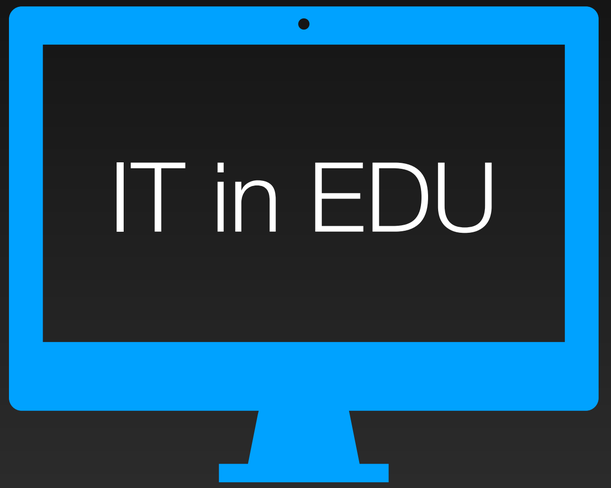
新常態的學習資源運用

夏志雄老師
香港真光中學
資訊科技主任

個人介紹

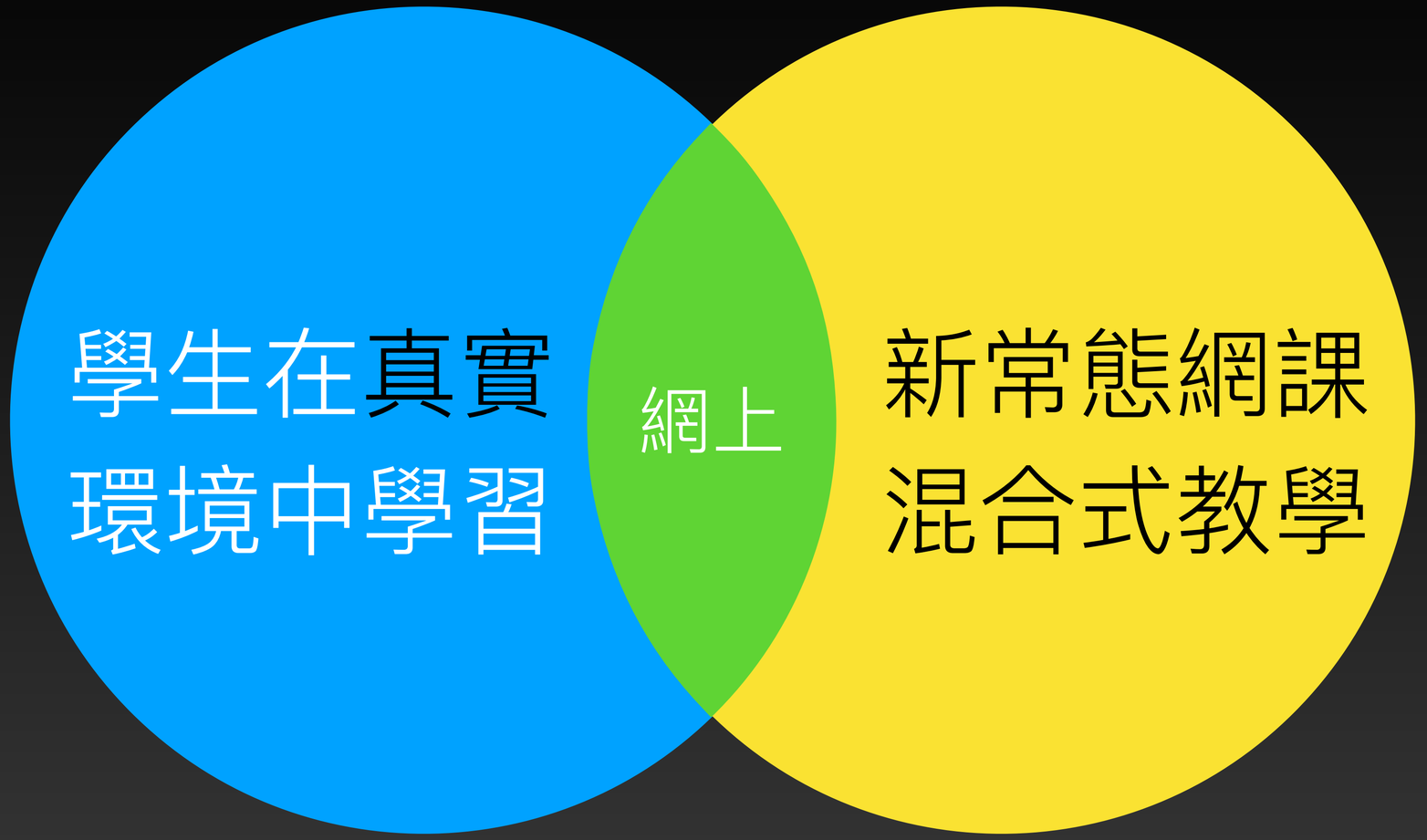
2012	推動校內老師進行電子教學
2013	成為蘋果傑出教育工作者 (ADE)
2014	校內中一級推行 BYOD (1 : 1)
2015	教育局資訊科技教育策略發展督導委員會員委會 教育局資訊科技教育組借調老師
2016	成立香港翻轉教學協會
2019	賽馬會翻轉教學先導計劃顧問



學生在真實
環境中學習

中英數通常
+ 選修科

全方位學習　　時空　　課堂學習



全方位學習　　課時學習

翻轉教學三步曲 (疫情前)

