



電子教學資源簡介

Junior Secondary
Science
Mastering Concepts and Skills

初中科學
基礎概念與技能

牛津電子教材概覽

單一帳戶登入
牛津各大平台

帳號有效至 2023 年 6 月 30 日

01

教師資源中心



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一站式互動平台

03

課本・作業
互動 PDF

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評核平台和資源



05

教學資源



06

自主學習資源



01

Teacher's Resource Centre 教師資源中心

支援



iOS



Android



Windows



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全新設計 功能提升


NEW

收藏自選教材，
一按備用

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Junior Secondary Science Mastering Concepts and Skills

Teacher's Resources Centre

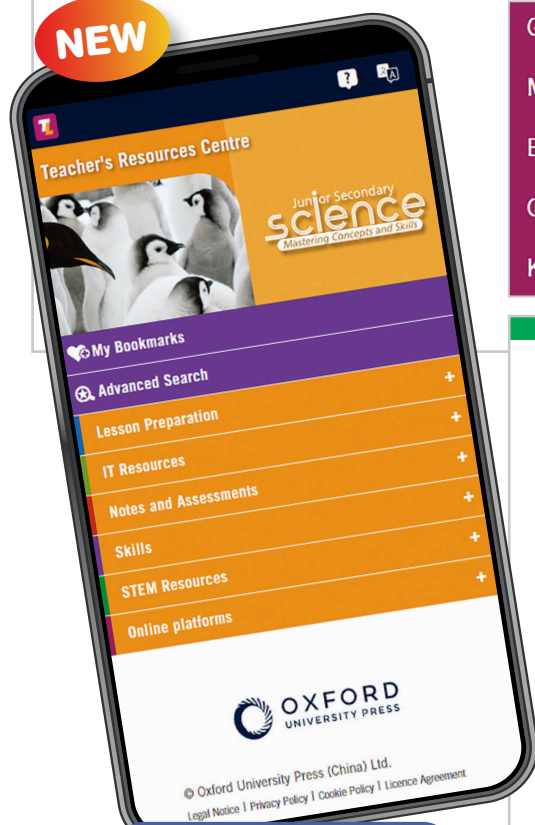


Junior Secondary science
Mastering Concepts and Skills

My Bookmark Advanced Search

Lesson Preparation	IT Resources	Notes and Assessments	Skills	STEM Resources	Online platforms
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NEW



流動裝置互通！

Google Forms

Microsoft Forms

Edpuzzle

Quizizz

Kahoot!

資源分類清晰，
搜尋更易

Advanced Search

NEW

跨課跨類別選一併
下載，極具彈性

Advanced Search

Book ☒ 1A ☐ 1B ☐ 2A ☐ 2B ☐ 3A ☐ 3B ☐ 3C

Unit ☐ All ☒ 1 ☐ 2 ☐ 3

Types of resources: ☐ All ☐ Teaching scheme ☒ Textbook and workbook PDF ☐ Google / MS Forms for textbooks ☐ NSE Teaching resources pack ☐ Pre-DSE booklet ☐ Image bank ☐ Textbook and workbook answers ☐ Corrigenda ☒ PowerPoint ☐ Practical and Activity video ☐ Interactive practical (Edpuzzle) ☐ PhET simulation ☐ Animation, model, etc ☐ Virtual tour ☐ Flipped classroom ☐ Lesson worksheet ☒ Short notes for revision ☐ 5-min Short quiz ☐ 15-min Section quiz ☐ Unit test ☐ Question bank ☐ Mini science dictionary ☐ Further investigation worksheet ☐ Skill builder and practice ☐ Example and Follow-up practice ☐ STEM project ☐ Home lab ☐ Pre-lesson helper

Book 1A : Unit 1 Introducing science : Textbook and workbook PDF

Description	Type	File size	File type
Unit 1	Textbook	30KB	PDF
Unit 1	Workbook	30KB	PDF

Book 1A : Unit 1 Introducing science : Short notes for revision

Description	File size	Download
Unit 1 Introducing science	4.07MB	DOCX
Unit 1 Introducing science (bilingual version)	5.47MB	DOCX

Book 1A : Unit 2 Water : Textbook and workbook PDF

Description	Type	File size	File type
Unit 2	Textbook	30KB	PDF
Unit 2	Workbook	30KB	PDF

Book 1A : Unit 2 Water : PowerPoint

Description	Type	File size	File type
2.1 Change in states of water	English	3.84MB	PPTX
2.1 Change in states of water (bilingual version)	Bilingual	4.23MB	PPTX

Bookmark Download



iOS



Android



Windows



Mac OS


<https://isolution.oupchina.com.hk>

在家在校 暢通無阻



網頁版

毋須下載，登入即用，
省時便利，使用更暢順

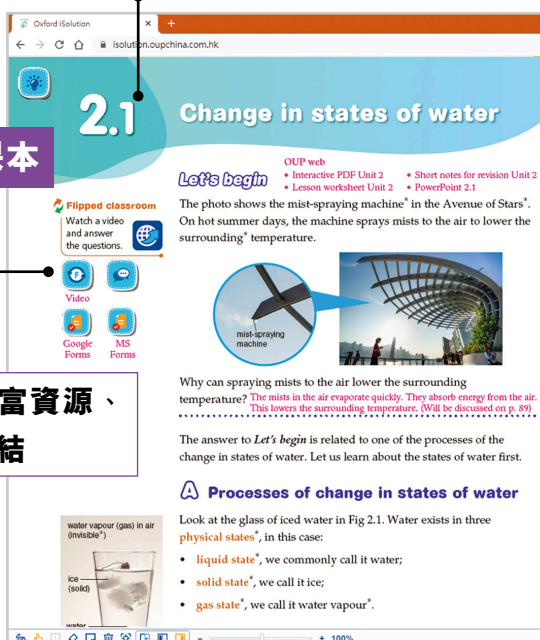
程式 (app) 版



一個網址，電子書資源齊備

課文內容、教學資料，一目了然

課本



提供豐富資源、
額外連結

2 Water

作業

Section exercise 2.1 Change in states of water

→ Textbook p. 80-91

Level 1

A Fill in the blanks (1 mark each, total 5 marks)

Fill in the blanks below with the words given.

condenses freezes gas liquid solid steam vapour

- Water exists in three physical states: ice is the solid state, water is the liquid state and water vapour is the gas state.
- When water boils, it changes into steam.
- When water is cooled to 0 °C, it freezes and changes into ice.

