Geography

<Tai Po Kau and vicinity VR Field Trip– Teacher's Guide and Lesson Plan >

Senior Secondary Geography related topic	Disappearing green canopy—Who should pay for the massive deforestation in rainforest regions?	**Level**	Secondary 4 - 6

Learning objectives

1. Understanding the relationship between the slope aspect and the number and characteristics of plants by using the Tai Po Kau and its vicinity VR field trip teaching kit for data collection and observation
2. Investigating the difference of the number of plants, types and characteristics in north-facing and south-facing slopes of Luk Shan in Tai Po Kau
3. Developing observation and data analytical skills with the VR field trip teaching kit

Inquiry question and hypothesis

- **Inquiry question**：The relationship between the slope aspect and the number of plants and characteristics
- **Hypothesis**：There are fewer plants and types in north-facing slopes than those in south-facing slopes in Luk Shan in Tai Po Kau.
- **Hypothesis**：There are more plants and more complex structures in Tai Po Kau Nature Reserve than outside of the Tai Po Kau Nature Reserve.

Prior knowledge

- The characteristics and structure of vegetation in tropical rainforests
- The relationship between humanity and the environment

This VR field trip teaching kit includes the followings:

1. EduVenture VR (or Roundme) teaching kit：Tai Po Kau and vicinity VR Field Trip (Plants)
   - This teaching kit not only can be used by teachers during class, but also for students' self-directed learning in order to enhance their self-directed learning ability and to achieve the purpose of out-of-class continuous learning.

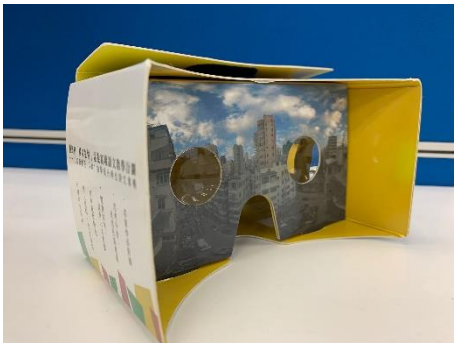
   *Link: eduventure.vr://?6c6f63610f093a30=657676725a554646

   (Note: This link is only applicable to mobile phones/tablets)

   **To download the VR tour, please scan the QR code after installing EduVenture VR application.*
2. Worksheet and data record sheet
3. Field study instrument and application list

Equipment required

1. Tablet； or
2. Mobile phone (Can be used with a VR cardboard)



Pre-trip briefing			
Time	**Teaching process**	**Learning objective**	**Teaching materials**
15 minutes	**Teachers brief students on how to use EduVenture VR** • Download EduVenture VR on tablet or mobile phone • Download "Tai Po Kau and vicinity VR Field Trip (Plants)" (大埔滘及其附近地區虛擬實地考察 (植物)) on EduVentureVR • Briefly describe how to use EduVenture VR • Students try out the "Tai Po Kau and vicinity VR Field Trip (Plants)" on EduVenture VR to master the observation skills in field trips	• Learn how to observe in field trips	EduVenture VR：Tai Po Kau and vicinity VR Field Trip (Plants) Tablet or mobile phone
25 minutes	• **Teachers brief students on the contents of the virtual field trip, as well as the skills required in a forest field trip and things that should be paid attention to.** • Introduce the inquiry topics and hypotheses of the virtual field trip to Tai Po Kau • Introduce 3 field sites of	• Understand the contents of the virtual field trip, as well as the skills required in a forest field trip and things that should be paid attention to	EduVenture VR : Tai Po Kau and vicinity VR Field Trip (Plants) Student worksheet and data recording sheet

	the virtual field trip • Remind students that they need to observe and collect data from the virtual fieldwork teaching materials according to the guidelines and steps on the student worksheet. Fill in the student worksheet and data recording sheet, as well as conduct data analysis and draw a conclusion • Introduce the field study instruments and data collection methods as well as things that should be paid attention to during the forest field trip		Field study instrument and application list

During the virtual field trip			
Time	**Teaching process**	**Learning objective**	**Teaching materials**
40 minutes	**Students conduct virtual field trips in the classroom (or self-learning)** • Students use mobile phones (with VR Cardboard) / tablets to access EduVenture VR：Tai Po Kau and vicinity VR Field Trip (Plants) • Observe and collect data from the virtual fieldwork teaching materials according to the guidelines and steps on the student worksheet. • According to the student worksheet question guidelines, conduct data analysis, draw conclusions and make reflections on the virtual field trip. • Complete the student worksheet and data recording sheet	• Observe and collect data from the virtual fieldwork of the Tai Po Kau and vicinity VR Field Trip (Plants) to understand the relationship between the slope aspect and the number of plants and characteristics • Investigating the difference of the number of plants, types and characteristics between north-facing slopes and south-facing slopes of Luk Shan in Tai Po Kau.	Tablet / Mobile phone (Can be used with VR Cardboard) EduVenture VR : Tai Po Kau and vicinity VR Field Trip (Plants) Student worksheet and data recording sheet

Post-trip presentation			
Time	**Teaching process**	**Learning objective**	**Teaching materials**
30 minutes	**Students discuss in groups the data collected from the virtual fieldwork and the inquiry questions in the student worksheet.** **Teachers and students analyze whether the hypothesis is valid and inquire the results. They also review the deficiency and make suggestions on the field trip.**	Summarize the following inquiry questions and hypotheses： • **Inquiry question**：The relationship between the slope aspect and the number of plants and characteristics • **Hypothesis 1**：There are fewer plants and types in north-facing slopes than those in south-facing slopes in Luk Shan in Tai Po Kau. • **Hypothesis 2:** There are more plants and more complex structures in Tai Po Kau Nature Reserve than outside of the Tai Po Kau Nature Reserve. Review the deficiency and make suggestions on the field trip	EduVenture VR : Tai Po Kau and vicinity VR Field Trip (Plants) Tablet / Mobile phone Student worksheet and data recording sheet