

Group 4-009

Green Box

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Green Box Logo

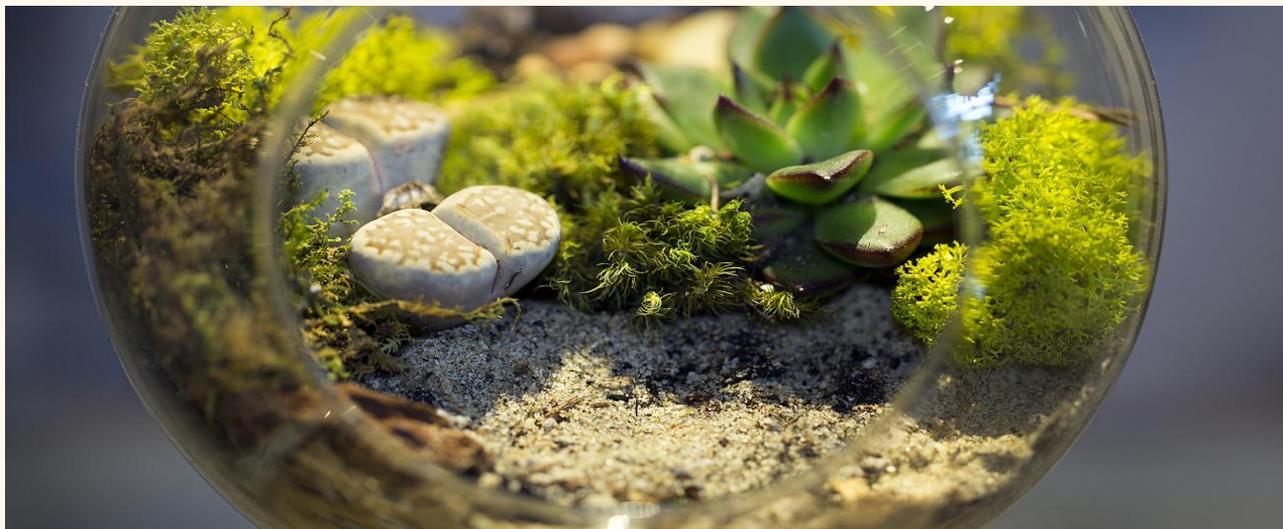


image by Gardenstead

Abstract

Green Box is a project which aims to promote and raise awareness about the benefits and significance of terrariums and their roles in uplifting urban lives in our current society. We want to emphasise the importance of sustainability, as well as defeat stereotypes that gardening is a laborious and boring activity. Terrariums, as we believe, are more than household ornaments-- their significance stretches beyond aesthetic purposes, into providing the house and the workplace a conducive environment, and making gardening more convenient in this urbanising community. We reach out to children (aged 5-12) and adolescents (aged 13-18) with our ample resources about terrariums in general. We utilise Google Sites as our knowledge kit, we post on our Instagram page weekly, and we upload videos to Youtube for further visual references. Most essentially, we designed a book about terrariums “Green Box - Exploring Terrariums”. We have also organised several terrarium workshops for children in collaboration with other projects.

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1. Introduction

1.1. Rationale

With outdoor gardening becoming less fancied in this modernising community, alongside the issue of sustainability on the rise, indoor gardening has emerged as a viable solution. However, not everyone has access to indoor farms or a greenhouse. Besides, there are also stereotypes that gardening is a tedious activity which, often, yields no significant results in the short term. Terrariums have thus been perceived as an alternative in both encouraging indoor gardening, and allowing for a more convenient and comfortable gardening environment. Hence, there is an urgent need to emphasise the benefits of terrariums in uplifting urban lives in our current society.

1.2. Objectives

Green Box aims to raise awareness about the significance of terrariums and provide children and adolescents with resources on terrarium-making.

1.3. Target Audience

Our target audience consists chiefly of children (aged 5-12) and adolescents (aged 13-18) because we strive to impart to them the importance of terrariums since young.