B True or false (1 mark each, total 6 marks)

Write 'T' for a true statement and 'F' for a false statement in the boxes provided.

- The change in state of water from a liquid to a gas at 100 °C is called boiling. T
- Evaporation can occur in solid state. F
- The melting point and the freezing point of water are different. F
- Water exists on Earth in three physical states. T

按需要顯示答案，供即堂核對

UP! 多元化教學工具，方便授課

在此輸入標題

淡水是珍貴的自然資源，我們要節約用水，不應浪費。

1

淡水的教學工具界面，顯示標題輸入框、顏色選擇器、圖形工具（如橡皮擦、放大鏡、縮小鏡、旋轉、刪除、複製、貼上）以及一個顯示“1”的方塊。

電子練習即時批改

家敏把一杯水加熱，並用溫度計量度水在加熱前後的溫度。下圖顯示溫度計的讀數。
水的溫度

☐ A. 上升了 35 °C
☐ B. 上升了 45 °C
☐ C. 下降了 35 °C
☐ D. 下降了 45 °C

加熱前 加熱後

1 2 3 4 5 6 7

© Oxford University Press

電子練習即時批改界面，顯示一道關於溫度計讀數的選擇題。題目描述家敏加熱水並測量溫度。附帶兩張溫度計的照片，分別標註為“加熱前”和“加熱後”。溫度計的刻度從 0 到 100 度 Celsius。加熱前的溫度計顯示 20 度，加熱後的溫度計顯示 65 度。下方有七個數字按鈕（1-7）供選擇。

自行添加資源，把電子書個人化

2 Water

2.1 Change in states of water

1 Water exists on Earth in three physical states:
 a ice (solid state)
 b water (liquid state)
 c water vapour (gas state)

Melting is the change in state from a solid to a liquid. When ice is heated to 0 °C, it melts and turns into water. This temperature is the **melting point** of ice.

3 Boiling is the change in state from a liquid to a gas. When water is heated to 100 °C, it boils and turns into steam. This temperature is the **boiling point** of water.

4 During the melting of ice and the boiling of water, the temperatures of the ice and the water remain unchanged.

5 When ice melts or when water boils, energy is absorbed from the surroundings.

6 Freezing is the change in state from a liquid to a solid. When water is cooled to 0 °C, it freezes and turns into ice. This temperature is the **freezing point** of water.

melting 熔化 melting point 熔點 water particle 水粒子 freezing 凝固 freezing point 凝固點

81

自行添加資源，把電子書個人化界面，顯示一本電子書的內容。書名為“2 Water”，章節為“2.1 Change in states of water”。內容介紹了水的三種物理狀態（固體、液體、氣體）以及熔化和沸點的定義。界面還包含一個紅色的箭頭指向一個小圖標，以及底部的導航欄。

查閱遞交記錄，報告詳列成績分佈

Exercise

JUNIOR SCIENCE S1 1A

Student number	Student name	Marks (%)
001	Mandy Chan	100
002	Raymond Chan	85
003	Yandy Ho	20
004	Rebecca Lee	56
005	Ryan Liu	74
006	Molly Wong	32
007	Ray Wong	48

查閱遞交記錄，報告詳列成績分佈界面，顯示一份練習題的提交記錄。表格列出了學生的學號、姓名和得分百分比。表格上方有“Exercise”標題和“JUNIOR SCIENCE S1 1A”的標籤。

多元化互動活動，堂上分享意見、照片、音效，教師即時預覽，促進課堂討論

Practical 2.7

Start

Take a photo of your drawing of the beaker of muddy water. Share it with your class.

Practical 2.7 活動界面，顯示一個實驗任務。任務要求學生拍攝自己繪製的渾濁水樣品的照片並與同學分享。界面包含一個“Start”按鈕和一個顯示渾濁水樣品的照片。

自設課業，適時發放

檔案/網址 練習1.docx

說明 練習1

自設課業，適時發放界面，顯示一個作業分配窗口。窗口上方有“檔案/網址”和“說明”欄位，分別填寫了“練習1.docx”和“練習1”。下方是一個包含各種圖標的網盤，用於選擇作業文件。網盤圖標包括：文件夾、文檔、圖片、音頻、視頻、PDF、Word、Excel、PowerPoint、OneNote、Outlook、Internet Explorer、Google Chrome、Firefox、Safari、Edge、Opera、Brave、Vivaldi、Chromium、Docker、Kubernetes、TensorFlow、PyTorch、Keras、Scikit-Learn、XGBoost、LightGBM、CatBoost、H2O、Databricks、Snowflake、Amazon Redshift、Google BigQuery、Microsoft Azure、Amazon AWS、Google Cloud Platform、Microsoft Azure、Amazon AWS、Google Cloud Platform。



