

MAY  
2021

# CS4ALL @ PS133Q

*The curious newsletter for tinkering minds!*

## Kindergarten

### Unit 5: Deep Dive into Debugging & Code Tracing

K computer scientists worked on prototyping and recognizing concrete relationships between inputs, outputs and algorithm design using Robot Mouse. They shared roles as a navigator, driver and debugger and working collaboratively as a team.

Students will deepen their work in debugging by completing a full algorithm in one turn, moving away from piecemeal strategies, using pseudocode (arrows or pictures).

They will they focus on pinpointing where an algorithm "breaks" to recognize *modularity*. Rather than scrapping an entire algorithm, for greater efficiency in their programming, they can look to see a section of code that misfires, debug it, test and iterate.

This work ties to mathematical practices and making sense of unstructured problems, a 21st Century skill.

## First Grade

### Unit 4: Culminating Synthesis Projects

In April, students created a variety of projects to become familiar with more event types as well as for and "infinite" loops in Scratch Jr. This month they will create culminating projects that synthesis all their previous learning.

These concepts include:

- *sequencing algorithms in relation to purpose*
- *design of backgrounds and sprites*
- *events*
- *loops (for, infinite)*
- *parameters (intervals for each code block)*
- *parallelism (running two algorithms simultaneously)*
- *programmed, automated scene changes (across 3 scenes)*
- *all Scratch Jr. looks, motion, sound blocks*

### Did You Know?

All students K-5 can participate in the [NYC DOE Minecraft Challenge?](#)

Watch [HERE!](#)

Entries close on Friday, May 14th!

# Second Grade

## **Unit 4: Impacts of Computing: *Creating PSAs for Global Change***

In April, students completed Pitch Your Passion project in Google's CS First to develop a base understanding of how to advocate and publicize a something personally meaningful.

This month students will transfer that knowledge to ideate a project that focuses on one of the United Nations' Sustainable Development Goals to bring awareness and create a call to action. This will introduce students to the impacts of computing on society.

To access CS First, students must know their nycstudents.net username and password. If you have not yet, please make sure your child has this taped in a folder or saved in their browser.

# Third Grade

## **Unit 4A: Game Design in Scratch: *Maze, Racing & Platform***

Students returned to block based coding and creative computing using Google's CS First with a Game Design Unit. Students will learn to manipulate their coding concepts to create various types of games in Scratch. This month they will create a Maze, Racing and Platform Game.

In these two game design processes, computer scientists will learn about:

- *events*
- *movement*
- *loops*
- *conditionals*
- *operators*
- *booleans*

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# Grade 4 & 5

## Unit 4B: Python Text Based Coding Level 1

### *Strings, Integers, Parameters*

Computer scientists in grades 4 & 5 are completing their introduction to text based programming language called Python in the Introduction to Programming module. They will then move onto the first bend of their Python 1 Level 1 Course.

In Unit 4B, computer scientists will be working on the following concepts:

- *Distinguish between strings and integers in a program*
- *Write a program that performs steps in order*
- *Use numbers as parameters for a given function*
- *Use strings as parameters to call images*
- *Use an error message to help debug a non-working program*
- *Distinguish between comments and lines of code*
- *Use comments as a reference for writing code*
- *Change parameters*
- *Differentiate between a string and integer*
- *Use dot notation to give commands*
- *Understand that a program runs in order from top to bottom*

Each lesson requires a unique project deliverable to demonstrate application and understanding as well as a reflection component prior to submission.

These include:

- *a customized sprite dance routine*
- *draw one of Alma's Thomas' paintings using code*
- *recreate a fable or folktale*
- *write a random scene generator to overcome someone's writer's block*

A planning page, debugging checklist, and rubric are all found on Google Classroom for assist with project deliverables.