學生家中預習

睇片、答問題、做筆記

老師檢視學生預習情況

重新設計課堂

活動教學、動手解難、STEM、協作學習、小組討論、學思達

翻轉教學

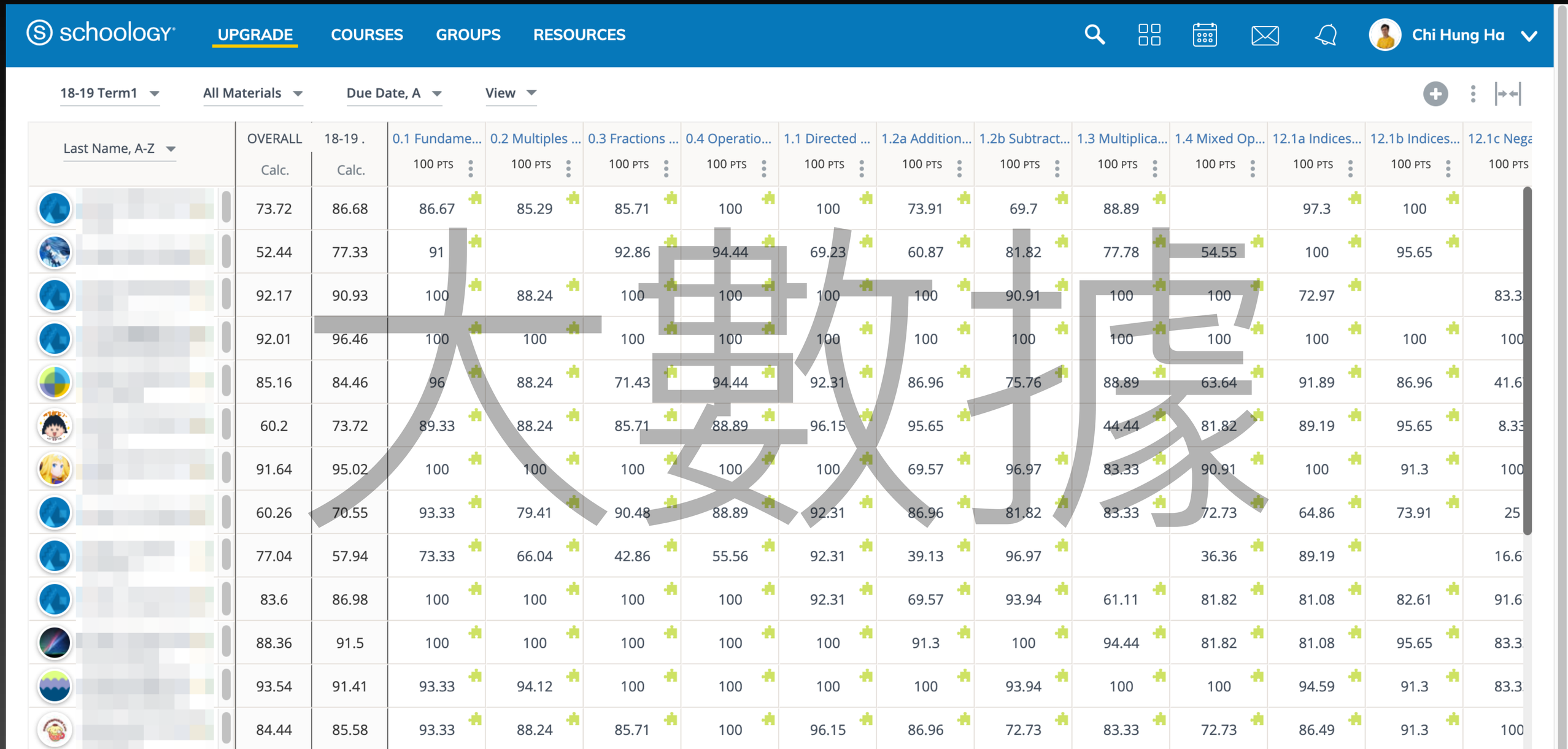
私人空間

學習群體

學生在家預習
Lecture at home

上堂做功課/討論
Homework in class

利用學習平台 有效追蹤學生在家學習情況



大量數據

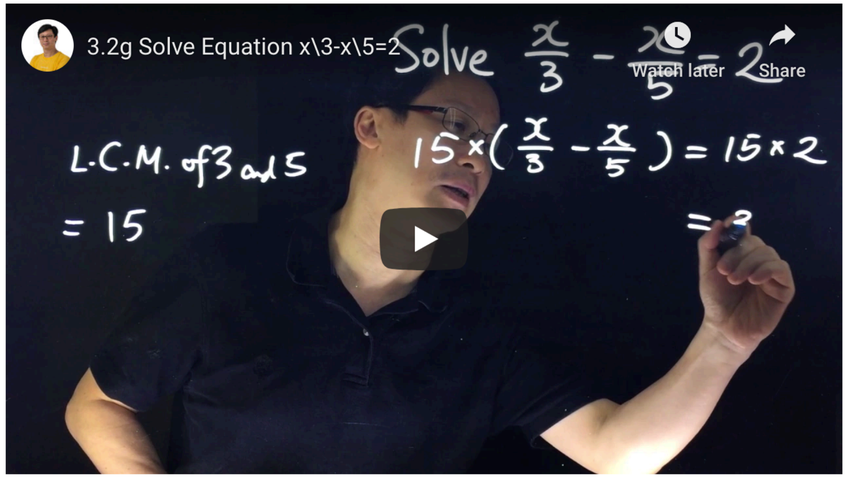
要訣：設問題要求學生睇片後回答

3.2c Solving Equations with Fractions

Questions | Settings | Preview | Results | Comments

Questions 1-

Question 1 (55 points)



Solve (finding the root) the following equation.

$\frac{y}{3}-\frac{y}{5}=4$

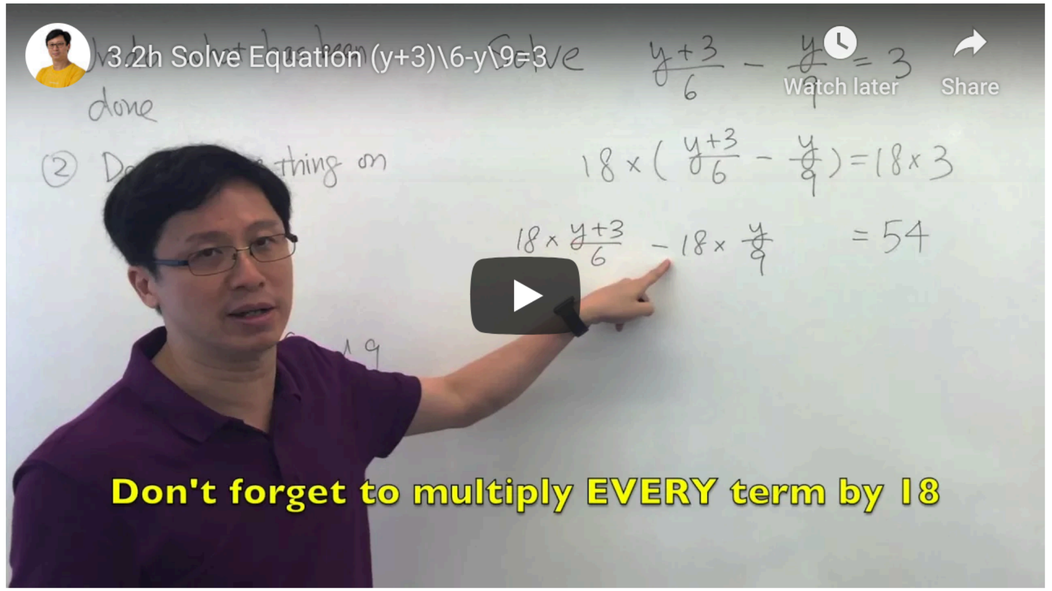
_____ × $(\frac{y}{3}-\frac{y}{5})$ = 4 × _____ (Multiply both sides by L.C.M. of denominators 3 and 5)

_____ × $\frac{y}{3}$ - _____ × $\frac{y}{5}$ = _____ (Remove brackets)

_____ - _____ = 60 (Remove denominators)

y = _____

Question 2 (60 points)



Solve (finding the root) the following equation.