支援



iOS



Android



Windows



Mac OS

毋須登入 靈活省時

隨心選用不同軟件開啟，
迎合教師需要

UP! 資源齊備，一目了然

✓ 教學資料

✓ 豐富資源

✓ 問題答案

✓ 額外連結

2.4 水的淨化

1 沉澱法

實驗 2.7 以沉澱法淨化水

目的
以沉澱法淨化泥水

每組儀器及材料	數量	備用
玻璃或塑膠杯 (250 cm ³)	2	剖面
玻璃棒	1	清水
鐵皮碟	1	明礬*

1 把約 150 cm³ 的泥水倒進燒杯。

2 用玻璃棒輕力攪拌泥水，然後用鐵面玻璃把燒杯蓋好。

實驗提示

- * 可在水中加入固體的泥土來製成泥水。
- * 準備一個廢料瓶來收集用過的液體。切勿把泥水直接倒進洗滌槽，可能會造成阻塞。可考慮實驗前先在洗滌槽去水位放實膠子。

3 讓泥水靜置幾分鐘，然後細心觀察泥水。在下面的空白位內繪畫觀察結果。(繪圖應顯示整個裝置的剖面圖，包括燒杯和鐵面玻璃。)

(按圖示字實物標本而定。應將和泥水攪拌在水和泥水底。)

技巧小錦囊

繪圖時應注意：

- 1 用鉛尖的 Hb 鉛筆繪圖。
- 2 用直尺畫直線。
- 3 不要在圖上加陰影。
- 4 按比例繪畫裝置各個部分。
- 5 標示儀器名稱。

明礬 alum 119

參考網站
以下網站載有更多關於
有關供水和淨化的資料：
香港供水局網頁

課後活動

在 1963 年，香港發生嚴重旱災，當時政府實行制水措施。在暑假期間，供水時間縮減至每四天供水一次，每次四小時。試在互聯網上找更多關於香港供水歷史的資料。



圖 2.40 在 1963 年制水期間，市民在街上排隊輪候取水

教學資料

圖 2.41 所描述的先導技術
稱為逆滲透。以下圖
含有更多關於逆滲透和
海水淡化成本的資料：

延伸學習

開拓新水源

香港人口不斷增長，為確保將來有充足的淡水供市民所需，政府正力圖開拓新的小水源。目前在香港興建的海水淡化廠就是其中一個項目。

將軍澳海水淡化廠採用一種先進技術，把海水中的鹽和其他雜質去除從而產生食水。圖 2.41 簡單描述這項技術的原理。

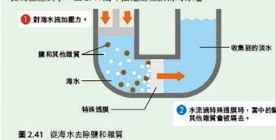


圖 2.41 說明海水淡化廠和逆滲透

Water 2

Skill Designing Investigations

2 Sharon studies how temperature affects the rate of evaporation of water. She sets two towels with the same volume of water. She places them under different conditions. However, Sharon's teacher says the experiment is not a fair test.

a Suggest why the experiment is NOT a fair test and how to make the experiment fair. (2 marks)

The towels are not of the same size. (1)
Identical towels should be used. (1)

b The towels can also be used to study how wind speed affects the rate of evaporation.

i Draw a diagram to show the experimental design. (2 marks)

Correct set-up (2)

ii Describe the procedure. (4 marks)

Put two identical towels on two dishes. Label the set-ups as A and B. (1)
Add 5 cm³ of water to each piece of filter paper. Measure the mass of each set-up with an electronic balance. (1) Leave set-up A in still air. Blow cold air from a fan onto set-up B for 5 minutes. (1) Measure the mass of each set-up again. Find the mass of water evaporated in each set-up. (1)

Unit 2
Thinking question
High-order thinking question
61



iOS



Android



Windows



Mac OS



電子版練習

NEW

提供課本內練習的電子版，多個平台供教師選擇，迎合不同教學需要

✔ Google Forms

✔ Microsoft Forms

✔ Quizizz

自動批改，學生即時知道正確答案

Level 1 2分 / 共3分

Questions 1 to 3: Refer to the information below. Select 'True' for a true statement and 'False' for a false statement.

Joe prepares the set-up below. The set-up is placed under the sun. After several hours, liquid P is collected in the glass.

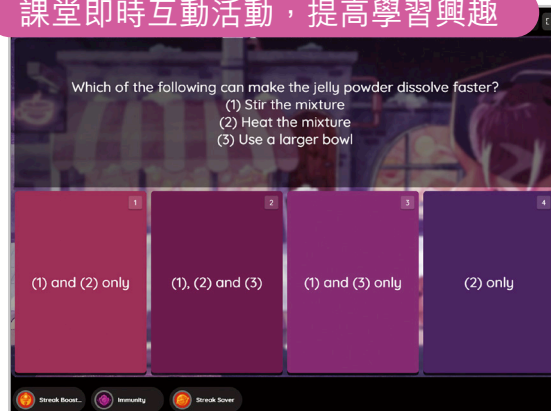
eraser
plastic sheet
glass
large bowl
coloured water

