

Simple Machines

簡易機械

Gathering Facts

Simple machines are mechanical devices that alter the direction or magnitude of force. They are the most basic mechanisms that utilize mechanical advantage to amplify force. The six types of simple machines include the wedge, screw, lever, pulley, inclined plane, and the wheel and axle. All of these machines facilitate easier work and typically have minimal or no moving components.

Making it Work

A pulley is a device consisting of a wheel that allows for the change in direction of force. When downward pressure is applied to one side of a lever, the opposite side rises. By positioning the narrow end of a wedge against a log, it becomes possible to strike it with a hammer. Transporting heavy objects uphill is easier compared to lifting them directly without the assistance of a ramp. Throughout the learning process, students were introduced to each individual simple machine and had the opportunity to construct them. As we explored the various applications and functionalities of these machines, it was inspiring to witness the students' collaborative efforts and inventive spirit as they designed and tested their own simple machines.

收集事實

簡易機械是一種改變力的方向或大小的機械裝置，這些是利用機械優勢來倍增力的最簡單機制。這六種簡單的器具是楔子、螺絲釘、槓桿、滑輪、斜面和輪軸。它們使運作更容易並減少零件位移。

動起來！

滑輪可以改變力的方向，當推下槓桿的一側時，另一側會上升，當楔子的細端被放在原木上時，可以用錘子敲打它，將重物移上坡道比在沒有坡道的情況下將它們直接抬起更容易。學生們學習每種簡易機械並且有機會操作，在我們了解這些機器的不同用途和功能後，學生能夠相互合作和運用創造力發明並測試自己的簡易機械。

1

ASK + IMAGINE
提問 + 創思

2

Students learned about all six simple machines and how they can help us.
學生們學習六種簡易機械及他們的用途。



3

PLAN
計畫



Each student planned how to create a pulley or wheel & axle.
每位學生設計如何創造滑輪或輪軸。



4

CREATE
創造



We worked together to create working pulleys or cars to show how simple machines function.

我們一起做出活動滑輪或車子來應用簡易機械的功能。

5

IMPROVE
改進



We tested and made improvements to our designs where needed.
我們測試並改進我們的設計。