$\frac{m}{4}-2=\frac{m-6}{5}$

_____ × $(\frac{m}{4}-2)=\frac{m-6}{5}$ × _____ (Multiply both sides by L.C.M. of denominators 4 and 5)

_____ × $\frac{m}{4}$ - _____ × 2 = (m - 6) × _____ (Remove brackets on left side, remove denomintaor on right side)

_____ - 40 = 4m - _____

m = _____

網課
混合式教學

真實環境
傳統課堂做不到

新常態下怎樣進行全方位學習活動？

Self-Learning
S3 Computer
Self-Discipline

Course Options

Materials
Updates
Gradebook
Grade Setup
Badges
Attendance
Members
Nearpod

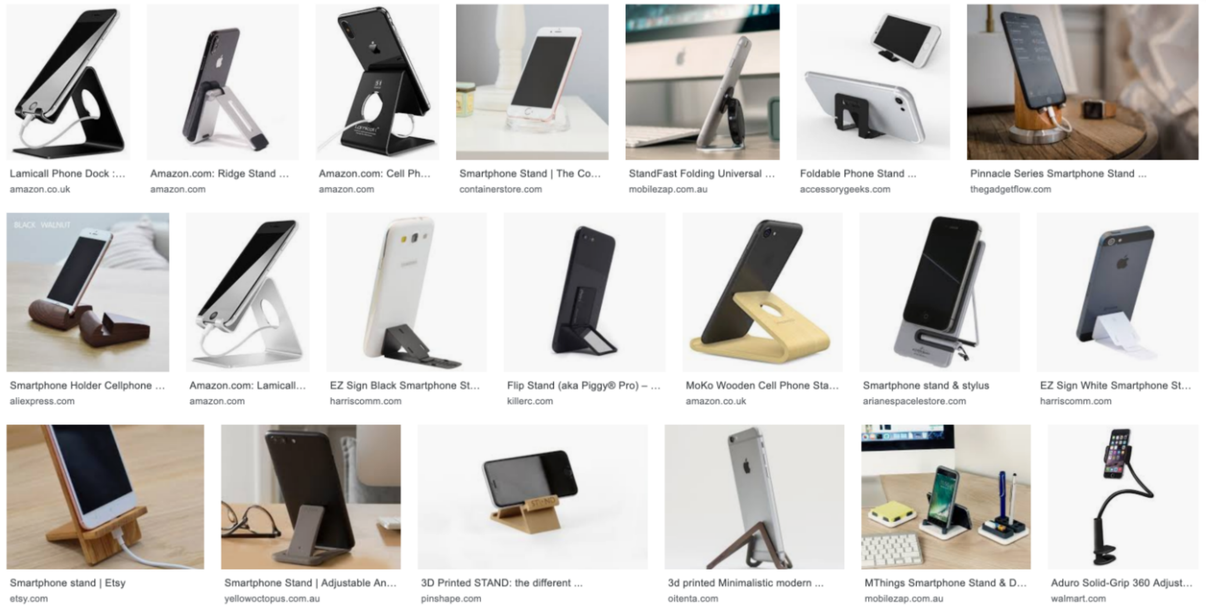
Information

Grading periods
20-21 Term 1, 20-21 Term 2

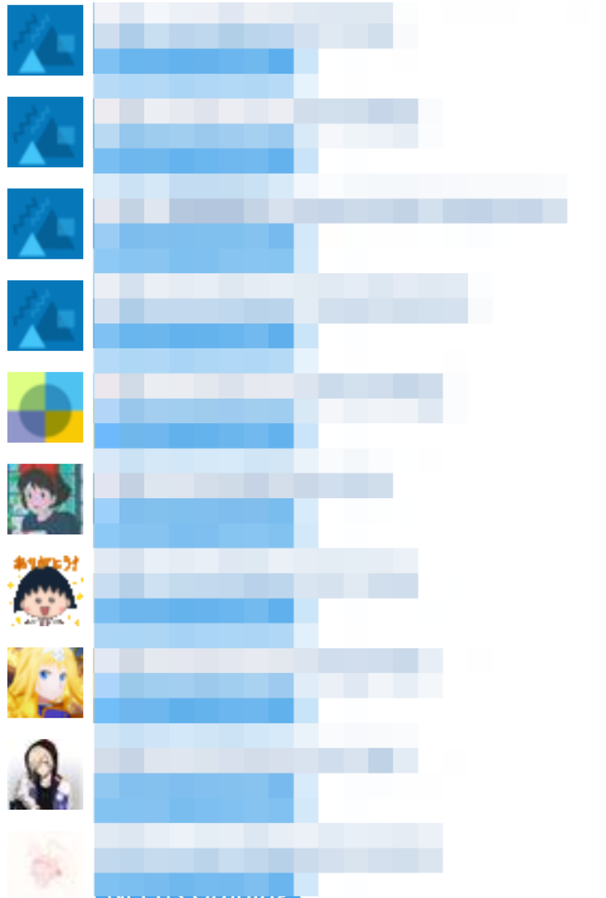
In-class Assignment 8: Making Your Own Smartphone Stand (Product Design)

In 21st century, it would be seldom for a teenager in Hong Kong do not own a smartphone.

There are various designs on smartphone stand on the market but actually you can create your own personal smartphone stand.



Submissions Received (115/120)



Design Process

Ideas

Draft

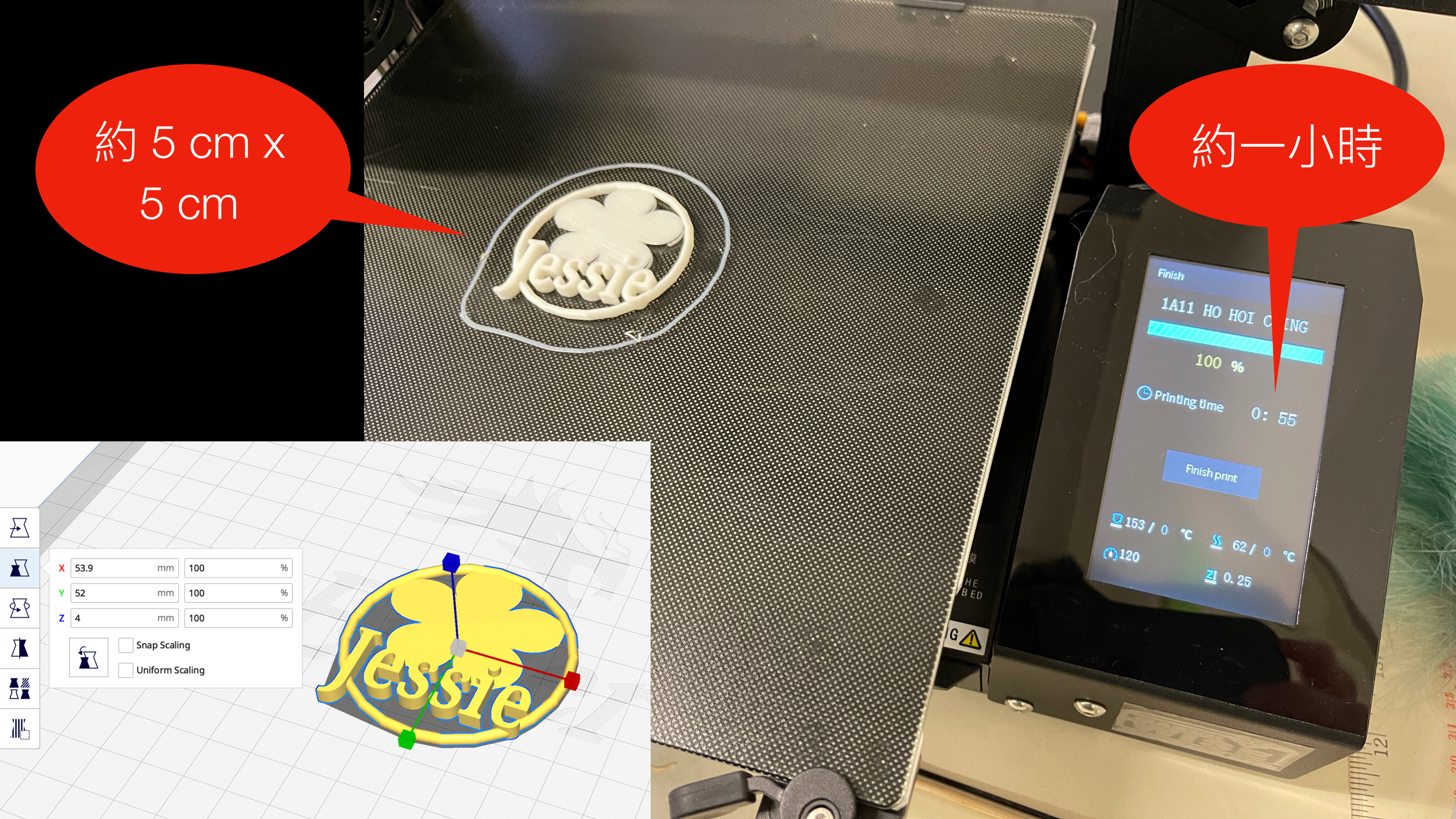
Design

3D Printing

Testing

樽頸

以往只有設計
並沒有打印
未能 close the loop


約 5 cm x
5 cm
約一小時
Jessie
Finish
1A11 HO HOI C ING
100 %
Printing time
0: 55
Finish print
153 / 0 °C
62 / 0 °C
120
Z 0.25
X 53.9 mm 100 %
Y 52 mm 100 %
Z 4 mm 100 %
Snap Scaling
Uniform Scaling
Jessie

