

中山女高 數理資優班介紹

柯妍安、許文禕、管靜妍、鍾蕎宇



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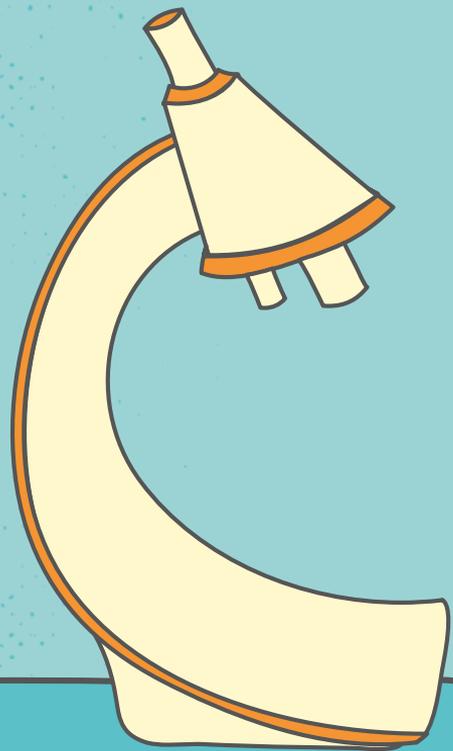
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三年大紀事



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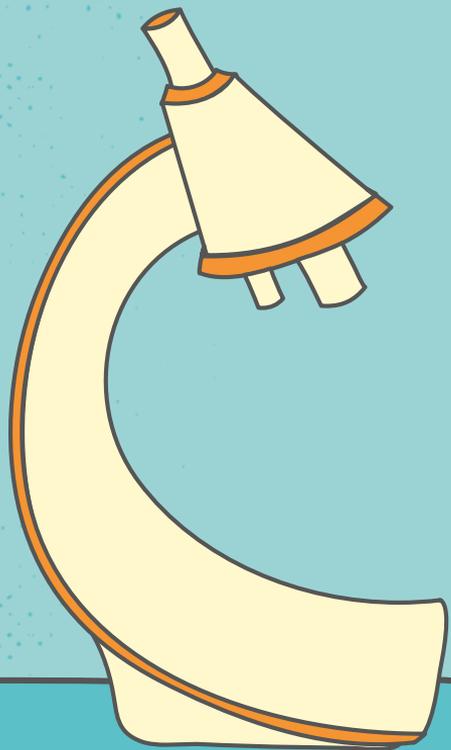
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02

