 5— Flipping Drones (Maths)

In this lesson, students will work out the probability of a drone flipping in a variety of directions (Forwards / Backwards / Left / Right) and learn how to convert their findings into fractions, decimals and percentages.

Lesson 6—Speed (Maths / Science)

In this lesson, students will run speed trials with their drones and calculate and compare speeds, times, and distances. Students will also calculate the mean, mode, median and range for their lap times.

Lesson 7—Making Shapes (Maths)

In this lesson, students will learn how to calculate the interior and exterior angles of regular polygons. Using what they have learnt, students will program their drones to create regular polygon shapes.

Lesson 8—Programming with Python (Computing)

In this introduction to programming in Python, students will learn how to control their drone using the Python programming language.

Lesson 9—Theory of flight: Part 1 (Engineering)

In this lesson, students will learn about the four fundamental forces of flight.

Lesson 10—Theory of flight: Part 2 (Engineering)

In this lesson, students will use what they have learnt about the four fundamental flight forces to design, build and test a wing for a drone / plane.

Lesson 11—Aircraft Construction & Control (Engineering)

In this lesson, students will use what they have learnt in the previous lessons to design and build a simple glider.

Lesson 12—Drone Technology

In this lesson, students will explore the history of drone technology as well as the potential for using drones in the future.