

Simple Machines 簡易機械

Gathering Facts

Simple machines are mechanical devices that change the direction or magnitude of force. These are the simplest mechanisms that use mechanical advantage to multiply force. The six simple machines are the wedge, screw, lever, pulley, inclined plane, and the wheel and axle. They all make work easier and have few or no moving parts.

Making it Work

A pulley has a wheel that allows you to change the direction of a force. When pushing down on one side of a lever, the other side goes up. By placing the thin end of the wedge onto a log, you can hit it with a hammer. It is easier to move heavy things up a ramp than it is to lift them straight up without a ramp. Students learned about each simple machine and were able to make all of them as we progressed through all the different uses and functions of these machines. It was great to see the collaboration and creativity as the students invented 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！

滑輪的輪子可以改變力的方向。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要容易。學生們學習每種簡易機械，並且能夠在我們逐步了解這些機器的不同用途和功能時，製作這些機器。學生們發明並測試自己的簡易機械，看到他們的相互合作和創造力，感到非常高興。

1

ASK + IMAGINE
提問 + 創思

2

Simple machines were made in a variety of ways.
簡易機械是用各種方法製造的。



3

PLAN
計畫

4

Simple machines were the result of our collaboration.

簡易機械是我們合作的結果。

4

CREATE
創造

5



We were able to make pulleys, wheels & axles, levers, an inclined plane, a wedge and a screw.

我們能夠製造滑輪、輪軸、槓桿、斜面、楔子和螺絲釘。

5

IMPROVE
改進

6

We shared our designs and helped each other make improvements.
我們分享我們的設計，並互相幫助彼此改進。