廉班特色

廉班特色



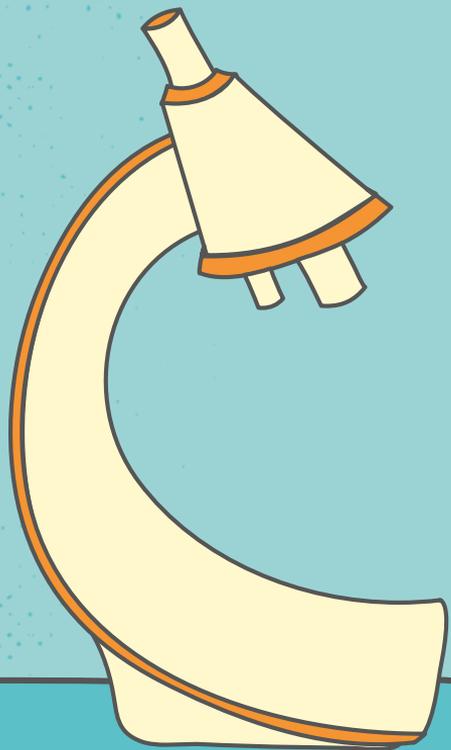
三年不分班



學習氛圍良好



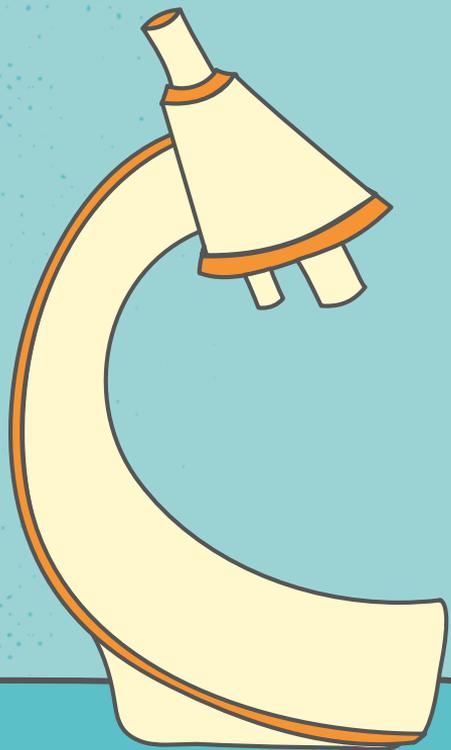
特色課程/活動



03

特色課程



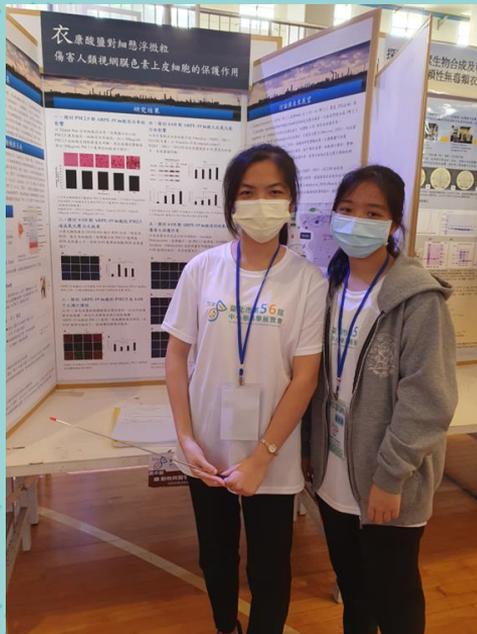


04

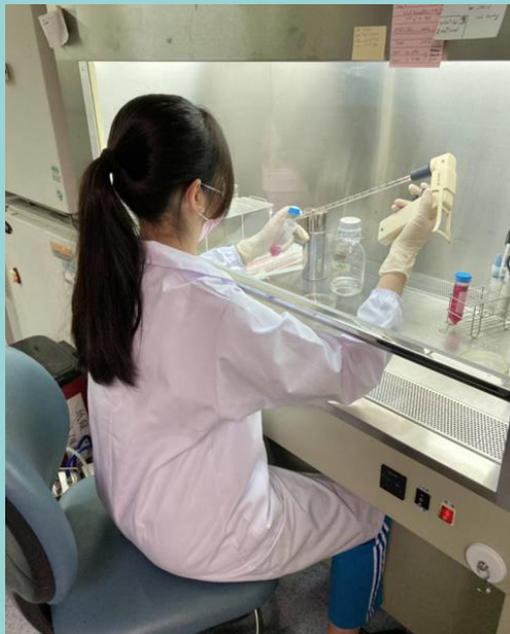
專題研究



專題研究分享-許文禕



科展比賽

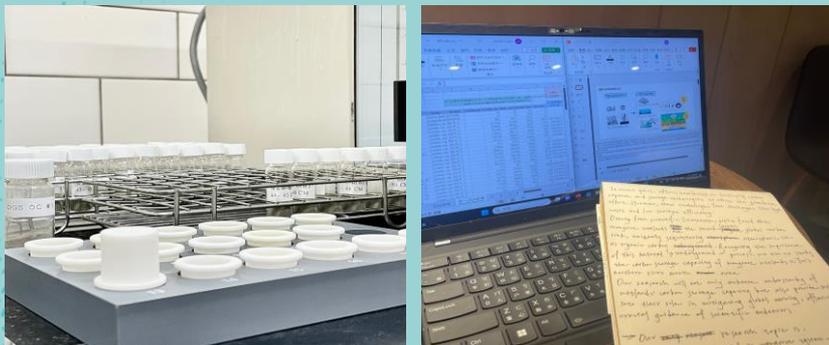
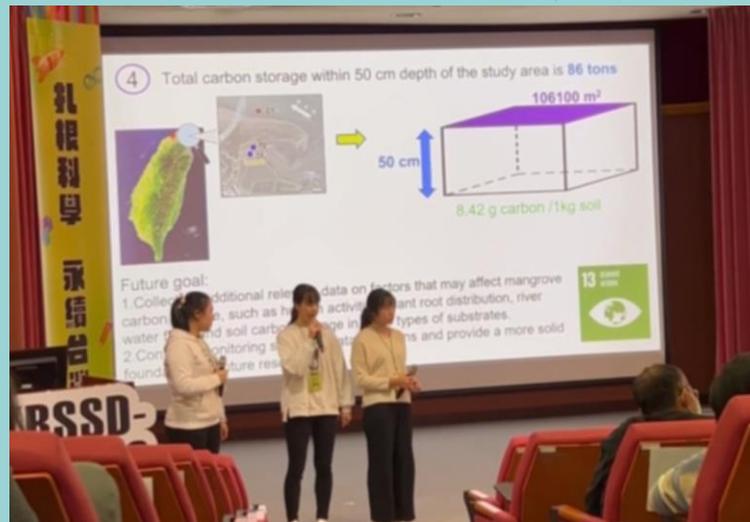


實驗照片



中等獎助計畫頒獎典禮

專題研究分享-管靜妍



三分鐘英語短講

實地採樣、樣本處理、數據分析

專題研究分享-柯妍安

1 of 1 **更好抽紅包策略的期望值和機率探討**

摘要
 假設你有 \$100 元，抽紅包 10 次，每次抽紅包金額在 \$1 到 \$100 之間。抽紅包金額是隨機的，且每次抽紅包金額是獨立的。抽紅包金額的期望值是 \$50.50，抽紅包金額的方差是 \$2475.50。抽紅包金額的期望值與抽紅包次數成正比，抽紅包金額的方差與抽紅包次數成正比。

研究目的
 1. 抽紅包金額的期望值與抽紅包次數成正比。
 2. 抽紅包金額的方差與抽紅包次數成正比。

研究背景
 抽紅包是中國人喜愛的活動之一。抽紅包金額的期望值與抽紅包次數成正比，抽紅包金額的方差與抽紅包次數成正比。

研究內容
 1. 抽紅包金額的期望值與抽紅包次數成正比。
 2. 抽紅包金額的方差與抽紅包次數成正比。

研究結論
 抽紅包金額的期望值與抽紅包次數成正比，抽紅包金額的方差與抽紅包次數成正比。

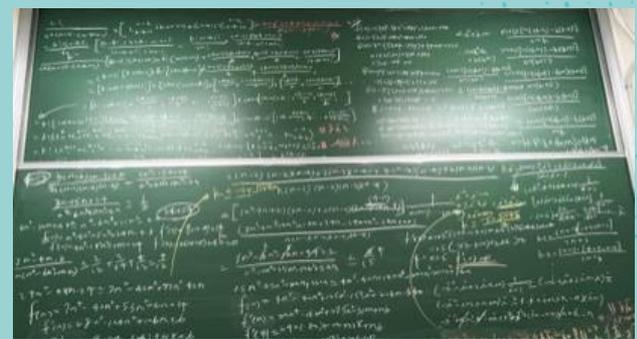
The Next One Will Be Better?
 Discuss the Expected Value and Probability of the Red Envelope Draw
 Author: Ke-Yun An

Summary
 Consider a lottery event where red envelopes of with a total of \$100 are placed in a box. The participants will have the amount of the red envelope immediately after drawing it, and then they can choose to claim the prize immediately, or they can choose not to claim it and continue to draw the red packet. If the amount drawn for the first time is the base value, the prize will be claimed when the amount drawn is greater than this base value, and if it is less than the base value, then the participants can give up and not claim it. But if the participants have already drawn the last red packet, they have to claim it. If the strategy is continued but the base value is changed to the maximum value of the previous draw, discuss the expected value and the probability size under different strategies.

