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June, 2025

### **Mars Rover** 火星探測車

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#### Connection

Mars is a rocky, dusty place—kind of like a desert, but on another planet! Because it's so far away and no human has ever visited it, scientists need a special helper to learn more about it. This helper is called a Mars Rover! Imagine a really smart robot car with cameras and scientific tools. The Mars Rover drives around on Mars, taking pictures and exploring rocks and soil. It's like our very own space explorer, sending us postcards from another world. Thanks to the Mars Rover, we're discovering amazing things about our neighbor, Mars!

### Mission from NASA

Students took on the exciting challenge of helping NASA build a Mars Rover! Following the steps of the engineering design process, they first researched Mars looking at its colors, textures, temperatures, and imagining what they might see, hear, or even smell there. This research guided their designs. Students carefully planned and selected materials to create rovers with wheels and axles to move around. It was impressive to see them bring their ideas to life! Working together, they also improved their designs by adding features like antennas, satellite dishes, and scoops to help collect information about Mars.

#### 連結

火星是一個多岩石、充滿塵土的地方,有點像沙漠,但是是在另一個星球上!因為 它離我們非常遙遠,而且從來沒有任何人類造訪過,科學家需要一位特別的幫手來更深 入瞭解它。這位幫手就叫做「火星探測車」!想像一輛非常聰明的機器人車,它配有攝 影機和科學工具。火星探測車會在火星表面移動,拍攝照片,並探索岩石和土壤。它就 像是我們專屬的太空探險家,從另一個世界寄明信片給我們。多虧了火星探測車,我們 才能發現關於鄰近星球,火星的種種驚奇!

### 來自 NASA 的任務

學生接受一項令人興奮的挑戰:幫助 NASA 建造火星探測車!他們依照工程設計流 程的步驟,首先研究火星,觀察它的顏色、質地、溫度,並想像如果親自到那裡,可能 會看到、聽到·甚至聞到什麼。這些研究結果為他們的設計提供靈感與方向。學生仔細 規劃,選擇合適的材料,製作出能夠移動的火星探測車,配有輪子和軸心。他們把創意 變成現實的過程,實在令人印象深刻!透過合作,他們還進一步改良設計,加入像是天 線、衛星接受器和挖掘工具等配備,幫助火星探測車蒐集更多關於火星的資訊。



#### **ASK + IMAGINE** 提問 + 創思



We explored the planet Mars and shared our existing knowledge before learning even more exciting facts. 我們一起探索火星,並在學習更多有趣新 知之前,先分享自己原本就知道的知識。





# **PLAN**

Collaboration was important to help us choose the best materials for our designs.

合作對我們來說非常重要,可幫助我們選擇出最適合設 計的材料。

**CREATE** 







We had to consider the rough surface of Mars and find a way to build a simple machine that could move across it effectively.

我們必須考慮火星崎嶇不平的地表,並想出方法來製作一台 能夠順利在上面移動的簡單機器。









## **IMPROVE**



We made improvements to our rover by adding extra features to help NASA take better pictures and collect samples.

我們為火星探測車加入額外的功能,讓 NASA 能拍下更清晰的照片並收集更多樣 本,從而提升了火星探測車的效能。



