

Background Information for Teachers

Information on Learning Journeys Organisation

Name of organisation	<ul style="list-style-type: none">• National Parks Board (NParks)
When was the organisation founded?	<ul style="list-style-type: none">• 1990
Learning Objectives stated by the organisation	<ul style="list-style-type: none">• Combining the visual delights and rich biodiversity of our parks, gardens & nature reserve with thoughtfully planned recreational activities, NParks facilitates visitors' communion with Nature
What is the purpose of the organisation?	<ul style="list-style-type: none">• NParks conserves, creates, sustains and enhances the green infrastructure of our City in a Garden.• Responsible for providing and enhancing the greenery of Singapore• NParks also monitors and co-ordinates measures to ensure the health of Singapore's biodiversity.
What is the mission and vision of the organisation?	<ul style="list-style-type: none">• Mission: To create the best living environment through excellent greenery and recreation, in partnership with the community.• Vision: Let's make Singapore our Garden
How is the organisation so important to Singapore?	<ul style="list-style-type: none">• The organisation is important as National Parks Board (NParks) is responsible for providing and enhancing the greenery of the City in the Garden.• Beyond green infrastructure, NParks is committed to enhancing the quality of life through creating memorable recreational experiences and lifestyles.• NParks manages over 300 parks and 4 nature reserves. Adding to this is the extensive streetscape, or roadside greenery, that forms the backbone of our City in a Garden.• An island-wide Park Connector Network is also being developed to link major parks and residential areas.• As Singapore's scientific authority on nature conservation, NParks monitors and coordinates measures to ensure the health of Singapore's biodiversity.• This supports the overall thrust of our urban biodiversity conservation model, which aims to conserve representative eco-systems in land-scarce Singapore for future generations.• NParks is also the lead agency in the efforts to continually upgrade the Landscape Industry in Singapore.• It works closely with industry partners to

promote good work practices and create a thriving, innovative and professional industry that will support Singapore's aspirations of being a City in the Garden.

What are the NE messages / NE learning journey objectives that can be highlighted through this learning journey?

NE Messages:-

- Cultivate a sense of ownership for the environment where Singapore is our homeland, this is where we belong.
- Cultivate a sense of nationalism and pride in the students where we have confidence in our future.

Learning Objectives:-

- Provide students with relevant knowledge on the historical and heritage aspects of Singapore.
- Instil a sense of connection on how changes from the past influence our present.
- Understanding Singapore: Its constraints, Challenges and Opportunities that with the ever changing landscape, our natural history might disappear if no one spreads word of it

In what ways can the learning journey be relevant to students? (This can related to both personal experiences and curriculum matters)

The visit can be tied with:
Upper Primary Social Studies
Secondary 1-4 History & Geography

Theme:	Learning Journeys
Name of Activity:	Natural History of Singapore
Venue/s:	Dairy Farm Nature Park and Wallace Centre
Duration:	1.5 – 2hrs
Level/s:	Primary 4-6, Secondary 1-4
Pre-requisite/s	Nil

Introduction:

During the learning journey, students will learn about the importance of Dairy Farm Nature Park and Wallace Centre and their relevance in the study of natural history in Singapore. Students will also find out about the changes that the area has undergone in the last 150 years. With the rich history and nature that the park has to offer, students can interact with the natural vegetation of the forest. They will enhance their knowledge and interests of these trees and other flora and fauna found in Singapore. At the same time, they will also learn about the importance of conserving our natural heritage and develop a sense of commitment and ownership of the parks and greenery.

Objectives of this Learning Journey:

1. Students will have fun as they walk and appreciate and learn about Singapore's history and natural heritage
2. Students will have first-hand field experience of the various historical events that have occurred in Dairy Farm Nature Park.
3. Students will gain greater awareness on Singapore's natural history and enhance their knowledge and interests in the various species of flora and fauna that exists in one of Singapore's forests.
4. Students will learn about the importance of conserving our natural heritage, develop a sense of commitment and ownership of the parks and green, and to protect our home and rich history

National Education Message:

- The importance of national defence where Singapore is our homeland and we must ourselves defend Singapore as no one else will defend her for us.
- This is tied in with the need to protect the natural heritage of Singapore as well because it will be lost if we do not protect them.

Approaches

Programmes/Activities:

- Students will go on a learning journey to Dairy Farm Nature Park.
- Guides assisted by teachers from the school, will lead and direct students in making various observations on the natural heritage and the historical events that have occurred here at Dairy Farm Nature Park.
- This will allow students to learn more about the natural vegetation and history of Singapore to meet the above objectives.
- Students will complete worksheets and take primary data (e.g. note taking and photographing) of all information which is required for the completion of an assignment or project.

Deployment:

- Guides will do a live commentary on the visit to Dairy Farm Nature Park.
- School teachers are deployed to assist and also to help monitor and discipline students on site.

Assessment and Review:

- Students will complete the worksheets and activities individually or as a group.
- Students will be debriefed after the learning journey.
- As a post-activity, students will complete a reflection on their learning journey.
- Students will complete a feedback form.
- Students will complete an assignment or project based on their learning journey.