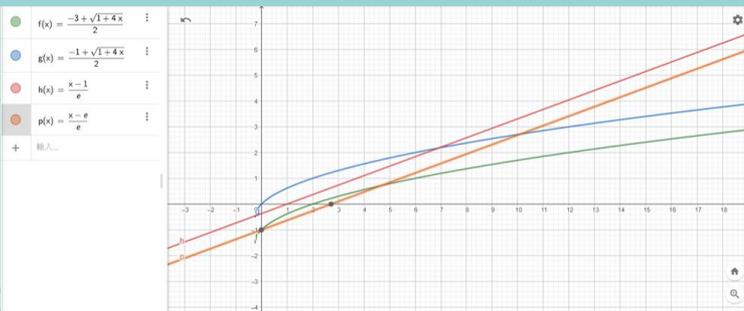
Research Objective
 (1) If the amount you draw is higher than the past k times you drew, what's the expected value in the red envelope?
 (2) If you want to get red envelope with the value of a dollars, which strategy should you use to have the highest expected value?
 (3) If you want to get red envelope with the value of a dollars, which strategy should you use to have the highest probability?

Process and Methods
 1. In the case that the amount drawn is larger than the previous k times, the expected value of the bonus amount is discussed.
 2. Expected value
 3. Find out under which circumstances can get the highest expected value

Conclusion
 If the amount you want to draw is higher than the past k times you have drawn, the expected value in the red envelope is $\frac{a}{k+1}$ dollars. What is given, the value of the expected value in the consideration, the range of a is $0 < a \leq 100$. If we take the probability in the consideration, the range of a is $0 < a \leq 100$. If we take the probability in the consideration, the range of a is $0 < a \leq 100$. If we take the probability in the consideration, the range of a is $0 < a \leq 100$.



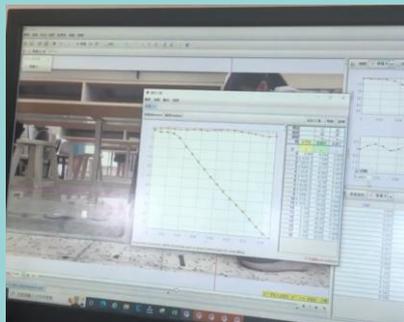
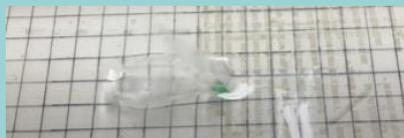
x :	f(x) :	g(x) :	h(x) :	p(x) :
1	-0.381966011...	0.618033988...	0	-0.632120558...
2	0	1	0.367879411...	-0.264241117...
3	0.3027756377...	1.302775637...	0.735758823...	0.1036383235...
4	0.5615528128...	1.561552812...	1.1036383235...	0.4715177646...
5	0.7912878474...	1.791287847...	1.4715177646...	0.8393972058...
6	1	2	1.8393972058...	1.2072766470...
7	1.1925824035...	2.192582403...	2.2072766470...	1.5751560882...
8	1.3722813232...	2.372281323...	2.5751560882...	1.9430355293...
9	1.5413812651...	2.541381265...	2.9430355293...	2.310914970543
10	1.7015621187...	2.701562118...	3.310914970543	2.6787944117...



