Beat the Flood
戰勝洪水

Facing the Flood: A Global Challenge

Grade 4 students explored the urgent global issue of flooding through the Beat the Flood project. Linked to Sustainable Development Goal 11: Sustainable Cities and Communities, the project challenged students to think about how to protect homes and infrastructure from natural disasters. They learned about different types of flooding and the devastating effects it can have—especially in areas vulnerable to climate change.

Investigating Materials and Structures

Students carried out hands-on investigations into material properties, testing for absorbency and strength. They evaluated everyday materials such as wood, cling film, and foil, and explored different types of structures—solid, shell, and frame—to understand how design can help a building survive flood conditions. Their findings informed the planning of their flood-proof houses.

Building and Testing Flood-Proof Homes

Each group then constructed a model home and tested it against simulated flood conditions. Students observed the results, identified areas for improvement, and suggested design changes. The project gave them a chance to apply science and engineering knowledge to a real-world challenge while developing problem-solving and critical thinking skills.

面對洪水：全球挑戰

四年級學生透過「戰勝洪水」專題探討全球緊迫的議題。這項專題與聯合國永續發展目標(SDGs)第十一項：「永續城鎮與社區」，學生思考如何保護住宅和基礎設施免受自然災害的影響。他們學習不同類型的洪水以及洪水可能帶來的毀滅性影響，特別是在那些容易受到氣候變遷影響的地區。

探討材料與結構

學生進行實作，探討材料的特性，測試其吸水性和強度。他們評估日常材料，如木頭、保鮮膜和鋁箔，並探索不同類型的結構——實心結構、外殼結構和框架結構——以瞭解設計如何幫助建築在洪水條件下生存。他們的研究結果為防洪住宅的規劃提供依據。

建造與測試防洪住宅

接下來，每組學生建造一個模型住宅，並將其測試於模擬的洪水情境中。學生觀察結果，找出需要改進的地方，並提出設計修正建議。這項專題讓他們有機會將科學和工程知識應用於現實挑戰，同時培養解決問題和批判性思維的能力。

1 ASK + IMAGINE 提問 + 創思 2

We learned about floods and tested various materials.
我們學習洪水並測試各種材料。

3 PLAN 計畫

We brainstormed and drew designs for a flood-proof house.
我們進行腦力激盪並繪製防洪住宅的設計圖。

4 CREATE 創造

We worked together to build and test our designs.
我們一起合作建造並測試我們的設計。

5 IMPROVE 改進

After testing, we identified areas that could be improved.
測試後，我們找出可以改進的地方。

6 PRESENT 展現

We presented our knowledge gained from the project.
我們發表從專題學到的知識。