



Objectives and Sticky Knowledge

Previous Knowledge:

Understand that programs require precise instructions.



Land Objectives and Sticky Knowledge:

<p>To identify that accuracy in programming is important</p>	<p>To create a program in a text-based language</p>	<p>To modify a count-controlled loop to produce a given outcome</p>	<p>. To create a program that uses count-controlled loops to produce a given outcome</p>
<ol style="list-style-type: none"> 1. I can program a computer by typing commands 2. I can explain the effect of changing a value of a command 3. I can create a code snippet for a given purpose 	<ol style="list-style-type: none"> 1. I can use a template to draw what I want my program to do 2. I can write an algorithm to produce a given outcome 3. I can test my algorithm in a text-based language 	<ol style="list-style-type: none"> 1. I can identify the effect of changing the number of times a task is repeated 2. I can predict the outcome of a program containing a count-controlled loop 3. I can choose which values to change in a loop 	<ol style="list-style-type: none"> 1. I can design a program that includes count-controlled loops 2. I can make use of my design to write a program 3. I can develop my program by debugging it

Sea:

Links with 'Sustainability and Stewardship' Golden Thread

Links with CST and CTK Values:

Year 4 Computing Knowledge Organiser

Key Vocabulary

algorithm	An algorithm is a set of sequenced instructions or rules for solving a problem or completing a task in a logical order.
debug	To find, remove or correct errors in a computer program.
sequence	The order in which a set of instructions are performed or carried out.
deconstruct	Breaking down existing algorithms into smaller parts to see what they want to do.
animate	To bring something to life through interactive features, such as moving objects, sounds and buttons.

Sky Objectives:

1. Use repetition in programs to aid in programming efficiency.
2. Select, use and combine a variety of software (including internet services) to design and create programs.
3. Help others to understand the importance of online safety and the range of ways inappropriate content and contact can be reported.

Debugging

Debugging is the process of testing **code** and removing any errors or bugs from the program. The term 'computer bug' was first used in 1947 by computer scientist Grace Hopper, who discovered that a dead moth in the computer was causing an error.



Computational Thinking

Computational thinking is a set of skills that you can use to help you to solve problems. We use these skills every day. A computer uses the same skills.

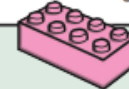
Step 1: Decomposition - Break the Problem Down

You could write a shopping list, pack your school bag for the next day, sound out a new word in your reading book or play Charades.



Step 3: Abstraction - Identify the Important Facts

You could build a model of your house using building bricks, draw a self portrait or retell a story.



Step 2: Pattern Recognition - Look for Helpful Patterns

You could do a word search, learn the chorus of a song, remember the days of the week, sort objects in different ways or count in 5s.



Step 4: Algorithms - Work Out the Steps Needed to Solve a Problem

You could plan some dance moves, write a recipe or do a dot-to-dot.