2. Literature Review

2.1. Benefits of Terrariums

Terrariums serve as a more economical alternative to gardening. According to The New York Times article “Terrariums Make a Comeback”⁴ showed terrariums as a budget-friendly form of gardening since they do not require frequent fertilising, thus no need for the purchasement of fertilisers. Less gardening tools are also required in the process of terrarium-making.

Another Strait Times article “Terrariums are gaining popularity for their low maintenance and pretty designs” shows us that terrariums come in a plethora of shapes and sizes and cater to everyone.³ The customisability terrariums offer allows buyers and terrarium-makers to select and customise their terrariums such that they complement the environment of their homes.

Having certain ornaments around us also helps with our physical and mental health. Studies done by companies such as AgroScience Today¹ show that urban gardening in the form of terrariums can reduce stress, lower heart rate and blood pressure levels, and minimise the impact of severe mental illnesses.

Terrariums are convenient to maintain. Because most enclosed terrariums require little to no watering since plants in a terrarium undergo photosynthesis, terrariums are also very self-sustainable. Plants used on terrariums are often temperature resistant so they do not die easily. Besides, most terrarium plants can be exposed to artificial light instead of sunlight, which makes it more convenient for people who prefer their plants to be placed somewhere lacking sunlight.⁵

Astonishing results have revealed that terrariums are known to increase productivity and creativity. Research conducted in professional workplaces demonstrated that adding one plant per square meter improves memory and increases test scores on basic

tests.² Being closer to plants is also known to shift your brain into a different processing mode, making you feel more relaxed and better able to concentrate.

2.2. Existing Resources

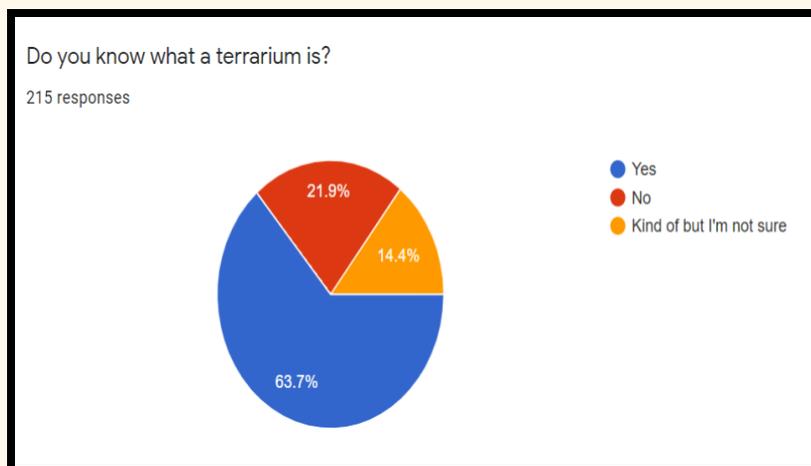
Existing resources on terrariums by terrarium manufacturers like the Green Capsule⁶, Terrarium Singapore¹⁰, and J2 Terrarium¹¹ provide workshops for terrarium-making and online terrarium sale. However, they lack educational information regarding terrariums and instructions for terrarium-making.

Other websites on terrariums provide basic and sufficient information on terrariums and their benefits, as well as suggestions on plant types and management. A few websites include Ambius⁵ and Terrarium Gardening⁸. However, some websites may appear too wordy and unappealing. Others focus too much on the specifics and fail to provide an overview about terrariums. Very few websites talk about terrarium-making with explicit instructions.

