

# Overview:



# Table:

All exercises			
Exercise	Levels	Concepts	Blocks Used
Dog and the loops	8/8	Loops, Variables, Functions	319
Swamp conditionals	4/4	Conditional Statements, Loops, Variables, Sequence, Events, Functions, Decomposition, Algorithmic Thinking	192
Loops and castles	6/8	Loops, Variables, Functions	370

# **List of Concepts:**

# Decomposition

Breaking down a problem into smaller, more manageable parts.

Computational Thinking Concepts

# Pattern Recognition

Identifying similarities or patterns within problems.

#### 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).

**Programming Concepts** 

# 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**