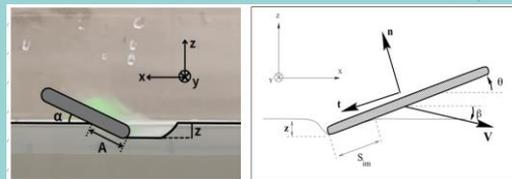
專題研究分享-鍾蕎宇



實驗



數據分析



文獻探討、建立理論模型

培養能力

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graph TD; A((培養能力)) --- B((解決問題)); A --- C((溝通表達)); A --- D((團隊合作)); A --- E((邏輯思考)); A --- F((時間規劃));
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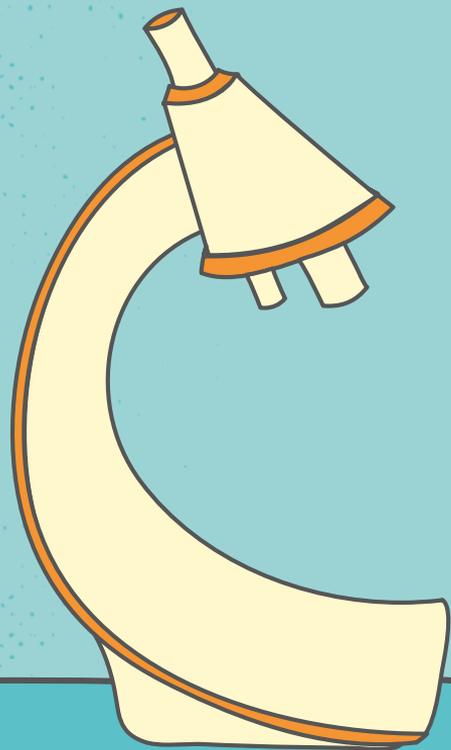
解決問題

