

香港中文大學 學習科學與科技中心  
通識教育/ 地理科 探究式學習教案

教案名稱	Teaching plan
科目	Geography
年級	F.3
探討議題	Why should we care about climate change?
探討學習模式	Stripling Model of Inquiry
相關的單元	Changing climate, changing environments
相關概念	Monsoons, climatic graphs

教學目標

知識方面: Understand the concept of climate change and the effects of climate change

技能方面: Search relevant information from websites. Interpretation of data and graphs.  
Create new maps using Google My Map.

態度方面: Raised awareness of green living

教學材料及用具：

Textbook as basic reference, mobile devices with Wi-Fi support  
YouTube, Google Classroom

教學流程			
探究過程 與模式	教學活動	學生活動/ 預期教學效果	教學工具
Connect	<p>What is climate change?</p> <p>Find long-term averages: temperature, rainfall, cloud cover, reduced visibility, extreme weather (number of hot days and hot nights, number of cold days, number of days of heavy rainfall &gt;30 mm)</p> <p>Hong Kong - climate change:  <a href="http://www.hko.gov.hk/cis/climat_e.htm">http://www.hko.gov.hk/cis/climat_e.htm</a></p> <p>Global - temperature change:  <a href="https://climate.nasa.gov/vital-signs/global-temperature/">https://climate.nasa.gov/vital-signs/global-temperature/</a></p>	<p>Understand the concept of climate change</p> <p>Group work in searching data from websites</p>	Websites, Textbook
Wonder	<p>Vital indicators of climate change:</p> <ul style="list-style-type: none"> <li>- Sea level</li> <li>- Arctic sea ice extent</li> <li>- Antarctic ice sheet</li> <li>- Greenland ice sheet</li> <li>- Mountain glaciers</li> </ul> <p><a href="http://www.hko.gov.hk/cis/climat_e.htm">http://www.hko.gov.hk/cis/climat_e.htm</a></p> <p>Watch relevant YouTube videos</p>	<p>Understand the scientific evidence of climate change</p>	Websites, Textbook
Investigate	<p>Positive and negative effects of climate change:</p> <ul style="list-style-type: none"> <li>- World examples</li> <li>- China examples</li> </ul> <p><a href="https://climate.nasa.gov/effects/">https://climate.nasa.gov/effects/</a></p> <p><a href="http://www.noaa.gov/resource-collections/climate-change-impacts">http://www.noaa.gov/resource-collections/climate-change-impacts</a></p> <p><a href="https://www.worldwildlife.org/threats/effects-of-climate-change">https://www.worldwildlife.org/threats/effects-of-climate-change</a></p> <p>Construct online maps to show risks and opportunities caused by climate change</p> <p><a href="https://www.google.com/maps/d/">https://www.google.com/maps/d/</a></p>	<p>Group work in searching data from websites and construct Google Map</p> <p>Understand the world distribution of the goods and bads of climate change</p>	Websites, Textbook Google My Maps

Construct	<p>Conclusion: Hong Kong has a larger temperature rise than the world's average</p> <p>Are the impacts of climate change more severe on Hong Kong?</p> <ul style="list-style-type: none"> <li>- Forecasting parts of Hong Kong likely affected badly by climate change</li> </ul>	Group discussion and forum	
Express	<p>New question: Can climate change be combated?</p> <p>IPCC – causes of global warming and 99% certainty of the role of human in causing it</p> <p>Investigation of the causes of intensified greenhouse effect (cross-curricular with Science)</p> <ul style="list-style-type: none"> <li>- Experiment</li> <li>- Pictorial explanation</li> </ul>	<p>Understand human activities are causing climate change</p> <p>Therefore, human should care about global warming</p>	
Reflect	<p>New question: What can be done to combat global warming?</p> <ul style="list-style-type: none"> <li>- GHG emissions reductions</li> <li>- Adapt to the changed environments</li> </ul> <p>Finding the ways:</p> <ul style="list-style-type: none"> <li>- International community</li> <li>- China and Hong Kong</li> <li>- Individuals</li> </ul>	Understand concerted efforts are needed in combating global warming	

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