

第 13 集： 星球農場 - 太空種菜記 Space Farming

艙外是火星。零下六十度。艙內一顆萵苣，正在綠葉微展。

這不只是電影《The Martian 絕地救援》裡的場景；已經是 NASA 的實驗太空艙。

想像一下，長達三年的太空任務，沒有補給、沒有地球超商。

人類，要靠什麼活下來？

A farm... on star. 太空農場

如何從《絕地救援》的想像，變成真實任務中的關鍵技術。

A. News in Tech Tones

NASA successfully grew lettuce and radishes on the International Space Station, marking a major step for future Mars missions.

NASA 在太空中種出萵苣和蘿蔔，這是未來火星任務的重要一步。

Just like in The Martian, to grow plants in space, you need to manage light, water, air - with no gravity.

就像電影《絕地救援》，在太空種菜，得搞定光、水、空氣，還有「沒有重力」的問題。

B. Tech Key Words

Space Farming，太空農耕

Space 太空

Farming 農業耕作

Space Farming = growing food in space, like on a space station or Mars.

「太空農耕」就是在太空站或火星上種植食物的技術

對話練習：

A: Space farming uses hydroponics - plants grow in water and nutrient, not soil.

太空農耕用的是水耕法，植物不靠土，只靠水和營養。

B: And in zero gravity, space farming needs tech like LED lights and aeroponics to feed the roots.

在沒有重力的環境下，太空農耕得靠科技幫忙，用 LED 燈和噴霧養根。

C. If Technology can talk

如果科技會說話，「Space Farming 太空農耕」會說什麼？

I grow without soil. I rise without gravity. I feed the future - one leaf at a time.

我無需土壤，也不靠重力，一片葉子一線希望，餵養未來

D. 字彙整理

Hydroponics (noun) 水耕法

利用含有養分的水溶液（營養液）取代土壤，直接供植物吸收所需元素的栽培方式。

例句：Hydroponics allows plants to grow faster without soil.

水耕栽培使植物無需土壤也能更快生長。

Aeroponics (noun) 氣霧栽培法

植物根部懸空，以定時噴灑細微營養霧氣以提供水分與養分的栽培技術。

例句：Aeroponics sprays nutrient mist directly onto plant roots.

氣霧栽培法直接將營養霧噴灑在植物根部。

Gravity (noun) 重力、地心引力

Nutrient (noun) 營養

E. 關鍵字應用練習

Q1. What does “space farming” mean?

- ☐ A. Growing food on Earth using chemical fertilizers.
- ☐ B. Growing food in space, like on a space station or Mars.
- ☐ C. Growing plants only for decoration.

Q2. Why do plants in space need special technology?

- ☐ A. Because there is no sunlight in space.
- ☐ B. Because there is no soil and no gravity, so plants need light and aeroponics to grow.
- ☐ C. Because astronauts don't like vegetables.

Q3. What does space farming bring to the future?

- ☐ A. A way to make more money from farming.
- ☐ B. A symbol of hope for feeding humans in long space missions.
- ☐ C. A fun experiment for tourists.

Q4. (造句練習 sentence builder) 請用 space farming 造一個屬於你的句子。

舉例

主詞	動詞/動詞片語	其他元素
NASA	is testing	space farming to grow vegetables in zero gravity.
Astronauts	use	space farming to produce fresh food in space.
Space farming	helps	humans survive on long missions to Mars.

我的句子：_____

Q5. Fill in the blanks (填空題)

Space farming means growing food in _____.

Plants grow in water, not _____.

In zero gravity, space farming needs LED lights and _____ to feed the roots.

Space farming gives _____ for the future of human life in space.

(參考答案：space、soil、nutrients、hope)

一片綠葉，從太空艙中長出，承載的不只是食物，
更是人類對未知星球的想像與生存的希望。

we plant not just food - but the future
種下的不只是食物，還有未來