溝通表達

團隊合作

邏輯思考

時間規劃



05



活動與競賽

◎ 廉迎、廉歡會



女科營



◎ 台中參訪



雙語成發



成發



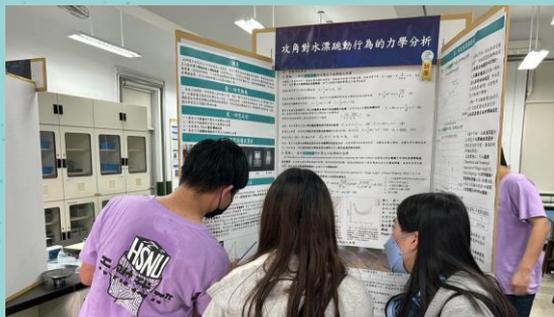
各種參訪活動



《科學少女》電影觀摩



地科專題講座



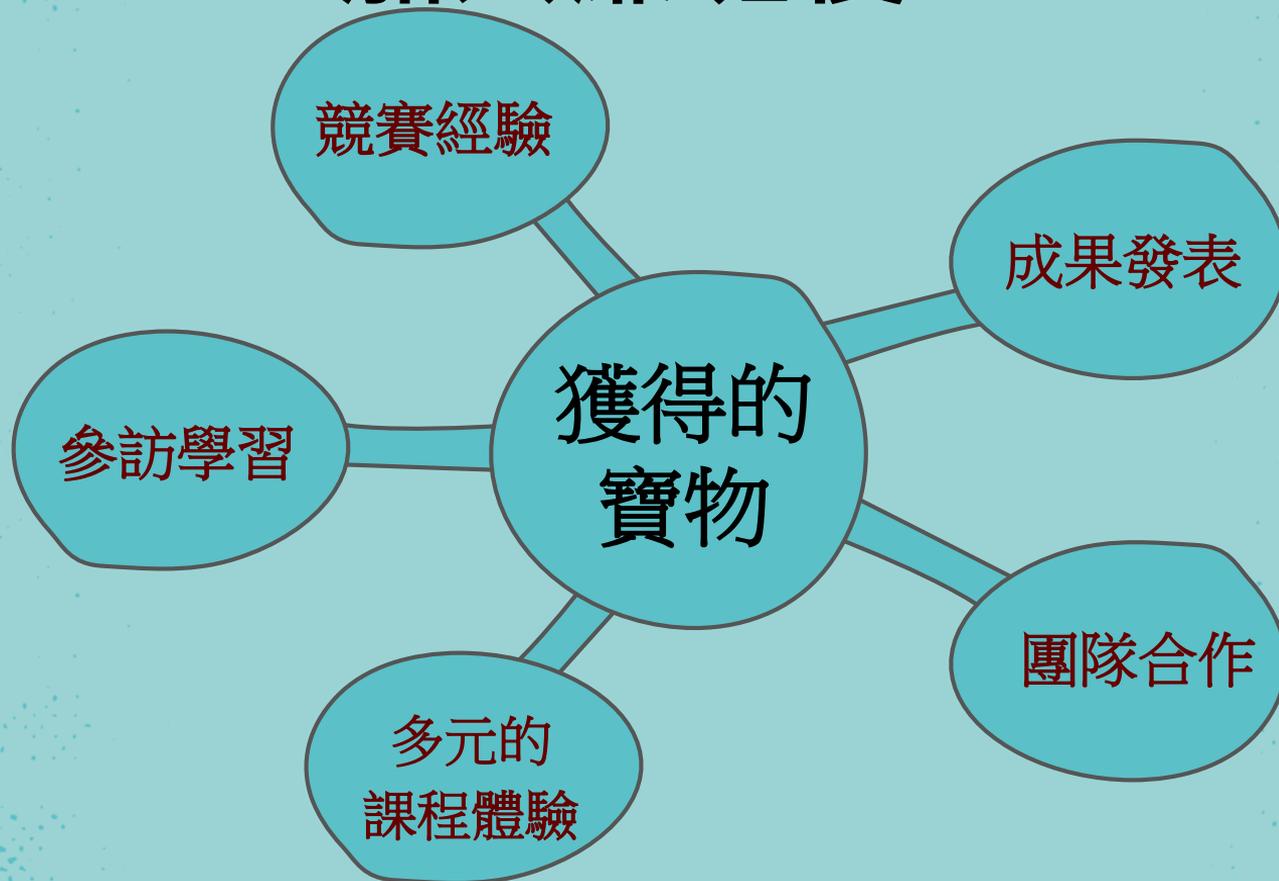
友校成發觀摩

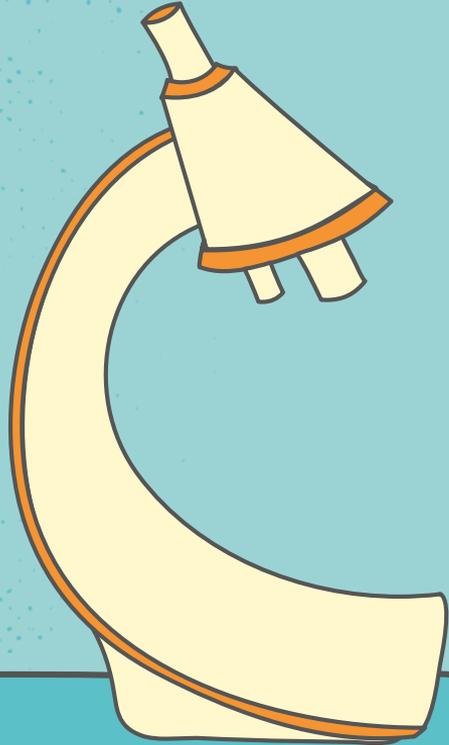


國際半導體展



加入廉班後...





06

Q&A





Q1：我適合讀數資班嗎？

A1：

- ❑ 對**數理、科學**有興趣
 - ❑ 對許多事物抱有**好奇心**
 - ❑ 進廉班後選擇自己有興趣的領域研究
- 

Q2：加入數資班就沒有社團、課外活動了？

A2：NO！一樣可以參與社團、校隊或其他活動，也可以擔任社團幹部

專題

社團

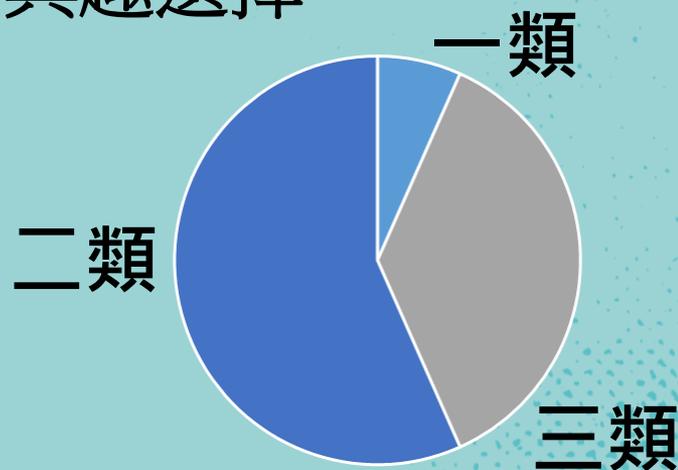
課業

三者間取得平衡

⇨ 時間管理能力

Q3 : 數資班 = 未來科系只能讀三類科系?

A2 : NO ! 數資班培養我們科學能力及探索能力，大家再根據自己的興趣選擇



END