Lesson	Outline of Lesson	Period/s	Resources	Remarks
Lesson Structure: Pre-Lesson Journey				
Lesson 1 Introduction	<p><u>Pre-requisite:</u></p> <ul style="list-style-type: none"> Students would have covered the topic on history of Singapore in their History syllabus and Natural Vegetation in their Geography syllabus. Primary school students will have covered our beginnings and our heritage in their Social Studies. Students are to recap on what they have learnt before on the history of Singapore and natural vegetation. Primary school students will make use of what they have learnt from their Social Studies and draw relevance from this. <p><u>Worksheet Activity</u></p> <ul style="list-style-type: none"> Students are to work on the discussion question on the features of Dairy Farm Nature Park and pen down the features of the park in the worksheet provided. <p><u>Briefing on Learning Journey to Dairy Farm Nature Park</u></p> <ul style="list-style-type: none"> Students are given a briefing on the scenario and learning journey objectives. 	2 (60mins)	Annex 1a	<ul style="list-style-type: none"> To enable students to draw on their prior knowledge. To provide a scaffold for students on their learning journey. To prepare students and to provide information on the nature park that they will be visiting.
Development	<p><u>Exploration of the features in Dairy Farm Nature Park</u></p> <ul style="list-style-type: none"> Students are divided into pairs/groups to research on Dairy Farm Nature Park. Teacher to show the video of Dairy Farm to prepare students for the learning journey. <p><u>Discussion Questions</u></p> <ul style="list-style-type: none"> Each pair/group will work on the questions and pen 	1 (30 mins)	<p>Video on Dairy Farm http://www.youtube.com/watch?v=kJFDhQz0vvQ</p> <p>Annex 1b</p>	<ul style="list-style-type: none"> To enable students to have prior knowledge on Dairy Farm Nature Park before going on their learning journey. To motivate the students to learn and have a sense of ownership in their learning.

	down their answers in the worksheet provided.			<ul style="list-style-type: none"> To incorporate the elements of cooperative and collaborative learning.
Closure	<p><u>Reflections</u></p> <ul style="list-style-type: none"> Students to share their thoughts on Dairy Farm based on the video they have watched. 	15 mins		<ul style="list-style-type: none"> To sum up students' learning on Dairy Farm.
Lesson Structure: During Learning Journey				
Lesson 2 Introduction	<p><u>Dairy Farm Nature Park</u></p> <ul style="list-style-type: none"> Students will read the factsheet on Dairy Farm Nature Reserve before commencing on their learning journey. 	10 mins	Annex 2	<ul style="list-style-type: none"> To enable the students to know more about the Dairy Farm and what they can expect to see during the learning journey.
Development	<p><u>Breakup Session</u></p> <ul style="list-style-type: none"> Students are divided into different groups with the guides to explore the different features and areas of the Dairy Farm. E.g. Wallace Trail and WELL Teachers are to ensure that students ask the guides the relevant questions which are found in the worksheets. Some of the information can be found on the exhibition display boards in the Interpretive Centre. 	3 periods (90 mins)	Annex 3a	<ul style="list-style-type: none"> To enable students to explore Dairy Farm.
Closure	<p><u>Discussion Question</u></p> <ul style="list-style-type: none"> Teachers to get students to complete the discussion question. <p><u>Reflection</u></p> <ul style="list-style-type: none"> Teachers to get students to share their thoughts on the visit. 	20 mins	Annex 3b	<ul style="list-style-type: none"> To sum up students' learning at Dairy Farm. To allow students to evaluate how their group works.

Lesson Structure: Post Learning Journey				
Lesson 3 Introduction	<p><u>Newspaper Article</u></p> <ul style="list-style-type: none"> Students to complete the reading of the newspaper article on Dairy Farm. <p><u>After the visit</u></p> <ul style="list-style-type: none"> Students are to form into groups of 4-5 and discuss and reflect on what they have learnt. Discuss this using their post-visit reflection in Annex 5. 	2 periods (60 mins)	Annex 4 Annex 5 (Post-visit reflection)	<ul style="list-style-type: none"> To allow students to sum up what they have learnt.
Development	<p><u>Task</u></p> <ul style="list-style-type: none"> Each group is read the task and submit the video project on Dairy Farm. Rubrics for the submission of the video can be found in Annex 7. 	6 period (180 mins)	Annex 6 (Task) Annex 7 (Rubrics)	<ul style="list-style-type: none"> To consolidate students' learning through the completion of the allocated task.
Closure	<p><u>Class Activity</u></p> <ul style="list-style-type: none"> Teachers are to go through the worksheet answers with students. 	15 mins	Annex 8 (Answers)	<ul style="list-style-type: none"> To sum up students' learning.

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Annex 1a

- Some features: Wallace Education Centre, Singapore Quarry, Wallace Trail etc.

Annex 1b

- The plant is gambier.
- Cowshed, production of fresh milk

Annex 3

- Castor Oil Plant: ricin
- Mock Lemon: rice, perfume
- Bracket Fungi: woody or leathery, logs and dead trees
- Turkey Berry: Thai Green Curry
- African Tulip: nectar, pollinate
- Durian: King of Fruits
- Bamboo: 100cm, 60 or 120 years
- Strangler Fig: causing the host's death
- Bird Nest Fern: epiphyte, spores
- Creeping Cucumber: tiny, laxative
- Mango: fleshy, religious
- Ivy Gourd: cooking
- Common Land Snail: bioluminescent, glow
- Millipede: thousand Feet
- Grasshopper: grasses
- Net Winged Beetle: elongated
- Common Mormon: mimics
- Blue Dasher Dragonfly: lay eggs

Annex 3b:

- The presence of dragonfly nymphs indicates the quality of the freshwater habitat as dragonflies usually inhabit in freshwater habitats. Hence, there is a need to ensure that the stream is protected so that the survival of the dragonflies is not compromised.