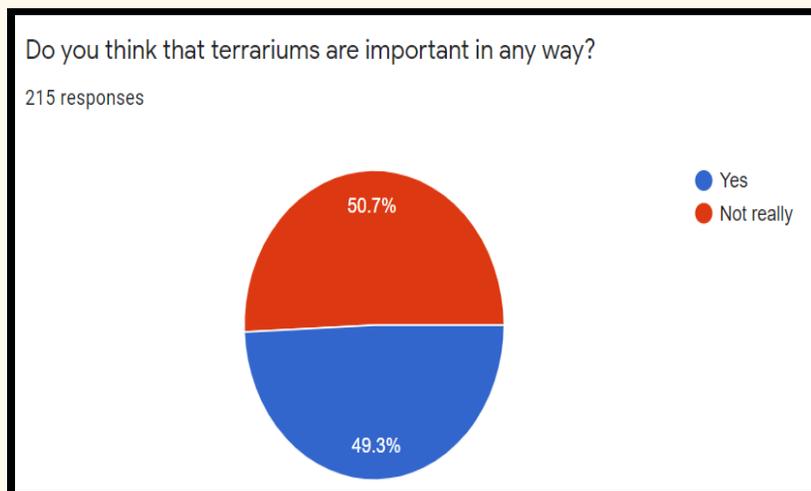
Generally, the existing resources focus on the benefits of terrariums or the making of them, but lack an overarching knowledge kit about terrariums in general. More focus is also needed on providing the reader with specific information and instructions about terrarium-making.

3. Methodology

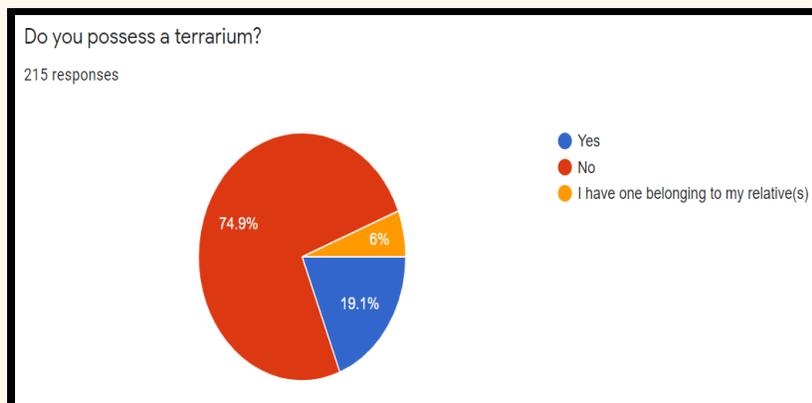
3.1. Needs Analysis



For our needs analysis, a survey was conducted on 215 teenagers, aged 13 to 18 years, regarding their understanding of terrariums. From our survey, 21.9% of respondents do not know what a terrarium is and 14.4% are unsure.



50.7% of the respondents, an estimated 1 out of 2 people, think that terrariums are not really important in any way.

