

Bridging the Gap 架起橋梁

The Scenario

After Typhoon Ragasa damaged a vital bridge in Hualien, the local government reached out to our Grade 5 junior engineers for a solution to safely reconnect the community.

The Mission

Students were tasked with designing and building a bridge prototype that could span a 30-centimeter gap. The structure had to be aesthetically pleasing, follow design and engineering principles and, most importantly, strong enough to hold a significant amount of weight.

The Result

Mission successful! Our teams built impressive structures using 100 craft sticks that met the strict engineering constraints. During the "stress test," the strongest designs held an incredible amount of weight (one bridge even held 45 kilograms), proving our students are ready to solve real-world problems!

模擬情境

在颱風樺加沙破壞花蓮的一座重要橋樑後，地方政府向我們的五年級小小工程師尋求解決方案，以安全地重新連接社區。

任務

學生的任務是設計並建造一個能跨越 30 公分空隙的橋樑原型。此結構不僅要美觀，且需遵循設計與工程原則，更重要的是必須足夠堅固以承受相當的重量。

結果

任務成功！我們的小組使用一百根冰棒棍建造令人印象深刻的橋樑，且符合嚴格的工程要求。在「壓力測試」中，最堅固的設計承受驚人的重量（其中一座橋甚至承重 45 公斤），證明我們的學生已經準備好解決真實世界的問題！

1

ASK + IMAGINE
提問 + 創思

2



We investigated different bridges like beam, truss, arch, and suspension bridges.

我們研究不同種類的橋樑，如樑橋、桁架橋、拱橋和吊橋。

3

PLAN
計畫

4



We worked together to create detailed scale blueprints.

我們合作並繪製詳細的比例藍圖。

4

CREATE
創造

5



We carefully constructed our bridges according to our plans.

我們依照計畫，小心地建造橋樑。

5

IMPROVE
改進

6



We tested the prototypes to identify structural weaknesses and strengthen the designs.

我們測試原型橋樑，以找出結構上的弱點並加強設計。

6

PRESENT
展現

7

We showcased our final prototypes and test results.

我們展示最終的原型橋樑及測試結果。



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