

eREAP Dystopia 2153 Lesson Plan

Background

Dystopia 2153 is an interactive digital story with multiple-level coding puzzles.

By making good use of the graphic novels and coding games of Dystopia 2153, teachers and students will be experiencing an innovative 'Read to Code' journey from knowledge building to performance assessment.

About the Story

The world in 2153 is run by evil bots, it's dangerous to be human. Lance, Freya, and their friends are trapped in the Rathouse Orphanage.

The robot-in-chief is called BASH—a super-intelligent machine created by the evil genius, Harry Mole. Harry helped unleash chaos in the world that led to these children and others being held captive against their will. The end goal for Lance, Freya, Fork, Beano, Emily and Max is to reunite with their lost families. To do that they must escape from the oppressive Rathouse Orphanage controlled by cruel robots.

Learning Objectives

Students are able to:

- learn core coding concepts through coding puzzles in an interactive digital story environment:
 - using sequence, selection, and repetition
 - working with variables and various forms of input and output
 - moving sprites through a maze using basic move commands and conditionals
 - using conditionals to sort items and complete tasks based on the identity of the item
 - navigating through a grid with x and y coordinates using loops
 - learning about additive colour theory while working with arrays of lights, gradients, different conditional values
- enhance their interest in coding through integrated learning

Week 1: Basic understanding

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| Pre- lesson (30 minutes) | 1. Learn the vocabularies | | | |
| | Advanced level: | | | |
| | Dystopia | Utopia | Artificial Intelligence | Devastation (P.1) |
| | Catastrophe (P.2) | Oblivion (P.3) | Conscience (P.4) | Humanity (P.4) |
| Orphanage (P.10) | Rebellious (P.11) | Insubordination (P.17) | Hologram (P.21) | |

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|--------------------------|---|---------------------|------------------|-------------------|------------------|----------|-------------------------|------------------|-----------------|-------------------|--------------|---------------------|---------------|--------------------|-----------------|---------------|--------------|-----------------|-----------------|--------------|----------------|
| | <table border="1"> <tr> <td>Sequence (P.39)</td> <td>Incentive (P.47)</td> <td>Permission (P.50)</td> <td>Intuition (P.50)</td> </tr> </table> <p>Elementary level:</p> <table border="1"> <tr> <td>Dystopia</td> <td>Artificial Intelligence</td> <td>Orphanage (P.10)</td> <td>Dangerous (P.7)</td> </tr> <tr> <td>Rebellious (P.11)</td> <td>Trash (P.11)</td> <td>Overwhelming (P.14)</td> <td>Punish (P.15)</td> </tr> <tr> <td>Underground (P.19)</td> <td>Stubborn (P.18)</td> <td>Escape (P.21)</td> <td>Stuck (P.34)</td> </tr> <tr> <td>Sequence (P.39)</td> <td>Restless (P.47)</td> <td>Mercy (P.50)</td> <td>Emotion (P.55)</td> </tr> </table> <p>Have students select five or six words, and then research on the meaning of the words.</p> <p>* Preparation by teacher: Create and test student accounts in advance</p> | Sequence (P.39) | Incentive (P.47) | Permission (P.50) | Intuition (P.50) | Dystopia | Artificial Intelligence | Orphanage (P.10) | Dangerous (P.7) | Rebellious (P.11) | Trash (P.11) | Overwhelming (P.14) | Punish (P.15) | Underground (P.19) | Stubborn (P.18) | Escape (P.21) | Stuck (P.34) | Sequence (P.39) | Restless (P.47) | Mercy (P.50) | Emotion (P.55) |
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| Dystopia | Artificial Intelligence | Orphanage (P.10) | Dangerous (P.7) | | | | | | | | | | | | | | | | | | |
| Rebellious (P.11) | Trash (P.11) | Overwhelming (P.14) | Punish (P.15) | | | | | | | | | | | | | | | | | | |
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| In-class (15 Minutes) | 2. [English] Activity 1: Discussion Have students discuss the concept of dystopia. Are students able to point to the world view of a dystopian world or environment using examples from something they may have read, seen, played, watched or even experienced? | | | | | | | | | | | | | | | | | | | | |
| (20 Minutes) | 3. [English] Activity 2: Describe the personality of characters Students log in and go through the first section of the story (P.1 -22). Ask students to describe the personality of one of the characters. | | | | | | | | | | | | | | | | | | | | |
| (10 minutes) | 4. [ICT] Students log in and read the story again (P.1 - 22) to get familiar with the story setup. | | | | | | | | | | | | | | | | | | | | |
| (20 minutes) | <p>[ICT] Activity 1: Discuss and research on how AI affects our daily lives In Dystopia 2153, it appears that machines have taken the advantage away from humankind. Discuss with students and research on:</p> <ul style="list-style-type: none"> - What is Artificial Intelligence (AI)? - How widespread is artificial intelligence and should we, as a human species, be concerned about it? - Has AI affected daily lives and if so, in what way? Can they predict a future where AI becomes even more important in our day-to-day lives? <p>[ICT] Activity 2: Try the coding puzzle #1 Level 1 - 5</p> | | | | | | | | | | | | | | | | | | | | |

