

February 2025

Engineering Sound

音訊工程

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Discovering Sound

Sound is created when an object vibrates, sending waves of energy through the air to our ears. The stronger the vibrations, the louder the sound.

This project was filled with hands-on activities that allowed students to explore sound in fun and interactive ways. They built their own harmonicas and witnessed sound vibrations in action using rubber bands. Students also experimented with paper cup and string telephones, discovering how sound travels through different materials.

We also explored how animals use sound to communicate, socialize, and find food, focusing on echolocation. Through interactive class games, students experienced firsthand how echolocation works and how certain animals rely on it to navigate their environment.

Helping the band

The main challenge for students was to create harmonicas and drums to contribute to a band. First, they studied how sound is produced and how vibrations create different pitches. Then, they carefully assembled and decorated their harmonicas and drums before testing them out. It took teamwork, patience, and creativity, but in the end, they successfully made and played their own instruments. Who knows? We might have some future musicians and sound engineers in our midst!

發現聲音

當物體振動時，就會產生聲音，能量波透過空氣傳到我們的耳朵，振動越強，聲音越大。

此專題有許多手做活動，讓學生以有趣和互動的方式探索聲音。學生製作自己的口琴，並用橡皮筋觀察聲音振動的作用。學生也用紙杯和繩子進行電話實驗，探索聲音如何透過不同的材料傳播。

學生也探索動物如何利用聲音進行溝通、社交和尋找食物，並專注於研究迴聲定位。透過課堂互動遊戲，學生親身體驗迴聲定位的工作原理以及某些動物如何依靠迴聲定位來導航。

組成樂團

學生的主要挑戰是製作口琴和鼓來組成一個樂團。首先，他們研究聲音是如何產生的，以及振動如何產生不同的音調。接著，學生精心組裝和裝飾口琴和鼓，並進行測試。這需要團隊合作、耐心和創造力，但最終他們成功製作並演奏自己的樂器。我們之間可能有人會成為未來的音樂家和音響工程師！

1 ASK + IMAGINE 提問 + 創思

We explored sound by experimenting with string telephones and engaging in exciting echolocation games. 我們透過傳聲筒和參與迴聲定位遊戲來探索聲音。



4 CREATE 創造

We collaborated and created some amazing instruments. 我們相互合作製造令人驚艷的樂器。



5 IMPROVE 改進

Each instrument was tested and improved where needed. 每種樂器都經過測試，並根據需要進行改進。



3 PLAN 計畫

We combined different materials to design our instruments. 我們結合不同材料來設計樂器。

