

FEEDBACK

- <https://forms.gle/GUkrqHXmL4ziR7Q97>

8/12/2019

DigiCon 2019 - Mel Yuan

3

COMPUTER SCIENCE IS CHANGING EVERYTHING

- https://www.youtube.com/watch?v=xJqSuI1bcHg&list=PLzdnOPIIjNfpD8i4Sx7U0y2MccnrNZuP&index=2&disable_polymer=true
- Get Inspired playlist

8/12/2019

DigiCon 2019 - Mel Yuan

4

SESSION GOAL

- Take a tour through some key parts of the code.org offering
- Get more value from existing usage or find ways to add-in to existing programs
- Share case studies, ideas, etc.
- => Demo

- Who is current using?
- Who is (not) considering using?
- For which grades?

8/12/2019

DigiCon 2019 - Mel Yuan

5

NICE TO MEET YOU



- myuan@fintona.vic.edu.au
- Core DigiTech program years 5-8, with electives year 9-10
- A bit about me ...

8/12/2019

DigiCon 2019 - Mel Yuan

6

TEACH

Elementary school						Middle school			High school			
K	1	2	3	4	5	6	7	8	9	10	11	12
									CS Principles			
						CS Discoveries						
CS Fundamentals												
Pre-reader Express			CS Fundamentals: Express									
Professional Learning for all grade levels												Learn more

8/12/2019

DigiCon 2019 - Mel Yuan

7

CODING

8/12/2019

DigiCon 2019 - Mel Yuan

8

COURSES

- CS Fundamentals
 - Courses A-F
 - Courses I-4
- CS Discoveries
 - Web Development
 - Animation & Games
 - Physical Computing
- CS Principles
 - Intro to Programming
 - Building Apps

8/12/2019

DigiCon 2019 - Mel Yuan

9

ADMIN FEATURES

Y7 2017 Y8 2018 Y9 COD1A 2019	9	Computer Science Principles ('18-'19) Current unit: CSP Unit 3 - Intro to Programming ('18-'19)	64	YCNDQL	▼
Y6 2017 Y7 2018 Y8 2019	8	Computer Science Discoveries ('17-'18) Current unit: CSD Unit 3 - Animations and Games ('17-'18)	79	DRMHNL	▼
Y5 2017 Y6 2018 Y7 2019	7	Computer Science Discoveries ('17-'18) Current unit: CSD Unit 3 - Animations and Games ('17-'18)	62	MPMNTZ	▼
Y4 2017 Y5 2018 Y6 2019	6	Course 2	50	QTRRZP	▼

8/12/2019

DigiCon 2019 - Mel Yuan

10

CURRICULUM MATERIALS

COURSE 1 2 **3** 4 5 6 7 8 9 10 11 12 13 14 15 16
E 17 18
 C O
 D E

< C5 Fundamentals 2019-2020 Course E Unit Overview All Lessons PDF All Handouts PDF

Lesson 3: Conditionals in Minecraft: Voyage Aquatic

Skill Building | Ramp Up

Overview

This lesson was originally created for the Hour of Code, alongside the Minecraft team. Students will get the chance to practice ideas that they have learned up to this point, as well as getting a sneak peek at conditionals!

Purpose

This set of puzzles will work to solidify and build on the knowledge of loops, and introduce conditionals. By pairing these two concepts together, students will be able to explore the potential for creating fun and innovative programs in a new and exciting environment.

Agenda

- Warm Up (15 min)
- Introduction
- Main Activity (30 min)
- Online Puzzles
- Wrap Up (15 min)
- Journaling
- Extended Learning

View on Code Studio

Objectives

Students will be able to:

- Define circumstances when certain parts of a program should run and when they shouldn't.
- Determine whether a conditional is met based on criteria.

Preparation

- Play through the puzzles associated with this lesson to find any potential problem areas for your class.
- Make sure every student has a journal.

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the Students

- Think Spot Journal - Reflection Journal

Vocabulary

8/12/2019

DigiCon 2019 - Mel Yuan

11

SOLUTIONS

Lesson 13: Bee: Conditionals 12 noc

Instructions

This stair step pattern should look familiar. Can you collect nectar only from the flowers that have some, using as few blocks as possible?

This student has not started the level.

```

when run
  repeat 3 times
    do
      move forward
      turn right 90
      move forward
      if (nectar)
        do
          get nectar
          turn right 90
  
```

Run Step

Stop seeing solution

Teacher Panel

View page as: Student Teacher

Me 12

Last Updated: N/A

Example Solution 1

Viewing section: YA 2007 VS 2018 YE

View Teacher Dashboard

Me

- 12 Ada Story
- 12 Alisha Malik
- 12 Alexandra Pastore
- 12 Alexandra Petre
- 12 AlexandrP
- 17 Amos...

