

Power On 通電

Exploring Electricity

Students had an exciting opportunity to explore the fundamental principles of electricity through the **Power On!** project. They discovered that electricity is a powerful energy source that enables everyday technology, such as lights and electronic devices, to function. To deepen their understanding, students participated in interactive activities that helped them visualize electricity flowing through a circuit, much like water moving through pipes. This hands-on approach reinforced the concept that a circuit is a complete, unbroken path through which electrical energy travels.

Creating a Harry Potter Wand

The goal of this project was for students to build a functional simple circuit by designing their own wizard wands. In the early stages, students explored different sources of electricity, such as batteries, and learned that electricity flows in a complete circuit. They also identified key components of a simple circuit: a power source (battery), conductive path (wires), and an output (light bulb or LED). As students built their "magic wands," they developed essential skills such as following step-by-step instructions, working both independently and in small groups, and using basic materials to create a working circuit. They recorded their observations in simple statements, such as "*The light turned on*" or "*The light did not turn on*." This hands-on project not only helped students understand the fundamentals of circuits but also sparked their creativity and problem-solving skills. In the end, their wands truly felt magical—all thanks to the power of electricity!

探索電力

學生有一個令人興奮的機會，可以透過「通電」來探索電的基本原理。他們發現電力是一種強大的能源，使日常科技，如讓燈和電子設備等發揮作用。為了加深他們的理解，學生參加互動活動來幫助他們想象通過電路流動的電，就像水通過管道移動一樣。這種實踐方法強化電路是電能傳輸完整且不間斷的路徑的概念。

創造哈利波特魔仗

這項專題的目標是讓學生透過設計自己的魔法棒來建造一個功能性的簡單電路。在一開始，學生探索不同的電力來源，像是電池，並瞭解電力在一個完整的電路中流動。他們也辨識簡單電路的關鍵組件：電源（電池）、導電路徑（電線）和輸出（燈泡或LED）。隨著學生創造自己的「魔杖」，他們發展必要的技能，像是遵循一步步的說明，獨立製作以及相互合作，並使用基本材料來創造一個工電路。他們用簡單的描述記錄他們的觀察結果，例如「燈亮了」或是「燈沒有亮」。這項手做專題不僅幫助學生瞭解電路的基本原理，還激發他們的創造力以及解決問題的能力。最後，他們的魔杖彷彿充滿魔力，所有這一切都歸功於電的力量！

1 ASK + IMAGINE 提問 + 創思

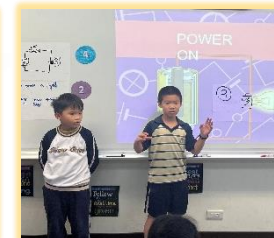
We explored circuits through fun games.
我們透過有趣的遊戲探索電路。



2

3 PLAN 計畫

We designed the wands with available materials.
我們使用現有的材料設計魔杖。



4

CREATE 創造

We used different materials to create the best combination for our wands.
我們利用不同材料為我們的魔杖創造最佳組合。



5

IMPROVE 改進

After several tests and observations we reported our findings.
經過數次測試及觀察，接著報告我們的發現。