半日制 (中三級四班電腦科)

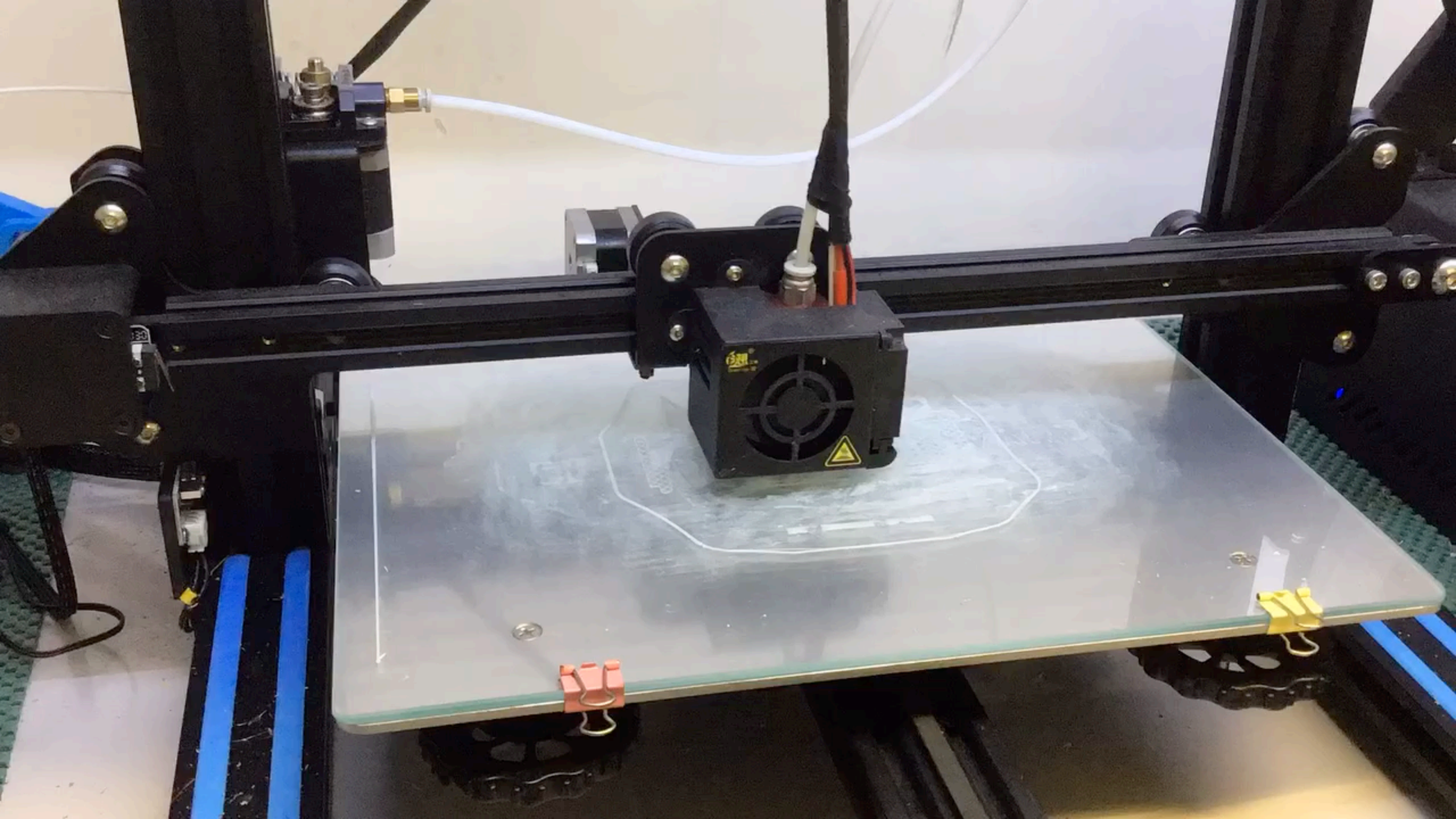
面授課：設計
(TinkerCAD)

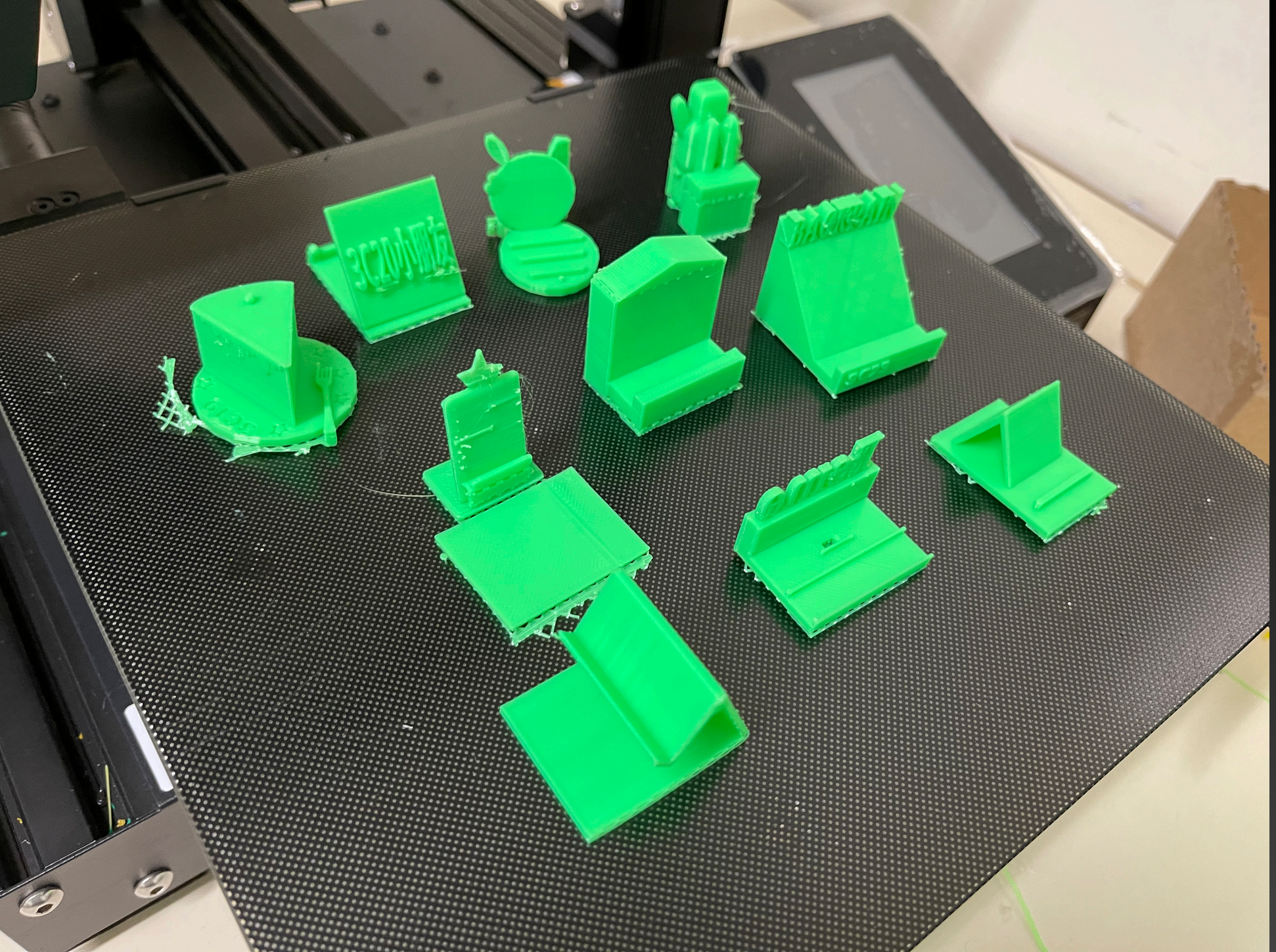
學生 3D 打印設計

上午 (電腦室)
全班學生 (約 30人)

下午 (3D 打印房)
全班學生10% 🙋🏻 (< 1/6)

每班學生代表
打印全班同學
設計





Smartphone stand 迷你版

讓學生觸摸
到自己設計
並進行改善

3D Printing Order Form (HK$0.1 per gram) Maximum weight: 100g

Check the weight of your model using Ultimate Cura. You can download Cura from https://ultimaker.com/software/ultimaker-cura with your home computer.

