

The Weather: Hot or Cold 天氣：熱或冷

Understanding Temperature

When something is hot, it is measured by its temperature. Water freezes at 0°C and boils at 100°C . As a basis for understanding temperature and how it is measured we did basic research into various weather conditions. What causes them and why does the temperature change so much from winter to summer? During the early stages of the project students had the opportunity to study various different thermometers. Our daily lives are made easier by these devices especially now that we are able to measure our own temperatures wherever we go in our daily lives.

Creating a Thermometer

In the beginning, the students were introduced to the materials they would need to create their own thermometers. The problem had to be solved on their own. Therefore, the design process took a little more time. Collaboration, discussion, and planning were all required by the students. It was amazing to see the variety and quality of some of the designs. The exact design was even figured out by several groups.

We put them together step-by-step after everyone showcased their designs. With warmer temperatures, the water inside the straw moved up, while with cooler temperatures it moved down.

了解溫度

藉由溫度測量，我們得知某東西很熱。水在 0 度時結冰，在 100 度時沸騰。為了解溫度及其測量方式，我們對各種天氣條件進行了基礎研究。究竟是什麼原因引起的，為什麼氣溫從冬天到夏天的變化如此之大？此專題的第一階段，學生有機會學習各種不同的溫度計。這些儀器使我們的日常生活更輕鬆，特別是現在我們無論走到哪裡，都能夠測量自己的溫度。

製作溫度計

一開始，老師介紹製作溫度計所需的材料。由於學生須要自己解決問題，因此在設計過程中花了一些時間。學生需要合作、討論及計劃。部分設計展現出多樣性和品質令人感到不可思議，有幾個小組甚至規劃了精確的設計。

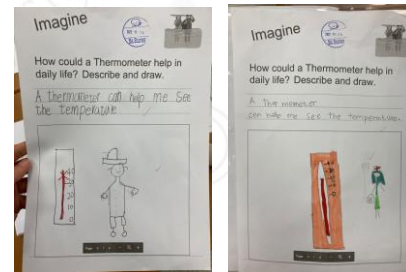
每個人展示他們的設計後，我們一步一步將它們組合在一起。隨著氣溫升高，水裡的吸管向上移動，而隨著氣溫的降低，水裡的吸管向下移動。

1 ASK + IMAGINE 提問 + 創思

We researched and examined the reasons for different temperature.
 我們研究並檢視造成不同溫度的原因。



3 PLAN 計畫



We had to plan and design a thermometer that would effectively measure temperature.
 我們必須計劃並設計一種能有效測量溫度的溫度計。

4 CREATE 創造



It looked simple, but it was tricky to put the thermometer together.
 看起來很簡單，但是把溫度計組合在一起很棘手。

5 IMPROVE 改進

We tried several times to see if our thermometers could effectively measure hot and cold temperatures, and made changes to our plan as needed.
 我們試了幾次，看看我們的溫度計是否能夠有效地測量冷熱溫度，並根據我們的需要對計劃進行修改。