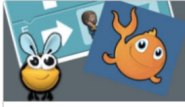
8/12/2019

DigiCon 2019 - Mel Yuan

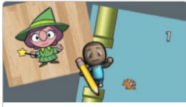
12

CS FUNDAMENTALS (K-5)

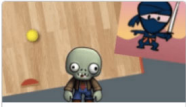
Kindergarten	1 st Grade	2 nd Grade	3 rd Grade	4 th Grade	5 th Grade
Course A	Course B	Course C	Course D	Course E	Course F
Pre-Reader Express Course		Express Course			




Course 1
Introduction to computer science for early readers.
Ages 4-6



Course 2
Introduction to computer science for students who can read.
Ages 6+ (reading required)

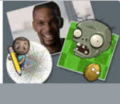


Course 3
Delve even deeper into programming while building games and interactive stories. This is a follow-up to Course 2.
Ages 8-18



Course 4
Build more complex programs with concepts such as for loops and functions with parameters. This is a follow-up to Course 3.
Ages 9-18

Accelerated Course
Learn basic computer science in an accelerated version of courses 2-4.
Ages 10-18



8/12/2019

13

KEY POINTS

- Videos
- “Ask 3 then me”
- “Rubber ducking”

8/12/2019

DigiCon 2019 - Mel Yuan

14

CS DISCOVERIES (6-8)

- Web Development
 - Khan Academy Intro to HTML/ CSS Making webpages
- Animation & Games – pathway direct from CSF (GameLab)
 - Khan Academy Intro to JS Drawing & Animation; Advanced JS
- Physical Computing
 - Adafruit Circuit Playground

8/12/2019

DigiCon 2019 - Mel Yuan

15

CS PRINCIPLES (9-12)

- Intro to Programming
- Building Apps (AppLab)
- AP course <https://apcentral.collegeboard.org/about-ap/ap-a-glance>
 - The Advanced Placement Program® (AP) enables willing and academically prepared students to pursue college-level studies while still in high school. The program consists of college-level courses developed by the AP Program that high schools can choose to offer, and corresponding exams that are administered once a year.

8/12/2019

DigiCon 2019 - Mel Yuan

16



THROUGHLINES

CS Fundamentals	CS Discoveries	CS Principles
Binary Bracelets (3) Binary Images (4)	Data & Society (5) <ul style="list-style-type: none"> - ASCII - Binary - Images - Numbers - Encryption 	The Internet (1) <ul style="list-style-type: none"> - Representing and Transmitting Information Digital Information (2) <ul style="list-style-type: none"> - Bytes & File sizes - Text compression - BW Images - Colour Images - Lossy vs Lossless compression
Internet (3)	Problem Solving & Computing (1) <ul style="list-style-type: none"> - What is a Computer - Input and Output - Processing - Apps and Storage 	The Internet (1) <ul style="list-style-type: none"> - Inventing the Internet

8/12/2019 DigiCon 2019 - Mel Yuan 18



THROUGH LINES

CS Discoveries	CS Principles
Data & Society (5) <ul style="list-style-type: none"> - Problem Solving & Data - Big Data - Structuring Data - Making Decisions with Data - Interpreting Data - Automating Data Decisions 	Big Data & Privacy (4) <ul style="list-style-type: none"> - Big Data - Vizualisations - Data Innovations - Identifying People - The Cost of Free - Encryption - Cybercrime

8/12/2019 DigiCon 2019 - Mel Yuan 22

RESOURCES

Lesson 10: Problem Solving with Big Data

Overview

This lesson covers how data is collected and used by organizations to solve problems in the real world. The class looks at three scenarios that could be solved using data and brainstorms the types of data they would want to solve them and how they could collect the data. Each scenario also includes a video about a real-world service that has solved a similar problem with data.

Resources

- Data in the Real World - Activity Guide (copy as MS Word, Google Doc)

[Continue](#)

For Teachers Only

- Data in the Real World - Exemplar PDF | DOCX

Lesson 10: Problem Solving with Big Data

Video: How Does Netflix Make TV Show and Movie Suggestions?

Watch this video to learn how this problem is solved by Netflix. As you watch think about what data is being collected and where it's coming from.



8/12/2019

DigiCon 2019 - Mel Yuan

23

BUT ALSO

8/12/2019

DigiCon 2019 - Mel Yuan

24

HOUR OF CODE

<https://code.org/hourofcode/overview>
<https://hourofcode.com/au>

Hour of Code Activities

Try a one-hour tutorial designed for all ages in over 45 languages. Join millions of students and teachers in over 180 countries starting with an Hour of Code.

Want to keep learning? Go *beyond an hour*.

Teachers: [Host an hour](#) or [read the How-To Guide](#)

All grades Pre-reader Grades 2-5 Grades 6-8 Grades 9+ Beginner Comfortable

Sort by

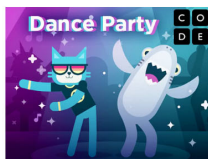
Recommended

Created by

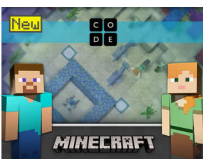
All

Classroom technology

- Computers
- Android
- iPad/iPhone
- Poor or no internet
- No computers or devices



Dance Party
Grades 2+ | Blocks



Minecraft Hour of Code
Grades 2+ | Blocks



An Unusual Discovery
Grades 2+ | Blocks

8/12/2019

DigiCon 2019 - Mel Yuan

25

THE END

8/12/2019

DigiCon 2019 - Mel Yuan

26