

Learning and Teaching Strategies Series:  
Dissemination of Teaching Package on Physics-  
related Activities

學與教策略系列：  
物理相關的活動教材套分享

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Learning and Teaching Strategies Series:  
Dissemination of Teaching Package on Physics-related Activities

Rundown:  
1415-1430 Registration (EDB)  
1430-1530 Hands-on Activity (Ms Leung)  
1530-1630 Parallel Sessions (HKU)  
1630-1645 Web Resources (HKEdCity)  
1645-1700 Professional Dialogue (Ms Leung)

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What are the challenges in  
teaching Physics?



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**CHALLENGE 1: GLOBAL ISSUE**      **CHALLENGE 2: LOCAL ISSUE**

Challenges facing the next generation...  
By one popular estimate, 65% of children entering primary school today will ultimately end up working in completely new job types that don't yet exist.

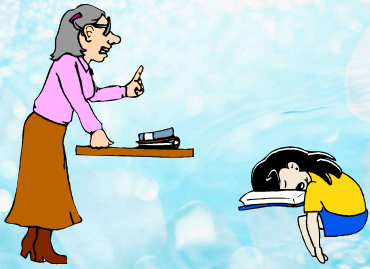
In 2015	In 2020
1. Complex Problem Solving	1. Complex Problem Solving
2. Coordinating with Others	2. Critical Thinking
3. People Management	3. Creativity
4. Digital Thinking	4. People Management
5. Negotiation	5. Coordinating with Others
6. Quality Control	6. Emotional Intelligence
7. Service Orientation	7. Judgment and Decision Making
8. Judgment and Decision Making	8. Service Orientation
9. Active Listening	9. Negotiation
10. Creativity	10. Cognitive Flexibility

Latest Trend of Education focus



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**Challenge 2:**  
Local issue (Decline interest in Physics)



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有效教學實踐：



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Example A

How to introduce the concept of "Wave Motion" to students?

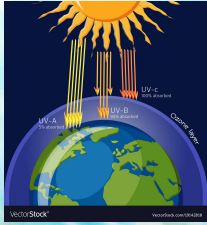


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Example B

How to introduce the concept of "Ultra Violet radiations" to students?




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Example C

How to introduce the concept of "Gravitation" to students?

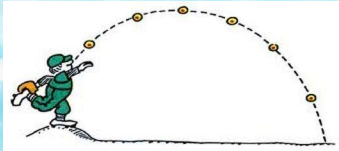


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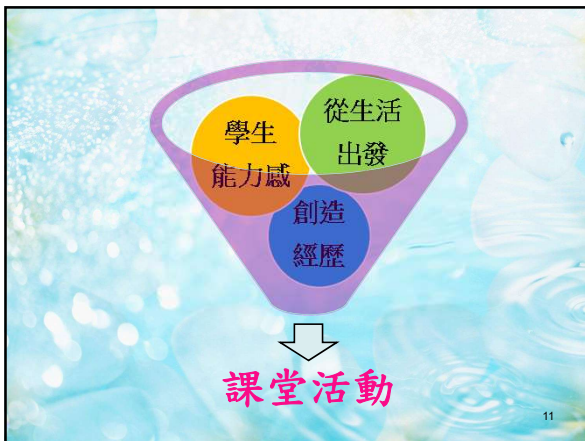
Example D

How to introduce the concept of "Projectile motion" to students?

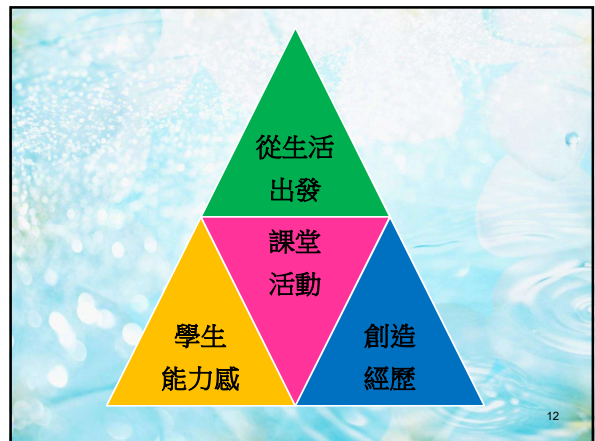


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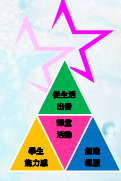


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## 物理課堂活動分享：

分組或個人

- 1 「光學迷宮」比賽 (中三級) ▶
- 2 「折射式望遠鏡」製作 (中三級) ▶
- 3 「物理何在」遊戲 (中四級) ▶ 比賽遊戲 ▶
- 4 「空氣阻力對自由落體影響」探究活動 (中四級) ▶



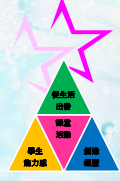
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## 物理課堂活動分享：

分組或個人

- 5 「牛頓擺」製作 (中四級) ▶
- 6 「太陽爐」製作 (中五級) ▶
- 7 「拋物線運動發射器」製作 (中五級) ▶
- 8 「伯努利方程的應用」挑戰 (中七級) ▶



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## 「折射式望遠鏡」製作

對象：中三同學

已有知識：折射定律、凸透鏡的基本特性

活動時間：四節 (40分鐘一節)

時間：復活節假期後



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## 「折射式望遠鏡」製作

活動內容：(I) 望遠鏡的認識 工作紙 簡報 自學影片1 自學影片2

- 歷史 伽利略 古代望遠鏡 哈勃望遠鏡
- 認識望遠鏡 相片 影片 影片
- 比賽簡介 簡報 2009國際天文年

(II) 製作望遠鏡 簡報

(III) 測試望遠鏡 簡報 影片

(IV) 報告 匯報相片 投票相片 投票影片


(V) 活動回顧 簡報 馬可賽日報



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## 總結



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## 分享完畢

## 謝謝



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