

CAT 4 RESOURCE DEVELOPMENT

Group 4-041 Project Flona

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ABSTRACT

Project Flona was started to introduce students to the animals and plants that Singapore had to offer for us all, hence our name, which was a combination of flora and fauna. We provide extensive and interesting information which were compiled in the simplest form so that students were able to understand what the information we were trying to impart to them. This project aimed to promote appreciation of the plants and animals in Singapore, and to give students a better insight into the natural side of Singapore. It was also to urge them to spend lesser time with their gadgets and more with nature, understanding it and embracing it. We did all of this by bringing them to the Imbiah Nature Trail in Sentosa to share with them the abundant flora and fauna that resided there. We created a brochure with a crossword puzzle and information on some of the animals and plants that can be found on the Sentosa Imbiah Trail. We also created a website to store all the compiled knowledge about the various organisms that inhabited the area around the trail so that students, who most likely owned smartphones, were able to access it whenever they want and from wherever they were, making it convenient for the students. A quiz in the form of a Google Form was also created by us to test the students' knowledge about the flora and fauna at the Sentosa Imbiah Trail.

1 INTRODUCTION

1.1 Rationale

Many teenagers nowadays are spending too much time on their smartphones and other electronic devices. We hope that they can learn how to control their smartphone usage, so that they would not use them excessively, and instead spend some time outside with nature and have fun. We also wanted them to get to know more about Singapore's unique flora and fauna.

1.2 Objectives

Many students in Singapore do not usually go out to experience nature so we aim to promote awareness of nature in Sentosa and also allow students to gain more knowledge about the ecosystem of Singapore. We hope that students would be more curious about the nature in Singapore and would go out more often to experience nature after learning about the flora and fauna in Sentosa.

1.3 Target Audience

Our target audience is Secondary 1 to 3 students as they are mature enough to understand what we would like to teach them and we also know what will better interest them since we are also currently in this age group, allowing us to cater better to their needs. It is also easier to educate them about nature, as compared to adults, as 13 to 15 years old is the time when they are forming their own opinions. This will allow our learning package to form a deeper impression in the students. Moreover, Secondary 1 to 3 students are within our reach as we can reach out to the Secondary 1 to 3 students in HCI.

1.4 Resources

The resources created for this project was:

1. An online platform (website) comprising of what we have accomplished in the year, information and a quiz



2. A brochure that contains information on the more common organisms that comes with a crossword puzzle

The brochure is titled 'Imbiah Nature Trail' and is 'BY PROJECT FLONA'. It features a crossword puzzle on the left and a photograph of green plants on the right. The crossword puzzle is titled 'Complete the crossword below' and has five numbered clues. The clues are:

Across

2. Normally grown on the shores to prevent water from rushing in and causing destruction
3. Was previously put in life jackets
4. Has deep roots to reach underground water sources
6. Males produce a loud sound to attract mates

Down

1. Can be found on \$5 note
2. Stains our mouths black when we eat it
4. Area surrounding secondary forest
5. Flowers not visible

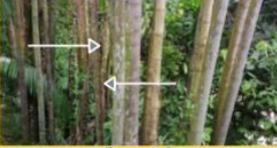
At the bottom of the brochure, the text 'Test how much you have learnt!' is written in blue over a background of green leaves. The crossword puzzle is created using 'The Crossword Maker on TheTeachersG'.

ORGANISMS TO LOOK OUT FOR



Red Weaver Ants
These little guys may seem harmless but their bite packs quite a punch! **Do be careful not to be bitten by them.** They are known for their unique nest building behaviour where they weave leaves in a ball shape. Make sure to look out for them on the trail!

Safety Rules:
- Avoid the Red Weaver Ants
- Remember to stay hydrated when the weather is hot



Nibong Palm
This unique looking plant is the Nibong Palm. Some prominent characteristics are its long and slim trunk and the sharp spikes on it. Its water and pest resistant meaning it can stay in salt water for a long time without disintegrating.



Sea Hibiscus
One special feature of this plant that you should notice straight away is the heart shaped leaves. It secretes nectar at the base of the leaves so that it can attract ants to protect the plant while feeding the ants. The Sea Hibiscus is well-adapted to grow in coastal environment as it can tolerate salt and is able to absorb nutrients despite the soil being saturated with water.



Cicada
These guys are hard to find. They typically live in trees. Cicadas can create an exceptionally loud sound by the rapid buckling and unbuckling of drum-like membranes in the abdomen.

Fun Fact: People in the past used to use the spikes of the Nibong Palm to hunt.



Plantain Squirrel
It is easily identified by the two cream and black stripes on the sides, the orange belly, and the lack of a pale spot behind the ear. They are quite fast too so you have to be quick to see one of them.



Fishtail Palm
Here we have the one and only Fishtail Palm. The leaves have jagged edges, making it look like a fishtail. This is a bluff mechanism to makes the plants look as if it has been eaten by some other animal, cool right?
Caution! There are also microscopic crystal like structures on the underside of the leaves that cause irritation when u touch them.