✗ Question 1 The formation of liquid P involves boiling and condensation. * 0/1

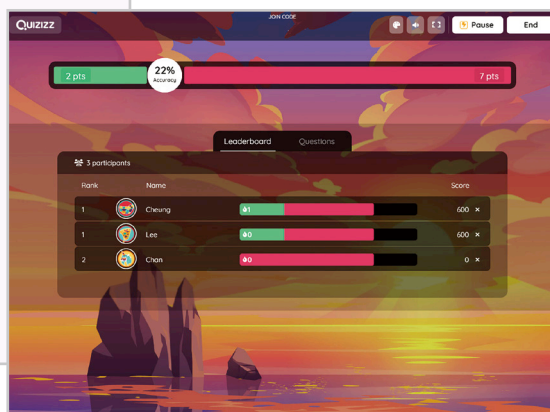
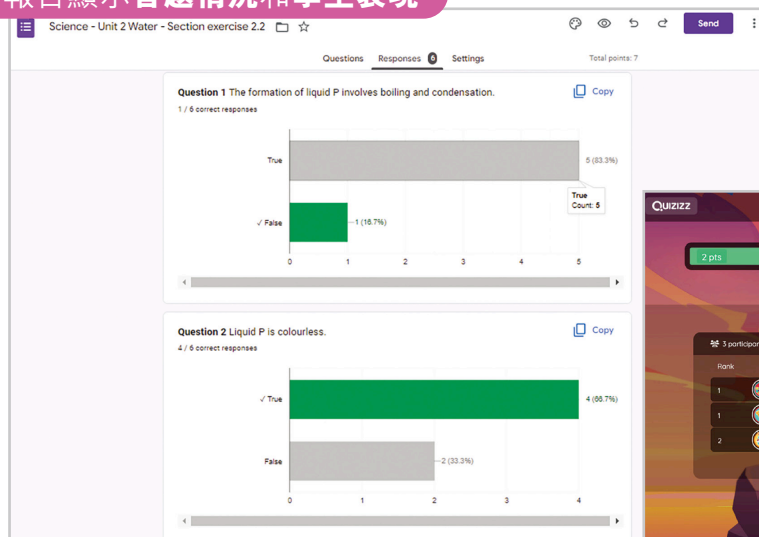
☒ True ✗
☐ False

正確答案
☒ False

課堂即時互動活動，提高學習興趣



報告顯示答題情況和學生表現



04



Online Question Bank 線上試題庫

支援



Windows



Mac OS



立即試用：

<https://digital.oupchina.com.hk/junsci/promo/qb.html>

一站式搜尋題目、
自訂試卷、匯出試卷

NEW

全新設計

毋須安裝

題目數量



+70%

備收藏功能，
可標記題目備用



Junior Secondary Science Mastering Concepts and Skills

Search Questions | Paper Design | My Papers | Ready-made Papers

Code: [Search] 20 / 300 results < 1 / 15 > [Check] [Check] [中文版] [Hide answers]

Series: Junior Secondary Sci...
Book: 1A
Unit: 2 Water
Section: 2.1 Changes of states...
Type: Multiple-choice questions
Level: (All)
Core/Ext: (All)
Category: Basic concepts and reas...

1 Mark(s): 1 Usage frequency (by you): 0 (Last used: -)
#JSMC0210002 Usage frequency (by school): 0 (Last used: -)

Wearing masks is effective to prevent the spread of COVID-19. Peter wears a mask and a pair of glasses. He observes that when he breathes, there are thin layer of water droplets forming on the glass.

Which of the following combination about the formation of water droplets on the glasses is correct?

Name of phenomenon	Energy transfer direction
A Evaporation	From glasses to water vapour
B Condensation	From water vapour to the glasses
C Evaporation	From water vapour to the glasses
D Condensation	From glasses to water vapour

of questions: - / 100 Total marks: - [Next step]

Basic concepts and reasoning ✓
Data analysis
Science process skills
Experiment
Scientific investigation
Reading
STSE
STEM
Cross unit

顯示題目使用次數，
有助避免重複使用題目

多種搜尋方式，新增按技能選題

強大的設計試卷工具，
有助**加速**設計試卷**流程**

設定

- ☒ 題型改變時重新整理試題編號
- ☒ 英文版 ☒ 中文版
- ☒ 題目和答案 ☒ 題目

取消

確定



OXFORD
EXERCISE
PLATFORM

NEW

Oxford Exercise Platform 牛津網上練習平台

支援



iOS



Android

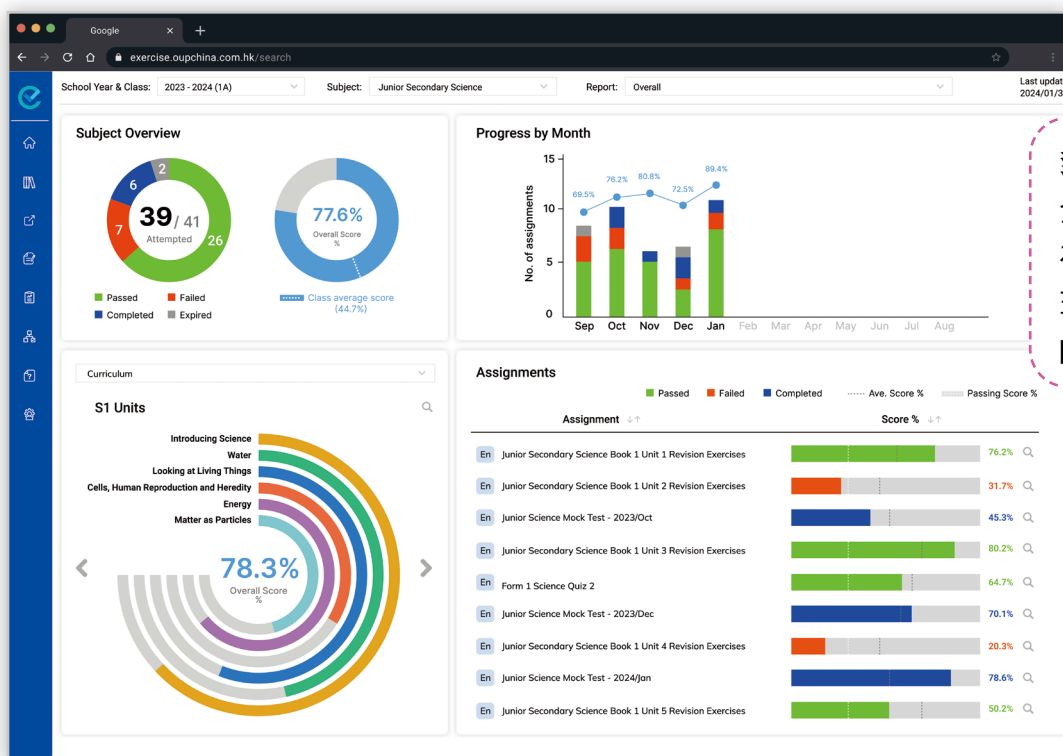
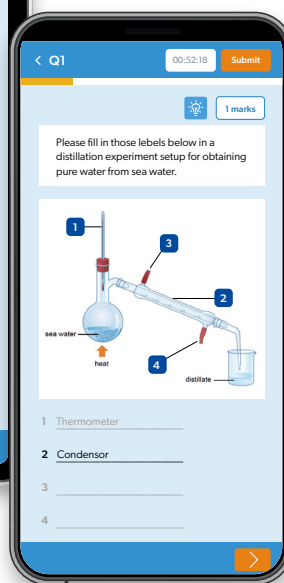


