

Magnets

磁鐵

The Power of Magnets

A magnet is a material or object that produces a magnetic field. This magnetic field is invisible but is responsible for the most notable property of a magnet: a force that pulls on other ferromagnetic materials, such as iron, and attracts or repels other magnets.

Attract and Repel

Students had the opportunity to investigate and draw conclusions about what magnets can do or can't do. During the first two stages of the project, they used magnets of different strengths to learn about and understand key concepts such as attract and repel. Students came up with creative ideas on how to test the strength of a magnet by placing objects in a jar filled with water and using a magnet to move the objects in the jar. One of the most exciting activities was using the magnets to repel each other causing magnets to levitate.

Magnetic Tool

It is important to ensure that through all these activities students were able to hit certain goals and objectives. One of those goals and objectives was to predict which magnets were the strongest. This was enabled through the main activity when they were asked to create a tool that could collect as many metal objects at one time as possible. Students went back and forth trying and testing different magnets to see which ones gave them the best results.

磁鐵的力量

磁鐵是產生磁場的素材或物品。磁場雖然看不見，但卻是磁鐵最顯著的特性：拉動其他具磁性的材料(例如鐵)並吸引或排斥其他磁鐵的力。

吸引和排斥

學生有機會觀察可使用磁鐵做到哪些事，並得出結論。在專題的前兩個階段，他們使用了不同強度的磁鐵來學習和理解吸引和排斥的關鍵概念。學生提出創意的想法來測試磁鐵強度，透過將物品放入裝有水的瓶中，並使用磁鐵讓物品在瓶中移動。最有趣的活動之一是使用磁鐵相互排斥，導致磁鐵懸浮。

磁性工具

確保學生能夠透過這些實作達到學習目標和目的是很重要的，其中之一是預測哪些磁鐵的磁力最強，並製作可以同時吸引最多金屬物品的工具。學生來回嘗試並測試不同的磁鐵，看看哪些磁鐵能達到最好的效果。

1

ASK + IMAGINE
提問 + 創思

2



A racetrack helped us explore the concepts of attracting and repelling.
賽道幫助我們探索吸引和排斥的概念。



3

PLAN
計畫



We tested magnet strength through objects and substances.
我們透過物體和物質測試磁鐵強度。



4

CREATE
創造



Creating and testing different magnetic tools is fun.
創建和測試不同的磁性工具很好玩。

5

IMPROVE
改進



We combined various materials to improve our tools.
我們運用各種材料改進我們的工具。