Try and find the cicada hiding in this picture!

3. Games that will test the participants knowledge of the flora and fauna found at the nature trail like “Amazing Race”



2 REVIEW

We saw that many of our friends and classmates were constantly glued to their phone screens and we wanted them to spend less time on their phones by introducing them to Singapore’s flora and fauna in a different way as we know what they want and will make it as interesting for them as possible.

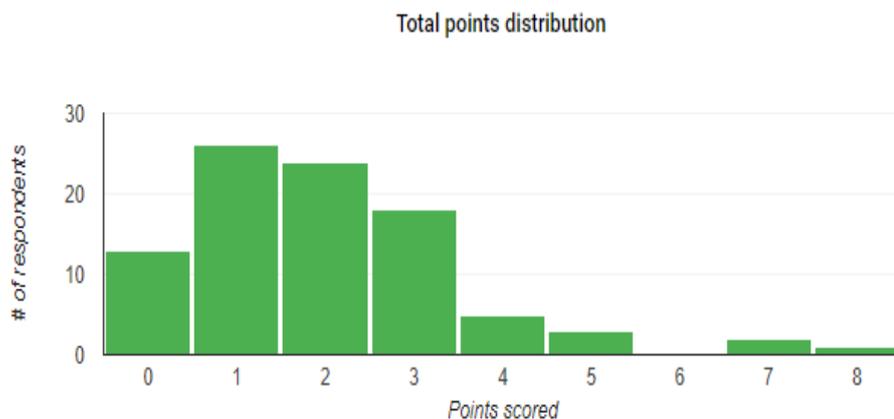
3 METHODOLOGY

3.1 Needs Analysis

A needs analysis was carried out to see if people would support our project and want to know more about nature. Our needs analysis was made in a quiz-like format to see how much the respondents knew about Singapore's nature. Out of the 92 Secondary 1-3 students who responded, only 1 person got all the questions correct, showing that there are many people who do not have advanced knowledge about nature and biodiversity in Singapore.

3.2 Survey Results

Average 2.01 / 8 points	Median 2 / 8 points	Range 0 - 8 points
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Overall, from the scores, we can see that most of the students did not have much knowledge about the flora and fauna and that encouraged us to make our package good so that students can learn more knowledge about the flora and fauna.

3.3 Development of Resources

In the needs analysis, we asked the respondents what type of package they wanted from us. The top results were a website and brochure apart from a nature trail. For the website, we researched about the flora and fauna there and took the pictures ourselves to provide visual support for those who are visual learners. We tried to make the wording as easy to understand as possible as some people may not know many scientific terms. We used google sites for the website and made it easy to access and navigate around the website. The brochure was made by us as well and printed to provide information for those without smartphones. For the games that were held at the nature trail, we constructed it to test the participants knowledge to the fullest.

3.4 Pilot Test

From the 21st of May to the 25th of May, we did a sabbatical in collaboration with the Green Council. On the second day, we brought the students to Imbiah trail at Sentosa. We guided them along the trail. The students were captivated by our explanations. We also gave them the brochures to refer to during the walk. During the tour, they referred to the brochure for information, After the guided tour, we let them do an amazing race. We would split them into 3 groups and give each group a list of organisms to find. The first group that found all the organisms was given a prize. Based on the feedback by the students, we realized that we should lengthen the amazing race since they liked it very much.

4 OUTCOME & DISCUSSION

People enjoyed our package and gave us positive feedback. We had a completed website with lots of content in it, a brochure for offline access to information and interactive games at the nature trail for the participants.

The limitations of our project are that only people that are interested in nature would come to the nature trail but we try our best to encourage our friends who spend a lot of time on their smartphones to come as well. Other limitations may include the busy schedules students have. We created the website and the videos to stay at home and be able to look at the flora in Sentosa while being in the comfort of their home.

5 CONCLUSION

Project Flona had been a tough project to complete as we had many different commitments like CCA, tuition and other personal activities. Firstly, we had to set aside time to go for multiple visits to the nature trail as part of our tour guide training and separate visits to compile more information and rehearse. Some of us had to give up personal time to come all the way to Sentosa to do that. We also had to make our resource package as interesting for Secondary 1-3 students as possible and they are usually not very into nature as a whole. We split up the tasks so that everyone did the part they were stronger in to make sure our package is as good as possible. Perseverance and determination kept us going despite us having tests and other commitments hindering our progress and we managed to complete our package in the end to the best of our ability.

6 REFERENCES

Picture of Website:

Project Flona - Flora and Fauna. (n.d.). Retrieved from <https://sites.google.com/student.hci.edu.sg/project-flona/flora-and-fauna?authuser=1>

Picture of Survey:

Project Flona. (n.d.). Retrieved from https://docs.google.com/forms/d/1NSKhyjV5opZFqrn0rCJXE8_3uXieqlaNgpV-EEPHfD8/edit#responses

Picture of Brochure:

Taken by Project Flona

Picture of Amazing Race:
Taken by Project Flona