Windows



Mac OS

- ✓ 提供預設練習及題目，老師可以直接選用、修改或自設練習
- ✓ 網上派發練習，即時檢視進度



多種分析報告，
全方位分析學生
在不同範疇的表
現，方便老師適
時跟進



iOS



Android



Windows



Mac OS

大量!!

教學影片，解說清晰，
鼓勵自主學習Teaching videos
教學影片

即試!



Skill builder 2.1

Drawing line graphs

A line graph can show the relationship between two variables. Let us learn how to draw one in the following example.

Example

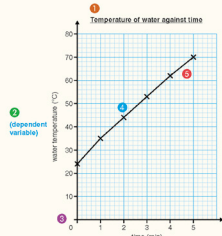
A beaker of water is heated with a Bunsen flame. The temperature of the water is measured at 1-minute intervals. The results are recorded in the table below.

Time (min)	0	1	2	3	4	5
Water temperature (°C)	24	35	44	53	62	70

Draw a line graph of the temperature of water against time.

Steps

- 1 Give a title to the graph.
- 2 Put the independent variable on the horizontal axis (x-axis), and the dependent variable on the vertical axis (y-axis). Write down the units.
- 3 Choose a suitable scale which makes full use of the graph paper. The scales should be equally spaced.
- 4 Draw a cross to represent each data point.
- 5 Connect the points with a straight line or a smooth curve.



Use a sharp HB pencil to draw the graph.

NEW

Skill builder
技能教室

NEW

Example
例題解說

例題解說 6.1

計算物體的密度

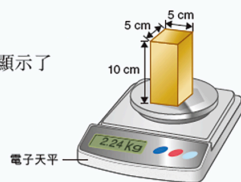
右圖顯示銅塊的尺寸，電子天平上顯示了銅塊的質量。計算銅塊的密度。

題解

$$\text{質量} = 2.24 \text{ kg} = 2240 \text{ g}$$

$$\text{體積} = 10 \times 5 \times 5 = 250 \text{ cm}^3$$

$$\text{密度} = \frac{\text{質量}}{\text{體積}} = \frac{2240 \text{ g}}{250 \text{ cm}^3} = 8.96 \text{ g/cm}^3$$

∴ 銅塊的密度是 8.96 g/cm^3 。

電子天平

技巧小錦囊

記緊要先把單位由 kg 轉換成 g。



即試!



即時訓練 6.1

玻璃塊的質量是 1.2 kg，玻璃塊的長、闊和高分別是 8 cm、6 cm 和 10 cm。玻璃塊的密度。

NEW

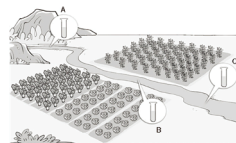
Workbook video tutor
作業解題影片

即試!

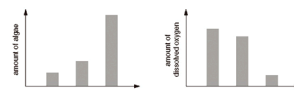


Skill Problem-solving

**4 There is a big farm in the midstream of a river.



Three water samples A, B and C are taken at different locations along the river. The following graphs show the amounts of algae and dissolved oxygen in these samples.



- Explain the change in the amount of algae in the water samples. (1 mark)
- A large number of dead fish is often found at downstream of the river. Suggest TWO reasons for the death of the fish. (2 marks)
- A sewage treatment plant is now built to treat the sewage from the farm before discharging. The treatments are sedimentation, filtration and adding chlorine. Is the water obtained at C suitable for drinking? Explain briefly. (2 marks)

Marks (p. 56-63):

/ 47

63

Unit 2.2
2.3
2.4
2.5
2.6
Unit exercise
High-order thinking question

另備實驗影片、動畫等，
內容豐富，未能盡錄！

STEM

NEW

STEM project STEM 專題研習

STEMproject **Water-saving device**
Related content: Unit 2, p. 144

Problem
Tina notices that the other members of her family always take showers for a long time. To save water, Tina decides to make a water-saving device that can remind them to shorten their shower time. She is going to make the device using the pocket-sized computer: micro:bit.

Let me make a water-saving device to remind them to shorten their shower time.

Design and make a water-saving device using the micro:bit. The device can...

Objective

即試！




Set a time limit

NEW

Home lab 在家小實驗

在家小實驗 8.1

簡單電動機
試試利用電池、銅線和三顆磁鐵來製作電動機，並觀察線圈會發生甚麼變化。

注意
• 使用剪刀時要小心。
• 銅線可能會變熱，不要讓電路長時間通電。

影片

1. 把銅線屈曲成上圖的形狀。
2. 把磁鐵放置在電池的負極。
3. 把銅線放置在電池的正極，使它保持平衡。

須在成人指導下進行

即試！




再次把銅線放在電池的正極，使它保持平衡

NEW

Flipped classroom 翻轉課堂

2.3 Dissolving

Let's begin

Flipped classroom
Watch a video and answer the questions.