The name and photo associated with your Google Account will be recorded when you upload files and submit this form. Not **tlhch@tlmshk.edu.hk**? Switch account

*Required

Class *

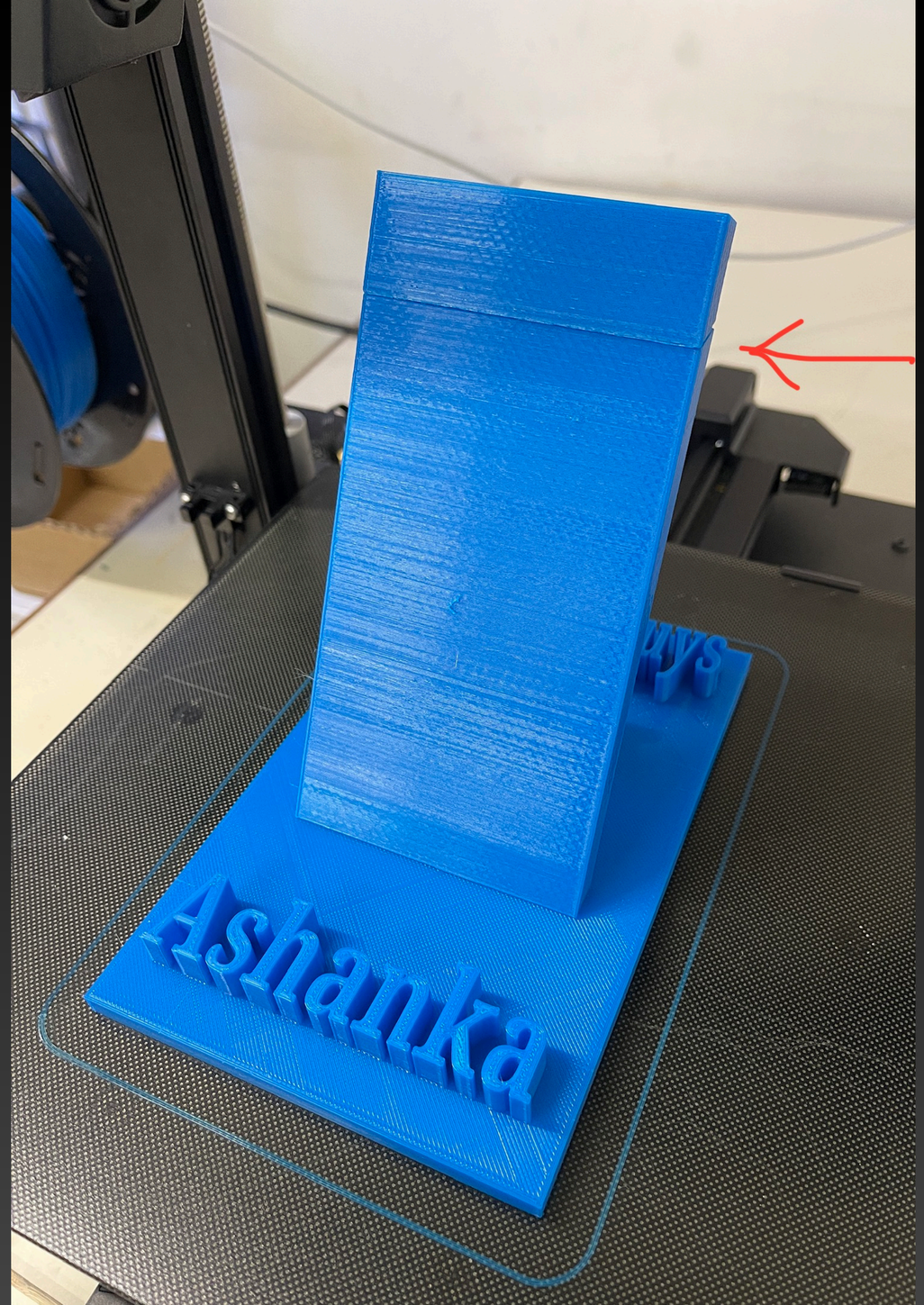
Choose

Class number *

Your answer

如學生想打印 1:1 版
上載 STL 檔到
Google Form

酌量收費


Ashanka

9:20
Ashanka

全面網課階段

使用 Slicing software 仍可在 Zoom 進行

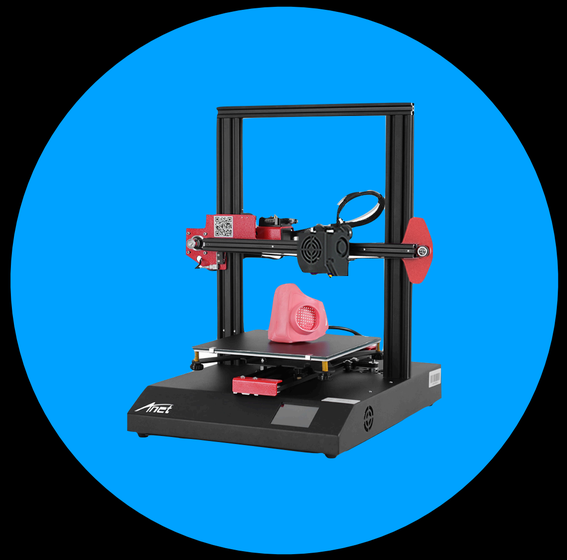
設計

TinkerCAD

Slicing software

Cura

zoom



3D 打印
(老師)

1×
VIDEO
PHOTO
PORTRAIT

在 Zoom 教學生使用軟件，學生遇到問題老師怎樣處理？

Chat

Active

Find people, rooms and bots

ROOMS

20-21 1B Computer (Ha sir)

20-21 1A Computer (Ha sir)

20-21 1D Computer (Ha sir)

IT Support

20-21 3B Computer (Ha sir)

20-21 3D Computer (Ha sir)

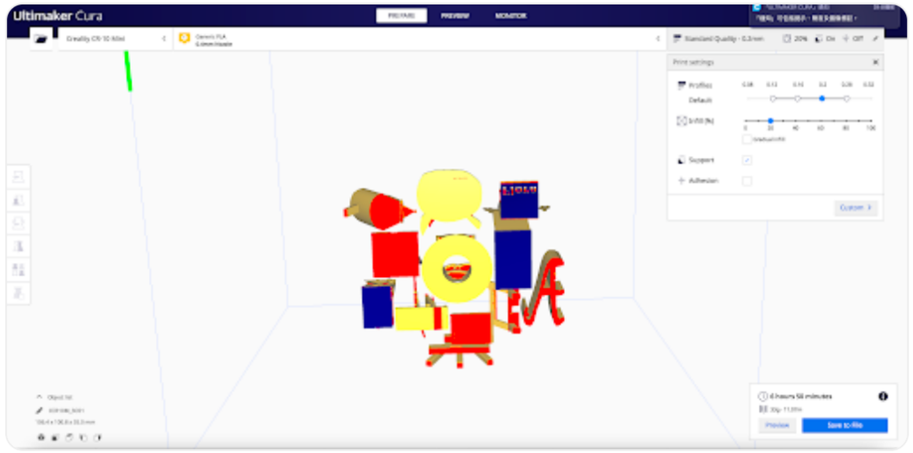
20-21 1C computer (Ha sir)

