



Secondary Science

Science, Right On! 高中英語自然科學



Science, Right On! 是 21 世紀的學習方法，它使用高度**互動的科學內容**和**豐富的視覺效果**來吸引學生。它旨在支持基於探究的方法，讓學生參與**主動學習過程**，並通過**動畫、模擬和遊戲**等互動元素激發思考。科學概念與現實生活場景相關，以激發學生在課堂之外發現想法和概念的興趣。鼓勵學生在**探索概念**並**通過活動**提高思維能力時成為獨立的學習者。Science, Right On! 還支持各種教學方法，包括翻轉課堂課程和電子學習。

Lower Secondary Science (Grade 7-9)

In partnership with **amdon**



模擬 Simulations

體驗科學家的生活。
了解如何使用科學設備和進行實驗。
Experience the life of a scientist.
Discover how to use scientific equipment and conduct experiments.

Video demonstrations 影片展示

使用現實生活中的例子展示概念，以激發學生的興趣並激發探究過程。

Demonstrate concepts using real-life examples to pique students' interest and spark the inquiry process.





動畫 Animations

帶有幽默語境的動畫可以用作開課的開場白，並在學習科學方面帶來引人入勝而又令人愉快的體驗。

Animations with humorous contexts can be used as lesson openers and bring about an engaging yet enjoyable experience in learning science.

遊戲 Games

探索和應用通過有趣的互動遊戲學到的概念。

Explore and apply concepts learnt through fun and interactive games.



高中自然科學 — 物理、化學、生物學（10-11 年級） Upper Secondary Science — Physics, Chemistry, Biology (Grade 10-11)

該數字資源是從 MATTERS 系列（增強型電子書和題庫）中的數字元素重新利用的。

This digital resource is repurposed from the digital elements found in MATTERS series (enhanced ebooks and question bank)



物理 *Physics*

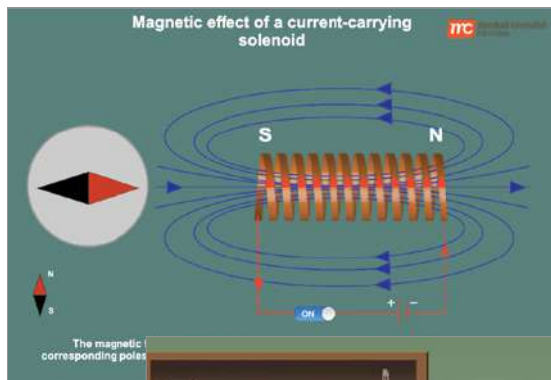


化學
Chemistry

Introduction*

Animations in a daily life context help to highlight the relevance of science and ignite students' interest towards the subject. Inquiry questions are also raised to guide students through the inquiry process.

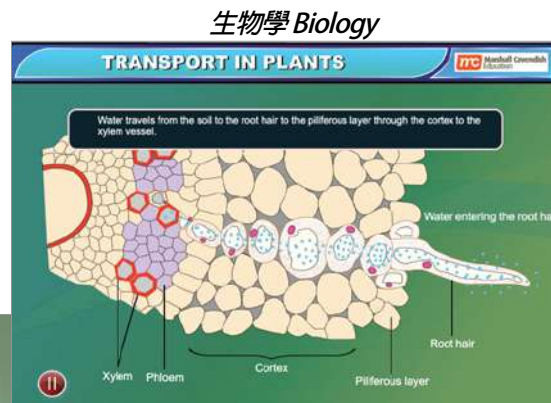
**Available for Physics and Chemistry only*



物理 Physics



化學 Chemistry



生物學 Biology

發現 Discover

透過互動活動或動畫學習和應用新概念，當學生構建假設以進行調查並得出結論時，這些活動或動畫提供了發展科學技能的機會。

Learn and apply new concepts through the interactive activities or animations which provide opportunities to develop scientific skills as students construct hypotheses to carry out investigations and draw conclusions.

2. A manometer is used to measure the pressure of a gas supply as shown in the diagram. How much greater than atmospheric pressure is the pressure of the gas supply?

a. 12 cm of oil
 b. 10 cm of oil
 c. 6 cm of oil
 d. 2 cm of oil

測驗 Quiz

MCQ 允許學生應用概念並測試他們對主題的理解。問題會自動標記以提供即時反饋。

MCQs allow students to apply concepts and test their own understanding of the topic. The questions are marked automatically to provide immediate feedback.

QUESTION 1

When 119 g of cobalt(II) chloride crystals, $\text{CoCl}_2 \cdot x\text{H}_2\text{O}$, are heated, 54 g of water vapour is obtained. What is the formula of the cobalt(II) chloride crystals?

$\text{CoCl}_2 \cdot 3\text{H}_2\text{O}$
 $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$
 $\text{CoCl}_2 \cdot 7\text{H}_2\text{O}$
 $\text{CoCl}_2 \cdot 9\text{H}_2\text{O}$

Explanation

Mass of anhydrous CoCl_2 left behind = $119 - 54 = 65 \text{ g}$

Number of moles of anhydrous $\text{CoCl}_2 = \frac{65}{130} = 0.5 = \frac{65}{130} \text{ mol}$

QUESTION 1

$\text{CoCl}_2 \cdot 7\text{H}_2\text{O}$
 $\text{CoCl}_2 \cdot 9\text{H}_2\text{O}$

Explanation

Mass of anhydrous CoCl_2 left behind = $119 - 54 = 65 \text{ g}$

Number of moles of anhydrous $\text{CoCl}_2 = \frac{\text{mass}}{\text{M}_r} = \frac{65}{59 + 2(35.5)} = \frac{65}{130} = 0.5 \text{ mol}$

Number of moles of H_2O in 54 g = $\frac{54}{18} = 3 \text{ mol}$

Therefore, mole ratio of $\text{CoCl}_2 : \text{H}_2\text{O} = 0.5 : 3 = 1 : 6$

Test*

Each test consists of 5 MCQs, which provides opportunity for consolidation of learning and formative assessment. Detailed solutions are presented in the explanations to help students clarify misconceptions. Questions are automatically marked.

*Available for Physics and Chemistry only