We add sugar to a hot drink to make it taste sweet. After stirring the drink, the sugar seems to disappear. Where does the sugar go?



2.3 Dissolving

sugar
water

the sugar seems to disappear

即試！



備有相關練習連報告，教師可知道
學生預習情況，適時調整課堂進度

Flipped classroom

Science – Flipped classroom worksheet
2.3

Question 3

Mandy added 5 g of sugar grains into each of the beaker containing 100 cm³ of water at 25 °C. She then stirred the sugar solution in beaker B and kept the solution in beaker A undisturbed.

5 g sugar grains added

100 cm³ water at 25 °C

5 g sugar grains added

Microsoft Forms

1. 咖啡的製作過程

第 1 題

下列哪一項不是咖啡的成份？

咖啡粉 水 咖啡 咖啡粉

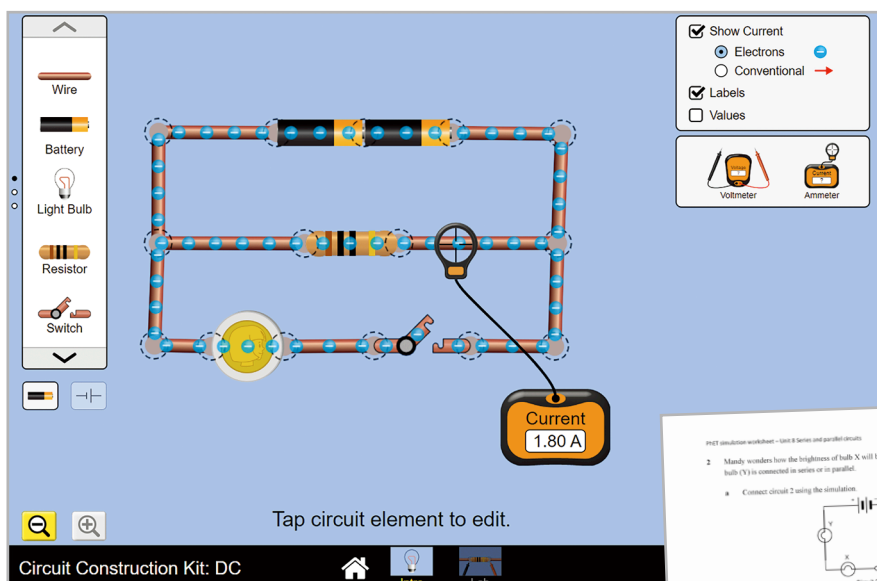
A 咖啡粉 B 水 C 咖啡

Google Forms



PhET Simulation worksheet

PhET 模擬程式工作紙



網頁版毋須下載，鼓勵自主學習

工作紙配合模擬程式使用，
鞏固學生科學概念

支援



iOS



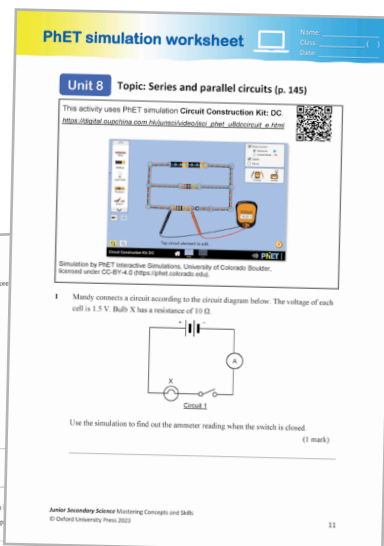
Android



Windows

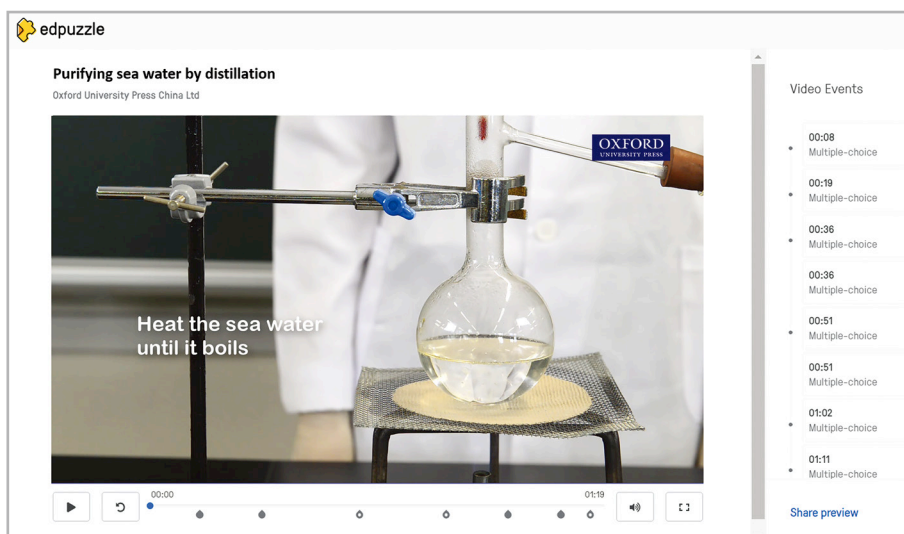


Mac OS



Interactive practicals

互動實驗



跨平台**互動實驗**影片，
連**網上練習**，有助學
生掌握實驗重點，預
習實驗課

MULTIPLE CHOICE QUESTION

What is the purpose of the thermometer?