Less

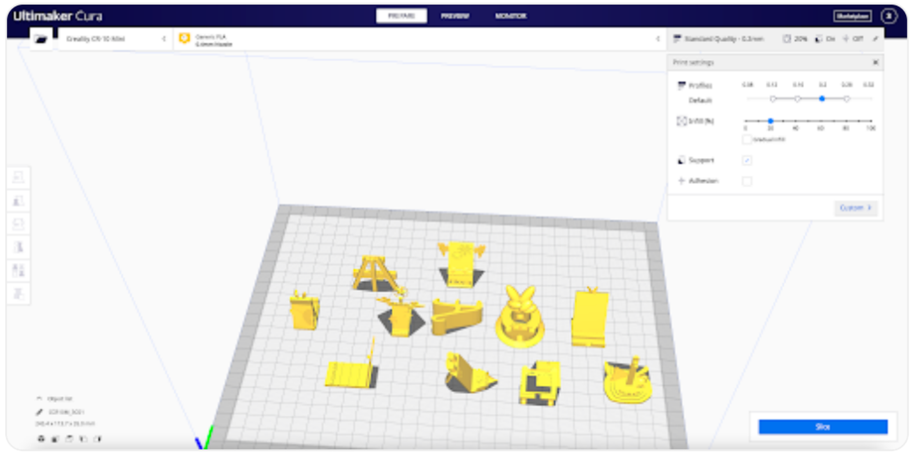
S3 3D Printing Group

15 members

3C Dec, 15:30



3C 9 Dec, 15:39



3C 9 Dec, 15:47

Jump to bottom

Google Chat

3D Printing Group

ok thanks

1A24 TSANG YEUK KIU JACEY ...
You: D 字唔貼地

1C05 CHOW TSZ WING 周梓穎
You: You can get it back when you com...

1C11 HO HIU KEI 何曉其
You: Got it, thanks 😊

More

ROOMS

20-21 1B Computer (Ha sir)

20-21 1A Computer (Ha sir)

20-21 1D Computer (Ha sir)

IT Support

20-21 3B Computer (Ha sir)

20-21 3D Computer (Ha sir)

20-21 1C computer (Ha sir)

20-21 科主任

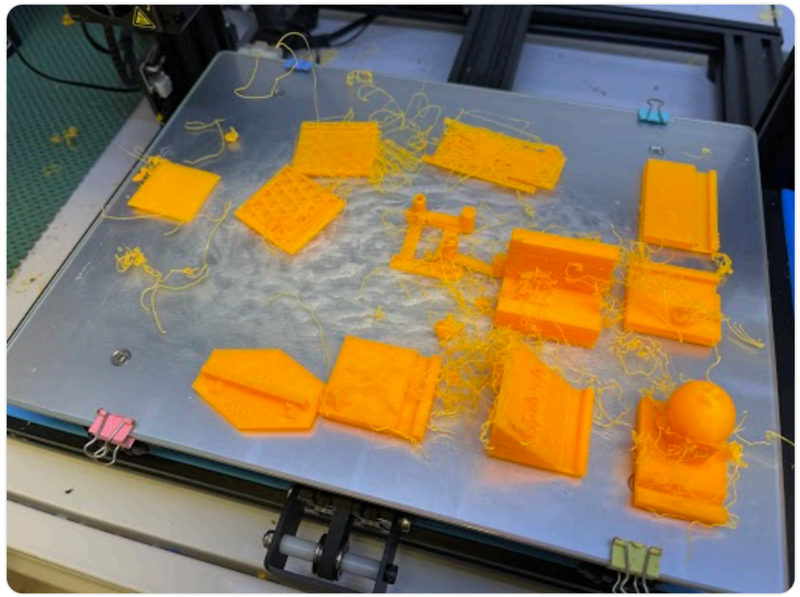
More

BOTS

Bots can automate tasks or send timely updates.

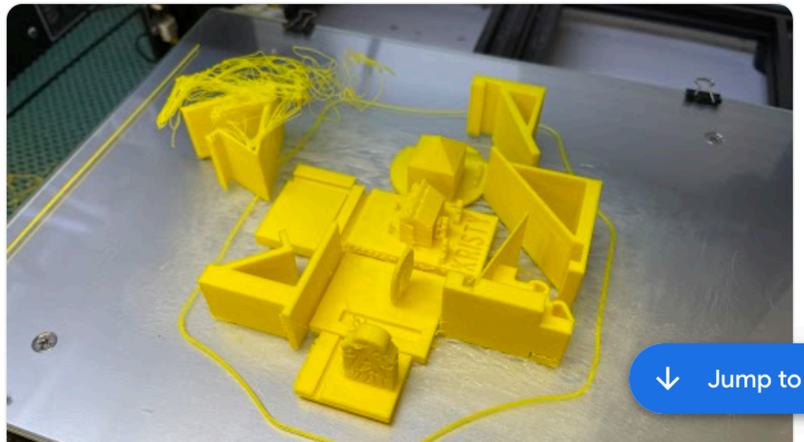
夏志雄HA Chi Hung 15 Dec, 08:03 • Edited

Cura's auto arranged models have not been used, therefore the 3D models are spread out, and since not the whole plate is painted with glue, therefore many models cannot stick to the hot plate, and fail 😢



夏志雄HA Chi Hung 15 Dec, 08:03 • Edited

Print successful, except the model at the upper left corner needed to be re-printed.



