The G6 KCFS Gazette
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# Harnessing Hydropower
# 利用水力發電

## Understanding Energy Transformation

The grade six students explored different types of energy and how energy is transferred. They then learned about how real hydroelectric power plants work by storing water in a dam (potential energy) and then releasing it (kinetic energy) to spin a turbine. They also learned about how gravity and the height of the falling water affect the amount of potential energy it has.

## Designing and Creating the Water Wheels

After investigating the process of energy transfer, the students had to apply their knowledge in designing and creating a water wheel that would convert potential energy in stored water into motion. Their task was to design a water wheel that would be capable of lifting a set amount of weight. Using detailed designs, they were able to create accurate, working water wheel models.

## Testing the Water Wheels

The students had a lot of fun testing their water wheels. They poured water over them while recording the results for how much weight it was able to lift and their observations during the test. After an initial round of testing, they used their results and observations to critique their wheels and develop a new design for an improved wheel.

## 瞭解能量轉換

六年級學生探索不同類型的能量以及能量的傳遞方式。然後，他們瞭解到真正的水力發電廠是如何運作的，方法是將水儲存在大壩中（勢能）然後釋放出水（動能）來旋轉渦輪機。他們也學到重力與落水高度如何影響其勢能大小。

## 水車設計與製作

在研究能量傳遞過程後，學生必須運用他們的知識設計和製造一個水車，將儲存在水中的勢能轉化爲運動。他們的任務是設計一個能夠舉起一定重量的水車。藉由詳細的設計，他們能夠創造精確且有功用的水車模型。

## 水車測試

學生們在測試水車時都非常開心。他們將水倒在水車上，同時記錄它能夠舉起多少重量以及他們在測試期間的觀察結果。經過第一輪測試，他們利用結果和意見來評論他們的水車，並發展出改進水車的新設計。

### 1 ASK + IMAGINE 2 提問 + 創思

Students learned about types of energy and energy transfer.
學生們學習了能量和能量轉移的類型。

### 4 CREATE 創造

Students brought their designs to life and got creative with building their water wheels.
學生將他們的設計付諸實踐，並在建造水車方面有很多創意。

### 6 PRESENT 展現

Each group presented their findings to the class and compiled a report of their findings.
每組向全班同學介紹研究結果，並編寫報告。

### 3 PLAN 計畫

Students used their knowledge of energy transfer to design a water wheel model.
學生利用他們的能量傳遞知識設計一個水車模型。

### 5 IMPROVE 改進

After testing, students reflected on their results to make improvements to their designs.
測試後，學生反思他們的結果，並改進他們的設計。