- ☐ To measure the temperature of the sea water in the round-bottom flask.
- ☒ To measure the temperature of the steam.
- ☐ To measure the temperature of the Bunsen flame.

Rewatch

Skip

Submit



VR Virtual tour 虛擬考察

支援



iOS



Android



Windows



Mac OS

城門郊野公園



3D model 3D 模型

支援



iOS



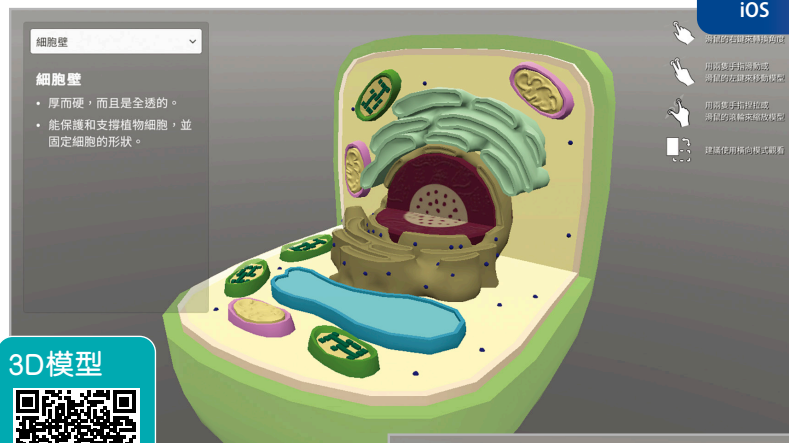
Android



Windows



Mac OS

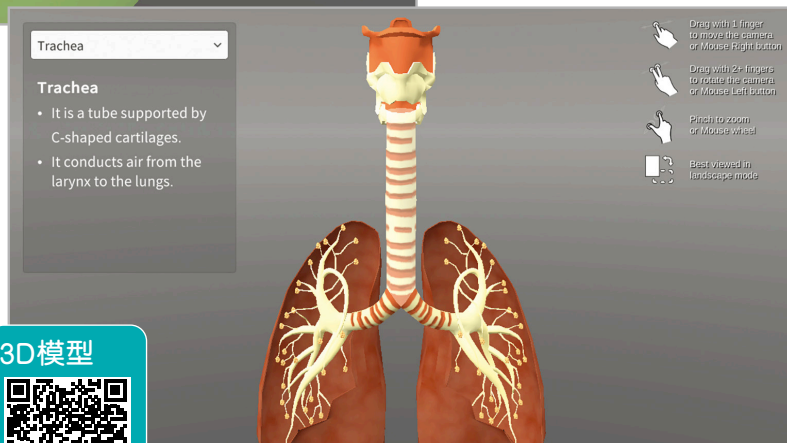


3D模型



毋須下載程式，
一個網址即到

自由旋轉縮放，
360° 顯示結構



3D模型





OxfordSciXR App

- ✓ 利用**互動立體模型**解釋抽象概念
- ✓ 提供**虛擬與實境**混合學習體驗
- ✓ **虛擬實驗室**及**互動聲效**提供沉浸式的學習體驗

支援



iOS

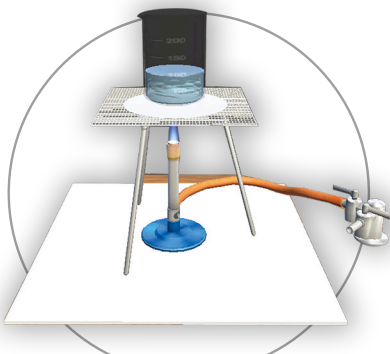


Android

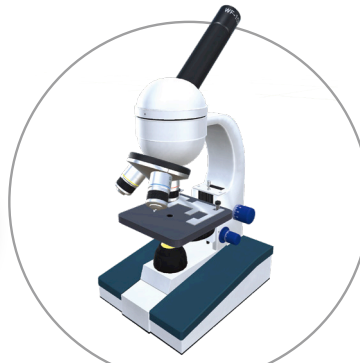
iOS



Android



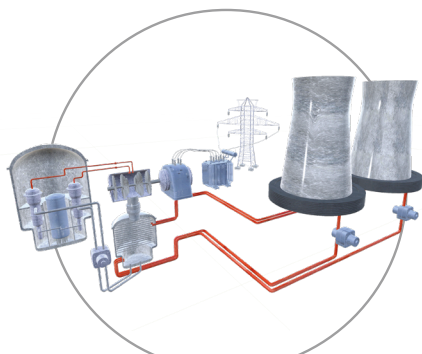
Heating substances with Bunsen burner
用本生燈把物質加熱 (1A p. 63)



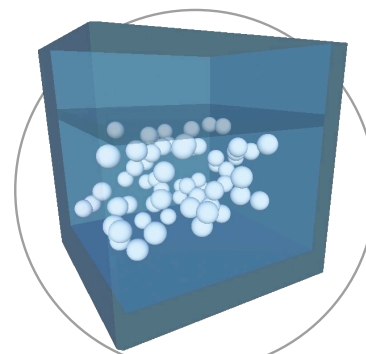
Using the light microscope
使用光學顯微鏡 (1B p. 4)



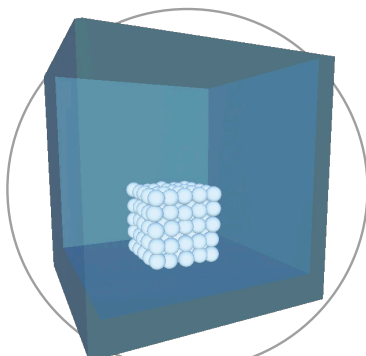
Birth of a new life
新生命的誕生 (1B p. 53)