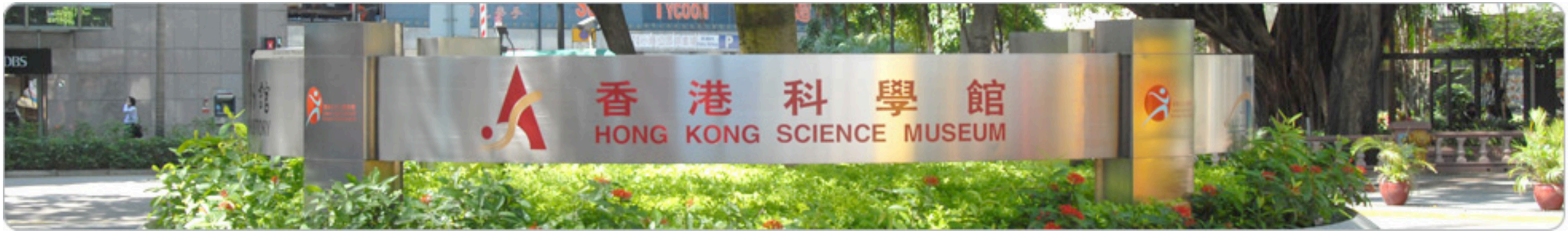
Jump to bottom

網上/電子教學設計貼士

若想得到最大教學果效，指導學生利用科技製作成果，而不單是透過科技吸收資訊。

Information consumer ✗

Information producer ✓



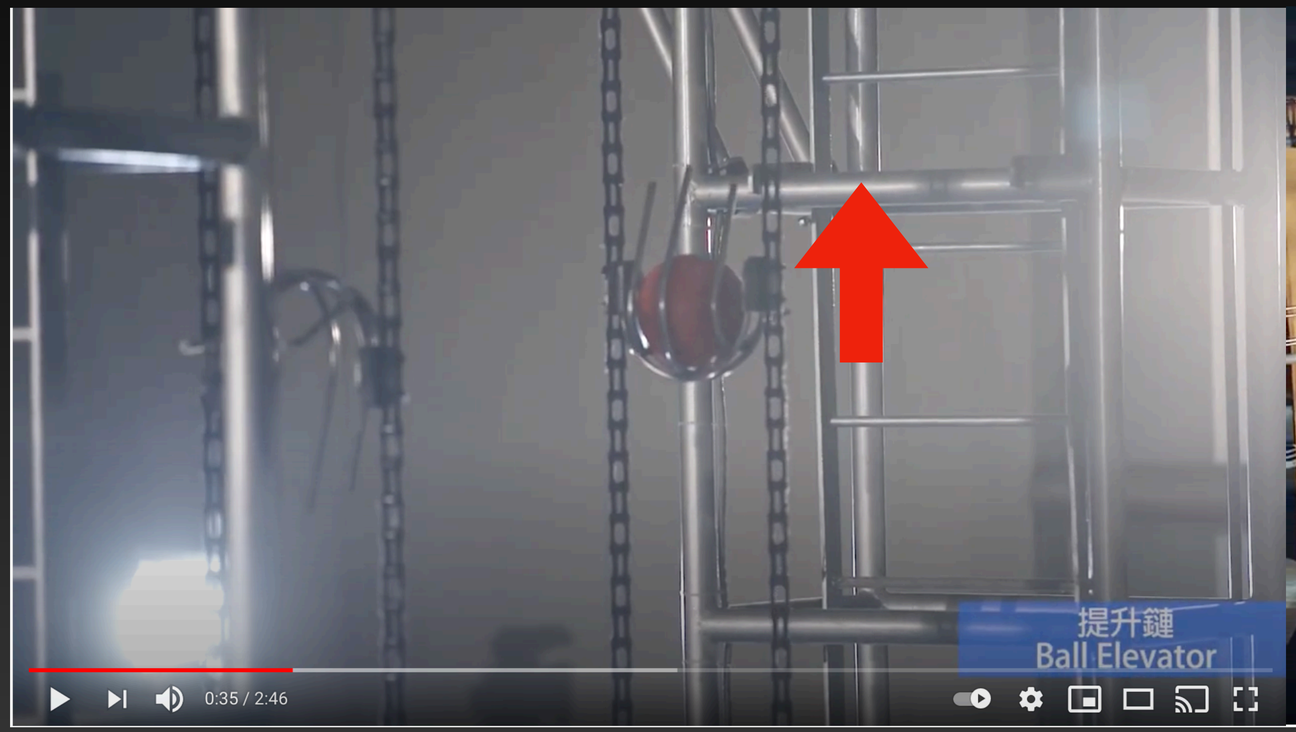
常設展廳簡介及導覽圖
地下展廳
一樓展廳
二樓展廳
三樓展廳

能量穿梭機

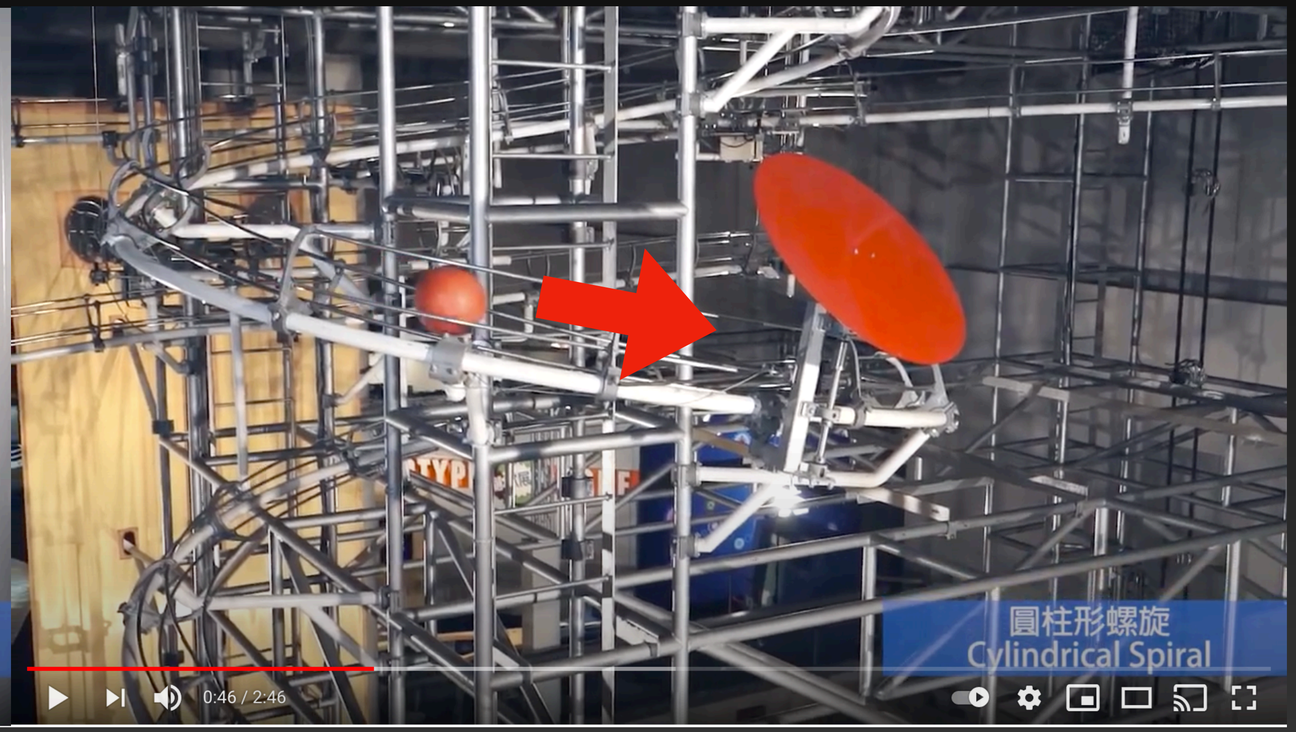
以充滿動感的形式展示能量的變化。

位置	機械部件	位置	機械部件
A1.	提升鏈	B6.	鑼
A2.	圓柱形螺旋	B7.	之字形軌道
A3.	圓錐形螺旋	B8.	木琴
A4.	大回環	B9.	帆翼鐘擺
A5.	收集站	B10.	重力井
B1.	數球器	B11.	搖擺弧

Energy concepts



Potential energy (勢能)



Kinetic energy (動能)

即使學生睇完片，老師設計問題，學生回答了，甚至 present 了，這種「知道」還未算是最深入。最徹底是 ...

學生動手製作自己版本的模型

Home
Trending
Subscriptions

Library
History
Your videos
Watch later
Jean Piaget Construc...
Show more

SUBSCRIPTIONS

Cafe Music BGM c...
Relax Music
Soothing Relaxation
Yellow Brick Cine...
Lounge Music
The Honest Guys - ...
Cat Trumpet
Show 237 more

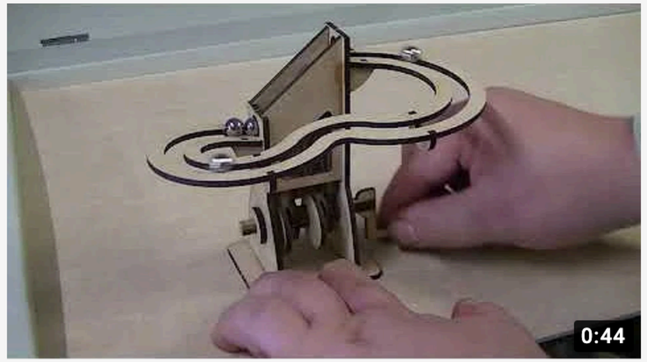
FILTER

How to make spiral Marble Machine - cardboard toy

5.6M views • 2 years ago

Liberman

In this video I'll show how to make spiral **Marble Machine** - cardboard toy If you like this video, do not forget to subscribe to my ...



