

# VIRTUAL WORKSHOP & LIVE EVENT TOPICS

All sessions are delivered in 1-hour time slots

## Virtual Dash

Gr. 1-4

Every student can now program their favourite robot online. Virtual Dash reimagines the delightful, award-winning Dash robot in a rich, 3D environment. Students will love creating and exploring with their own Dash while building coding skills.



## Scratch Coding

Gr. 4-8

Learn computer science through Scratch – a block-based programming language and online community where you can create your own interactive stories, games, and animations. Students will love programming using this block-based interface to bring their stories and games to life!

## Makecode Arcade

Gr. 3-8

Develop your programming skills by easily creating and modifying retro arcade games with Blocks and JavaScript in the MakeCode editor. From multi-player games to graphics, arts and crafts, students will have the opportunity to share their creative and competitive side to video game development.



## Microsoft MakeCode



## Minecraft Education

Gr. 3-8

Minecraft Education is a game-based platform that inspires creative and inclusive learning through play. Explore blocky worlds that unlock new ways to take on any subject or challenge. Students will learn to craft within worlds, complete tasks and activities and gain valuable digital literacy skills along the way – all while having fun!

## Python Coding

Gr. 7-12

Introduce the basics of syntax-based coding using the language Python in an engaging coding environment. Expand students' knowledge further by learning about pre-built python commands like functions, lists and more. Students will gain the foundational knowledge of Python and will be ready to begin creating their own programs.



# VIRTUAL WORKSHOP & LIVE EVENT TOPICS

All sessions are delivered in 1-hour time slots

## Virtual Dash Topics

### Grade 1:

#### Training for Danger:

Virtually join Dash, the world's greatest explorer! Learn how to program Dash, using sequences, to train for dangers that arise all around the virtual neighbourhood.

#### Dash for Treasure:

Join Dash virtually and create a program that includes sequences and various events combined with lights, sounds, and actions. Build code to help Dash to look for treasure in the virtual neighbourhood!



### Grade 2:

#### Watch out for Traps:

Explore the virtual neighbourhood with Dash! Learn how to program Dash using loops and if statements to solve puzzles and react to the unexpected.

#### Memory Maps:

How good is your memory? Explore Dash's virtual neighbourhood using sequences and events then build and play a memory game using a map of coordinates.



### Grade 3:

#### A Story of Adventure:

Learn how to program Virtual Dash using sequences, loops, and functions then create your own travel story. Bring this story to life through various actions, lights and sounds!

#### Olympic Journey:

Join Dash virtually to learn about functions, events, and sequences. Build code that will describe Dash's journey trying out for the Olympics!



### Grade 4:

#### Quick Training:

Dash is tired of always knowing exactly what's going to happen. Learn how to program Virtual Dash to add a bit more randomness and probability in an awesome game that includes some physical activity too!

#### Electro Golf:

Join Dash virtually to learn about functions, events, and sequences. With those skills, you'll build code to develop and play a game of virtual golf!

# VIRTUAL WORKSHOP (1-HOUR)

## Scratch Coding Topics

### Grade 5:

#### Panda's Race:

Students will build coding skills while creating multiple sprites running separate programs. The final task will be to combine positioning and moving sprites using a coordinate plane, adjusting speeds, and making costume changes, to animate a sprite strutting across the stage!



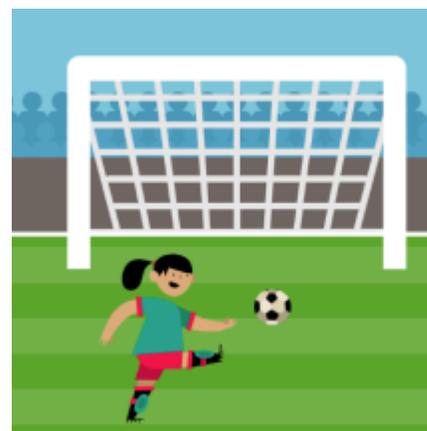
#### Fruit Battle 1:

Students will enhance their coding skills by creating a program that includes random and comparison operators, variables, and coordinate systems. This culminates in the development of an interactive game similar to the popular app "Fruit Ninja"!