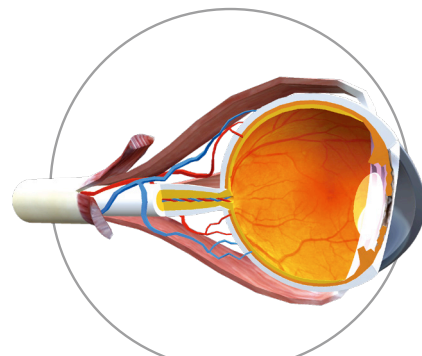
Nuclear power station
核電站 (1B p. 146)



Gas pressure
氣壓 (1B p. 206)



Particle model of solids, liquids and gases
固體、液體和氣體的粒子模型 (1B p. 180)



Short sight and long sight
近視和遠視 (2B p. 104)

eResources list 電子學習資源表

NEW

支援



iOS



Android



Windows

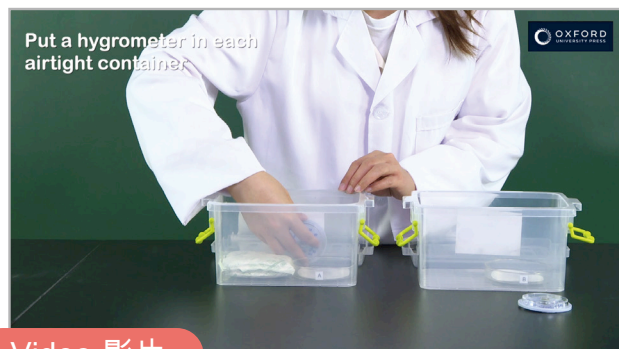
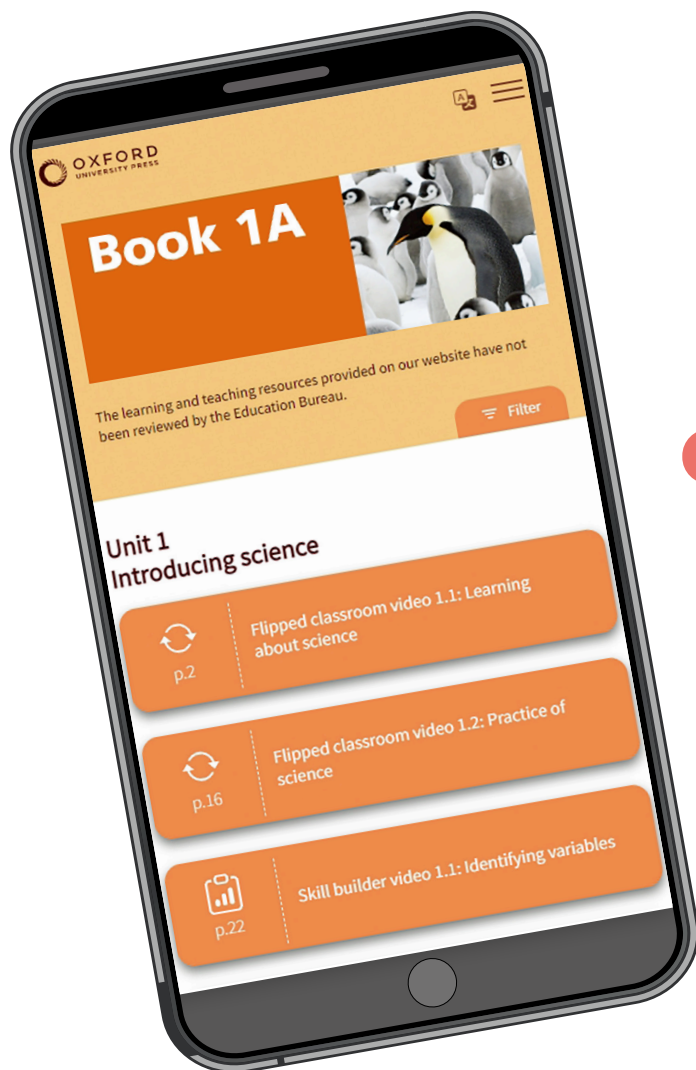


Mac OS

✔ 讓學生隨時隨地閱覽一系列電子教學資源

✔ 毋須登入和 QR 碼

即試！



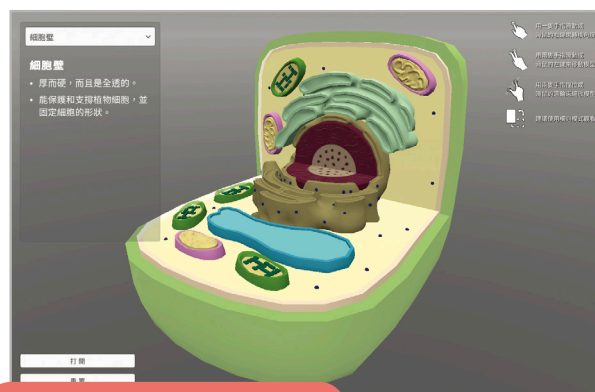
Video 影片



Animation 動畫



VR 虛擬旅程



3D model 3D 模型

Padlet

牛津科學教師關注組

NEW



訂閱牛津科學教師關注組 Padlet，獲取最新科學教材及資訊！



YouTube Channel

NEW



訂閱牛津初中科學 YouTube 頻道，搶先瀏覽最新資訊！



如老師想進一步了解本課本系列，歡迎填妥預約教材簡介服務表格，本社客戶主任將儘快致電回覆及跟進。



如有任何查詢，歡迎與我們的客戶主任聯絡。

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