Simple Marble Machine

3.6K views • 1 year ago

The MAD Museum

A fantastic kit for beginners! This hand-cranked **machine** is very **easy** to assemble and is suitable for use in school projects to ...

DIY Homemade - How to make Marble Run Machine from Cardboard

14K views • 2 years ago

EHC Gear

How to make **marble run** machine with dc motor from cardboard. I hope everyone like it! Thank you for watching!! Please ...

DIY Marble Run Machine From Cardboard

138K views • 2 years ago

10 CM
8CM
15CM

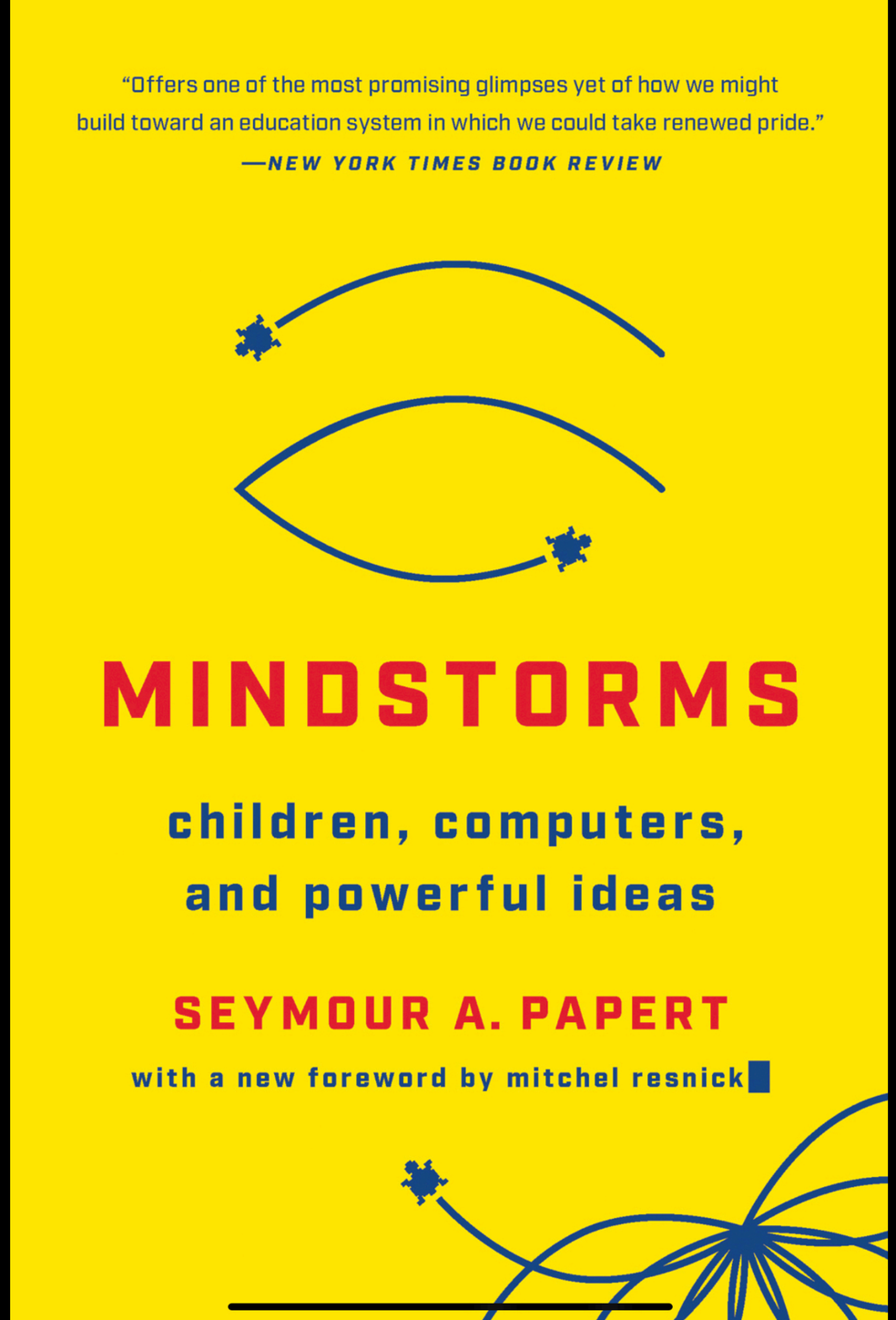
YouTube HK

熱熔膠槍用法

熱熔膠槍 使用方法

2,210 views • 2 May 2020

18 1 SHARE SAVE ...



Seymour Papert (1928-2016)

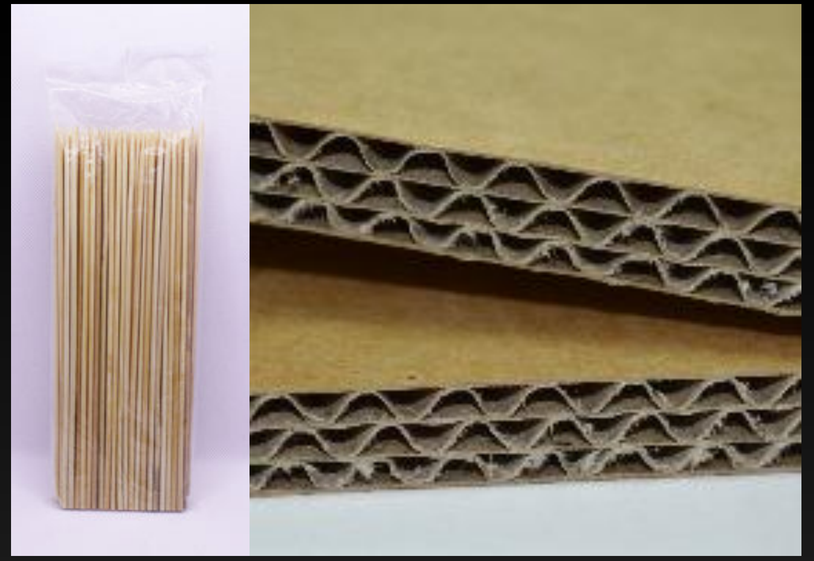
Inventor of LOGO programming language

Co-director of MIT Artificial Intelligence Laboratory

Project over problems

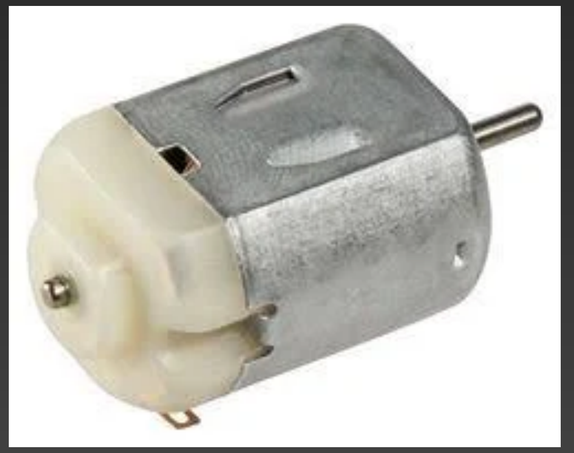
It is best for children to learn new ideas through working on meaningful projects, not before working on projects.

波子機



材料

熱熔膠槍



馬達

做中學
最好玩

期望大家為你的學生找到
喜歡做的 project