

Water Rocket 水火箭

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Grade 6 Scientists to the Rescue!

The astronauts on the International Space Station (ISS) are running out of supplies, and their rocket system on Earth is destroyed! This was the urgent mission our Grade 6 KCFS students had to solve:

"Can you create a rocket that can fly into space and deliver the much-needed supplies to the astronauts with only the power of water and air pressure?"

Mission Complete!

Our little scientists were able to create rockets that launched high into the sky, powered only by water and air pressure. Some teams even attached a working parachute so the rocket could come back down safely after delivering its payload to save the astronauts.

To accomplish this, students first had to understand how rockets fly. They converted a simple 2-liter water bottle into something that could fly as high as a building! In this project, they studied the center of mass, center of pressure, aerodynamics, and many other scientific concepts. They tested these concepts through inquiries by creating different types of rockets and airplanes to see how they fly. Congratulations, G6, on a successful launch!

六年級小科學家出任務！

國際太空站 (ISS) 上的太空人即將耗盡補給品，而地球上的火箭系統又被摧毀了！這就是我們康橋六年級學生必須解決的緊急任務：

「你能只用水與空氣壓力的力量，製造一枚能飛上太空、將急需的補給品送給太空人的火箭嗎？」

任務完成！

我們的小小科學家成功製造出只靠水與空氣壓力推動、能衝上高空的火箭！有些小組甚至設計可正常開啟的降落傘，讓火箭在完成任務、投遞補給後能安全返回地面，成功拯救太空人。

為了完成這個任務，學生首先必須瞭解火箭是如何飛行的。他們將一個簡單的兩公升寶特瓶改造成能飛到二至三樓高的水火箭！在這項專題中，他們學習質量中心、壓力中心、空氣動力學等多種科學概念。學生透過探究與實驗，製作各種不同的火箭與飛機，觀察它們的飛行方式。恭喜六年級學生！發射任務成功！

1

ASK + IMAGINE
提問 + 創思

2



Students researched the science of aerodynamics, center of mass, and center of pressure to understand how a rocket flies.

學生研究空氣動力學、質量中心與壓力中心的科學原理，以瞭解火箭是如何飛行的。

4

CREATE
創造



Following their plans, students carefully constructed their wonderful rocket prototypes from 2-liter bottles.

依照設計圖學生小心翼翼地用兩公升寶特瓶製作出精巧的火箭原型。

6

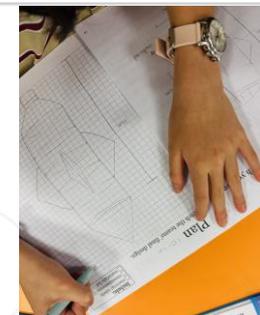
PRESENT
展現

Teams presented their final rockets, explaining their design choices and sharing their successful launch results. 各小組展示他們的最終版火箭，說明設計理念，並分享成功發射的成果。

3

PLAN
計畫

3



Teams drew detailed blueprints for their rockets, planning for fin shape, and cone design while trying to implement their lessons about center of mass and aerodynamics.

各小組繪製火箭的詳細藍圖，規劃尾翼形狀和錐形設計，同時嘗試將所學的質量中心與空氣動力學知識應用其中。

5

IMPROVE
改進

5



After initial test launches, students analyzed flight performance and made key data-driven improvements to their designs.

在初次試射後，學生分析火箭的飛行表現，並根據數據來改進設計。