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| (15 minutes) | |
| In-class (35 Minutes) | <p>2. [English] Activity 1: Writing the story</p> <p>Students will write or create their own ending to the story in Episode One.</p> <ul style="list-style-type: none"> - What do they think will happen in the story? - Will all of the characters survive? - Will Harry Mole and BASH stop Lance, Freya and the others? - Will the children reunite with their parents? |
| (35 minutes) | <p>3. [ICT] Activity 1: Go through the coding puzzles #2 level 6-10, #3 1-5 (optional)</p> <p>Revision on 'move to', actions, variables and various forms of input and output. Use conditionals to sort items and complete tasks based on the identity of the item.</p> |

Tips:

1. Teachers may refer to [user guides](#) and [videos](#) for creating and managing student accounts.
2. Teachers may find more teaching resources at [Teacher Resources Centre](#).

eREAP Dystopia 2153 參考教案

背景

Dystopia 2153 是一個集編程解難題目及圖像小說於一身的資源。

透過 Dystopia 2153 互動有趣的圖像小說作為引入，並延伸至編程遊戲，讓教師和學生由建構知識至評估成效，一同體驗創新的「Read to Code」學與教模式。

故事大綱

故事發生在未來 2153 年，世界已淪為邪惡機械人操控的世界。人類少年 Lance、Freya 和朋友們淪為奴隸，被囚於孤兒院 – 事實上是每日被逼做苦工的囚牢。

邪惡人工智能機械人 BASH 和創造它的 Harry Mole 博士使世界陷入混亂，用盡所有方法阻止主角們離開囚禁他們的孤兒院，而主角們則需要逃離邪惡機械人的魔掌，與家人重聚。

學習目標

學生應能：

- 通過閱讀漫畫故事學習編程概念：
 - 執行循序（sequence）、選擇（selection）及重複（repetition）指令
 - 變數及不同的輸入、輸出
 - 利用移動和條件指令控制人物走出迷宮
 - 利用不同條件篩選物件及根據物件性質完成任務
 - 運用循環（loop）和 x 及 y 座標在網格上移動
 - 通過光線、漸變等學習編程的顏色概念
- 通過結合閱讀和編程，提升學習興趣

第 1 週: 基本認識

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| 預習 (30 分鐘) | 1. 學習詞彙 | | | |
| | 進階程度: | | | |
| | Dystopia | Utopia | Artificial Intelligence | Devastation (P.1) |
| | Catastrophe (P.2) | Oblivion (P.3) | Conscience (P.4) | Humanity (P.4) |
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|--|---|---------------------|-------------------------|------------------|-----------------|-------------------|--------------|---------------------|---------------|--------------------|-----------------|---------------|--------------|-----------------|-----------------|--------------|----------------|
| | <p>初階程度:</p> <table border="1" data-bbox="368 293 1426 633"> <tr> <td>Dystopia</td> <td>Artificial Intelligence</td> <td>Orphanage (P.10)</td> <td>Dangerous (P.7)</td> </tr> <tr> <td>Rebellious (P.11)</td> <td>Trash (P.11)</td> <td>Overwhelming (P.14)</td> <td>Punish (P.15)</td> </tr> <tr> <td>Underground (P.19)</td> <td>Stubborn (P.18)</td> <td>Escape (P.21)</td> <td>Stuck (P.34)</td> </tr> <tr> <td>Sequence (P.39)</td> <td>Restless (P.47)</td> <td>Mercy (P.50)</td> <td>Emotion (P.55)</td> </tr> </table> <p>學生選擇 5-6 個詞語並找出詞語意義。</p> <p>*教師預先準備學生帳戶並測試登入。</p> | Dystopia | Artificial Intelligence | Orphanage (P.10) | Dangerous (P.7) | Rebellious (P.11) | Trash (P.11) | Overwhelming (P.14) | Punish (P.15) | Underground (P.19) | Stubborn (P.18) | Escape (P.21) | Stuck (P.34) | Sequence (P.39) | Restless (P.47) | Mercy (P.50) | Emotion (P.55) |
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| Sequence (P.39) | Restless (P.47) | Mercy (P.50) | Emotion (P.55) | | | | | | | | | | | | | | |
| <p>課堂 (15 分鐘)</p> <p>(20 分鐘)</p> <p>(10 分鐘)</p> <p>(20 分鐘)</p> | <p>2. [英文]活動 1：課堂討論 與學生探討 Dystopia 的世界觀。學生有否從他們看過的書籍、電影、遊戲等，或親身經歷過類似的環境？</p> <p>3. [英文] 活動 2：描述人物性格 學生登入並閱讀故事第一部分 (P.1 -22)，請學生描述故事中其中一個人物的性格特徵。</p> <p>4. [ICT] 學生登入並重溫故事第一部分 (P.1 -22)</p> <p>[ICT] 活動 1：搜集有關人工智能的資訊並討論人工智能對我們日常生活的影響。 在 Dystopia 2153 年的世界，機器似乎已超越人類，可與學生討論以下題目：</p> <ul style="list-style-type: none"> - 甚麼是人工智能 (AI)？ - 人工智能現時應用的普及程度？作為人類，我們有甚麼疑慮？ - 人工智能有哪些範疇影響我們的生活？未來，人工智能有哪些可能成為我們日常生活更重要的一部分？ <p>[ICT] 活動 2：體驗編程遊戲第一章 1-5 關 學習執行向前 (move forward)、向右轉 (rotate right)、向左轉 (rotate left) 及循環 (loops) 的指令。</p> | | | | | | | | | | | | | | | | |

