

# Overview:



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| Exercise                | Levels | Concepts                       | Blocks Used |
| Fun with Basics         | 4/10   | Sequence, Algorithmic Thinking | 10          |
| Loopy Loops             | 9/12   | Loops, Debugging               | 122         |
| Loopy Loops - Grade 1/2 | 7/8    | Loops, Debugging               | 0           |

# **List of Concepts:**

## Decomposition

Breaking down a problem into smaller, more manageable parts.

**Computational Thinking Concepts** 

## Pattern Recognition

Identifying similarities or patterns within problems.

**Computational Thinking Concepts** 

#### **Abstraction**

Simplifying complex problems by focusing on essential details and ignoring unnecessary information.

**Computational Thinking Concepts** 

## Algorithmic Thinking

Developing step-by-step instructions or rules to solve a problem.

**Computational Thinking Concepts** 

#### Sequence

Understanding and writing instructions in a specific order.

**Programming Concepts** 

#### Variables

Introducing the concept of containers for storing information.

**Programming Concepts** 

### Loops

Repeating a set of instructions multiple times.

**Programming Concepts** 

#### **Conditional Statements**

Making decisions in the program based on certain conditions.

**Programming Concepts** 

#### **Events**

Reacting to user inputs or specific occurrences in the program.

**Programming Concepts** 

#### **Functions**

Creating reusable blocks of code to perform specific tasks.

**Programming Concepts** 

## **Data Types**

Introducing the idea of different types of data, such as numbers, text, and Boolean values.

**Programming Concepts** 

## Input and Output

Understanding how programs receive information (input) and produce results (output).

## Debugging

Identifying and fixing errors or mistakes in the code.

**Programming Concepts** 

#### Comments

Adding explanations and notes within the code for better understanding.

**Programming Concepts** 

## **Event Handling**

Responding to events triggered by user actions or other parts of the program.

**Programming Concepts** 

## **Graphics and Animation**

Introducing basic concepts of drawing and creating movement in a program.

**Programming Concepts** 

#### Simulation

Creating virtual scenarios to model real-world situations.

**Programming Concepts** 

#### Collaboration

Encouraging teamwork and sharing of code with others.

**Programming Concepts** 

#### **Iteration**

Repeating a set of instructions or a process.

**Programming Concepts**