

Renewable Energy 再生能源

Power Up the Planet

Natural resources like the sun, water, and wind can help us make energy in a clean and safe way. This kind of energy is called renewable energy because it does not run out and can be used again and again. In real life, people use solar panels on houses, wind turbines on hills, and moving water in dams to make electricity for homes, schools, and cities. In our class, we explored how these natural resources power our everyday lives and help us take care of our Earth.

Designing and Creating a Wind Turbine

The main goal of this project was for students to test different blade designs before creating a functional pinwheel that could capture wind energy. Students explored what causes wind and how wind energy can help people in real life. Critical thinking was used when students tested different blade designs, observed results, and decided how to improve their pinwheels. Communication was shown as students shared ideas, explained their findings, and discussed which designs worked best. Collaboration took place as students worked together in small groups to build, test, and improve their creations, while creativity was encouraged through designing unique pinwheel blades and exploring different ways to capture wind energy. This project also included service learning by helping students understand how renewable energy can support communities and protect the environment.

為地球注入能量

太陽、水和風等自然資源能幫助我們以乾淨且安全的方式產生能源。這種能源稱為「再生能源」，因為它不會耗盡，並且可以一再重複使用。在現實生活中，人們利用屋頂上的太陽能板、山丘上的風力發電機，以及水壩中流動的水來製造電力，供應家庭、學校與城市使用。在我們的課程中，我們探索這些自然資源如何為日常生活提供能源，同時幫助我們守護地球環境。

設計與製作風力渦輪

這項專題的主要目標，是讓學生在製作可運作的風車之前，先測試不同的葉片設計，以有效捕捉風能。學生們探索風是如何形成的，以及風能在現實生活中如何幫助人們。學生在測試不同葉片設計、觀察結果，以及思考如何改進風車時，運用批判性思考能力；在分享想法、說明發現，以及討論哪些設計效果最佳時，展現溝通能力；在小組合作中一起建造、測試並改良作品時，培養合作能力；而在設計獨特風車葉片及探索不同捕捉風能的方法時，也激發創造力。此外，這項專題也結合服務學習，幫助學生瞭解再生能源如何支持社區發展，並保護環境。

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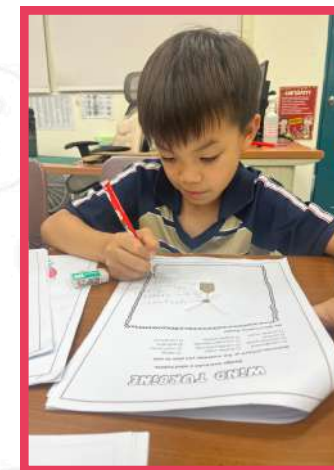
PLAN
 計畫



We had hands-on activities to show water, sun, and wind energy. 我們透過親手操作的活動，展示水能、太陽能與風能。



We drew a plan for the wind turbine. 我們為風力渦輪機繪製設計圖。



4

CREATE
 創造



We created different designs. 我們創造不同的設計。



5

IMPROVE
 改進



We tested designs, identified problems, and made improvements. 我們測試不同的設計、找出問題，並進行改良。