### Grade 6:

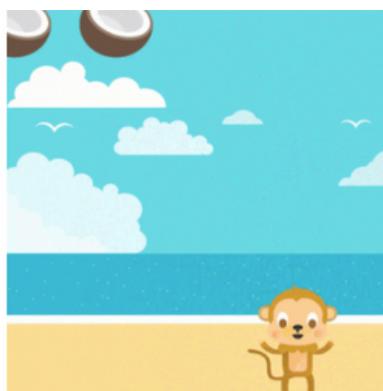
#### Penalty Kick:

Students will build upon their coding skills to interact with Sprites using events. They will use those skills to create an awesome soccer game where they will animate their Sprite to kick a soccer ball into the goal!



#### Fruit Battle 2:

Students will enhance their coding skills by creating a program that includes random and comparison operators, variables, and coordinate systems. This culminates in the development of an interactive game similar to the popular app "Fruit Ninja"!



### Grade 7:

#### Panda's Travels:

Students will create a project that showcases places that their character has visited around the world. They will help their character autonomously turn around and walk in the opposite direction when reaching the edge of the stage using conditional statements.

#### What's in the Box?:

Students will learn about the purpose of coding broadcasting messages to create a series of dependent tasks using ask and wait blocks as well as random and comparison operators. The final task will be to create an interactive game called "What's in the Box?"



### Grade 8:

#### A Flying Moth:

Students will expand on basic coding skills to explore the use of simultaneous conditional statements, events and animations to create an interactive game where they are trying to catch a flying moth!

#### Guess the Numbers:

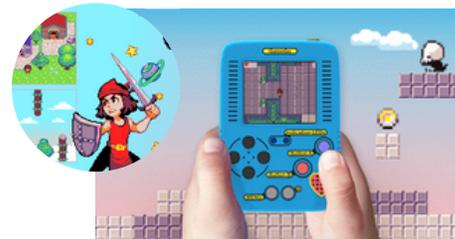
Students will learn about the purpose of coding broadcasting messages to create a series of dependent tasks using ask and wait blocks as well as random and comparison operators. The final task will be to create an interactive game called "Guess the Numbers!"

# VIRTUAL WORKSHOP (1-HOUR)

## MakeCode Arcade

Gr. 3-8

Choose from various topics and games from: <https://arcade.makecode.com/>



## Minecraft Education

Gr. 3-8

Choose from various lessons and subject areas from:

<https://learn.logicsacademy.com/p/minecraft-education-edition-lesson-library>



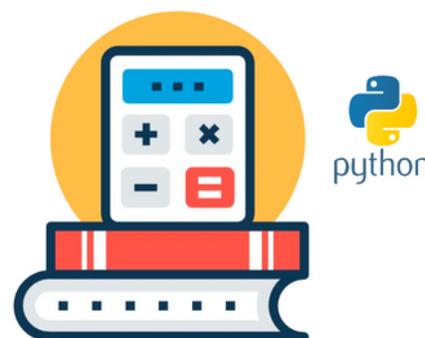
## Python Coding Topics

\*For Grade 7/8 classes already experienced with block-based coding

### Grade 7/8:

#### Virtual - Arithmetic & Python:

In this lesson, students are introduced to the textual programming language, Python. Students will gain an initial conceptual understanding of Python and try to write their first Python code to complete calculations and solve problems. Use the mBlock Python editor interface to learn how to use the `print()` function to output certain results and Python arithmetic operators to perform mathematical calculations!



### Grade 7/8:

#### Virtual - Text & Numbers:

In this lesson, students are introduced to the fundamental data types in Python used to store and manage data, including Strings, Integers, and Floating-Point Numbers. Students will explore how the Python editor reads the input data and converts the data into different data types. This is known as Type Casting. Students will also learn how to use the `'type()'` function to identify the data type of the input information and data.