第 2 週: 故事發展及編程學習

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| <p>預習 (30 分鐘)</p> | <p>1. 閱讀故事 (P.23 - 40)</p> <p>學生可選擇 2-3 個人物角色，寫出有關他們的詳細個人檔案，如：</p> <ul style="list-style-type: none"> - 人物的背景資料 - 人物喜歡／不喜歡的事物 - 人物的性格 <p>你認為與他們在故事中的行為、性格特徵是否一致？你認為他們又應該有怎麼樣的行為表現？</p> |
| <p>課堂 (5 分鐘)</p> <p>(30 分鐘)</p> <p>(30 分鐘)</p> | <p>2. [英文] 重溫詞彙，鞏固學習 與學生討論人物角色的個人檔案。</p> <p>3. [英文] 寫作簡短段落</p> <p><u>活動 1</u>：讓學生代入其中一個人物角色。撰寫作一篇日記，描述在孤兒院內的生活會是怎樣的？(字數: 150 - 300)</p> <ul style="list-style-type: none"> - 你的日常生活是怎樣的？ - 在這環境下生活，你有怎樣的心情和感覺？ - 學生也可代入 Harry Mole 博士或機械人 BASH，想像他們的日常生活。 <p><u>活動 2</u>：(可選) 學生選擇漫畫故事中其中一頁，描述漫畫的圖像設計及表達手法，以及呈現的氣氛，並與同學分享。</p> <ul style="list-style-type: none"> - 將這種漫畫風格與其他漫畫比較，並說明各有甚麼各自不同特色？ - 試從顏色、陰影、畫風、字體、繪畫細節及情節等，選取另一種漫畫作出比較。 <p>4. [ICT] <u>活動 1</u>: 體驗編程遊戲第二章 1-5 關卡 學習移動 (Move to)、執行動作及不同的輸入及輸出指令和變數</p> |

第 3 週: 故事發展及編程學習

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|--------------------------------------|---|
| <p>預習 (15 分鐘)</p> | <p>1. 閱讀故事 (P. 41 -57)</p> |
| <p>課堂 (35 分鐘)</p> <p>(35 分鐘)</p> | <p>2. [英文] <u>活動 1</u>：故事創作 以寫作或漫畫創作為故事第一集改寫結局</p> <ul style="list-style-type: none"> - 你認為故事將會如何發展？ - 所有人物角色都會安然無恙嗎？ - Harry Mole 博士和機械人 BASH 可以制止 Lance, Freya 及其他朋友逃脫嗎？ - 你認為主角們最後可以與家人團聚嗎？ <p>3. [ICT] <u>活動 1</u>：體驗編程遊戲第二章 6-10 關卡、第三章 1-5 關卡 (可選) 重溫移動 (Move to)、執行動作及不同的輸入及輸出指令和變數。</p> |

利用不同條件篩選物件及根據物件性質完成任務。

小貼士：

1. 教師可參考[用戶手冊](#)及[影片](#)新增及管理學生戶口。
2. 教師可在[教師資源中心](#)下載更多教學資源。