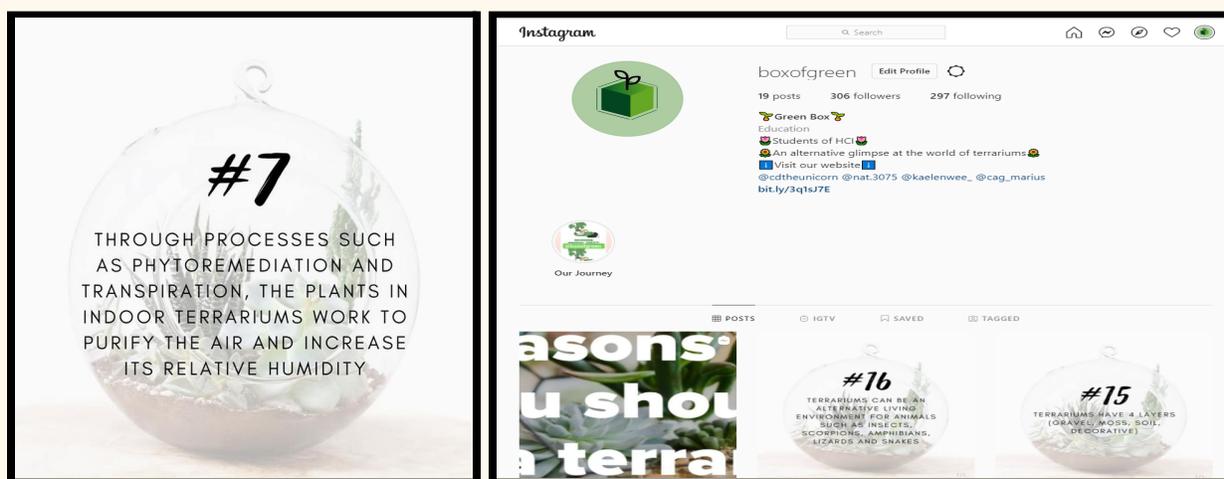


74.9% of respondents, or 3 out of 4 people, do not possess a terrarium.

This suggests that most teenagers are unaware of terrariums, or fail to recognise their significance in our urban community, prompting us with the need to spread awareness about the benefits of terrariums and how they could impact us in our everyday lives.

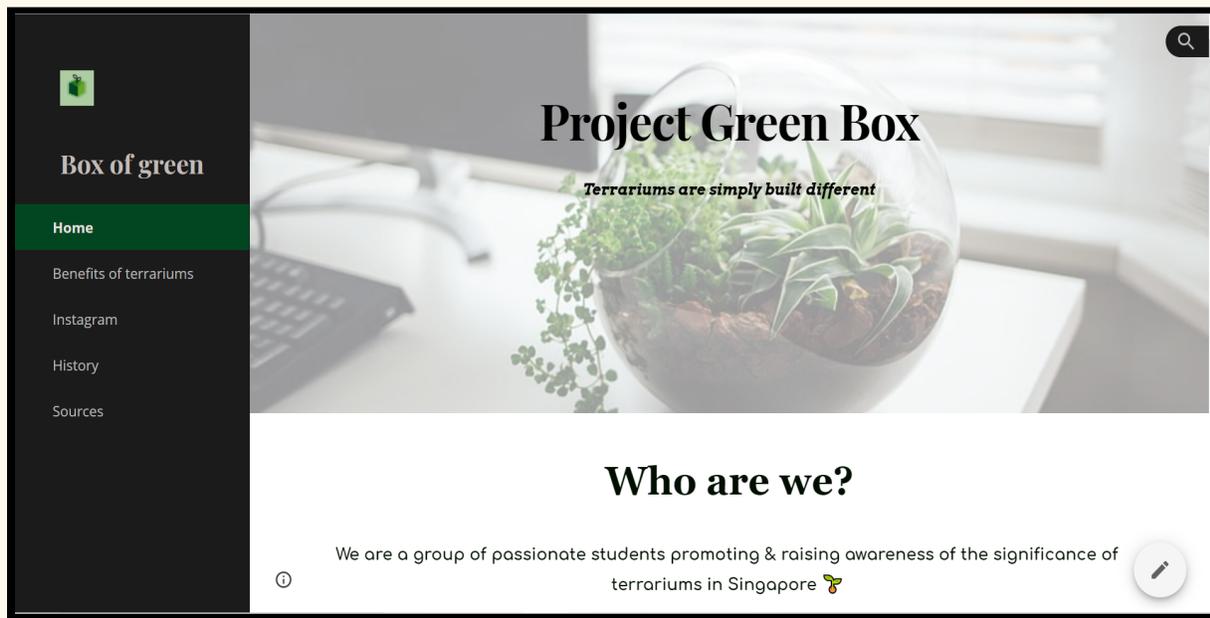
3.2. Resources

We leveraged a range of online platforms to share about terrariums. Instagram, Google Site, and Youtube were used since most teenagers have access to these platforms.



Our Instagram

On our Instagram Page @boxofgreen, we posted one fact about terrariums weekly. We also posted a video encouraging our followers to get a terrarium of their own.

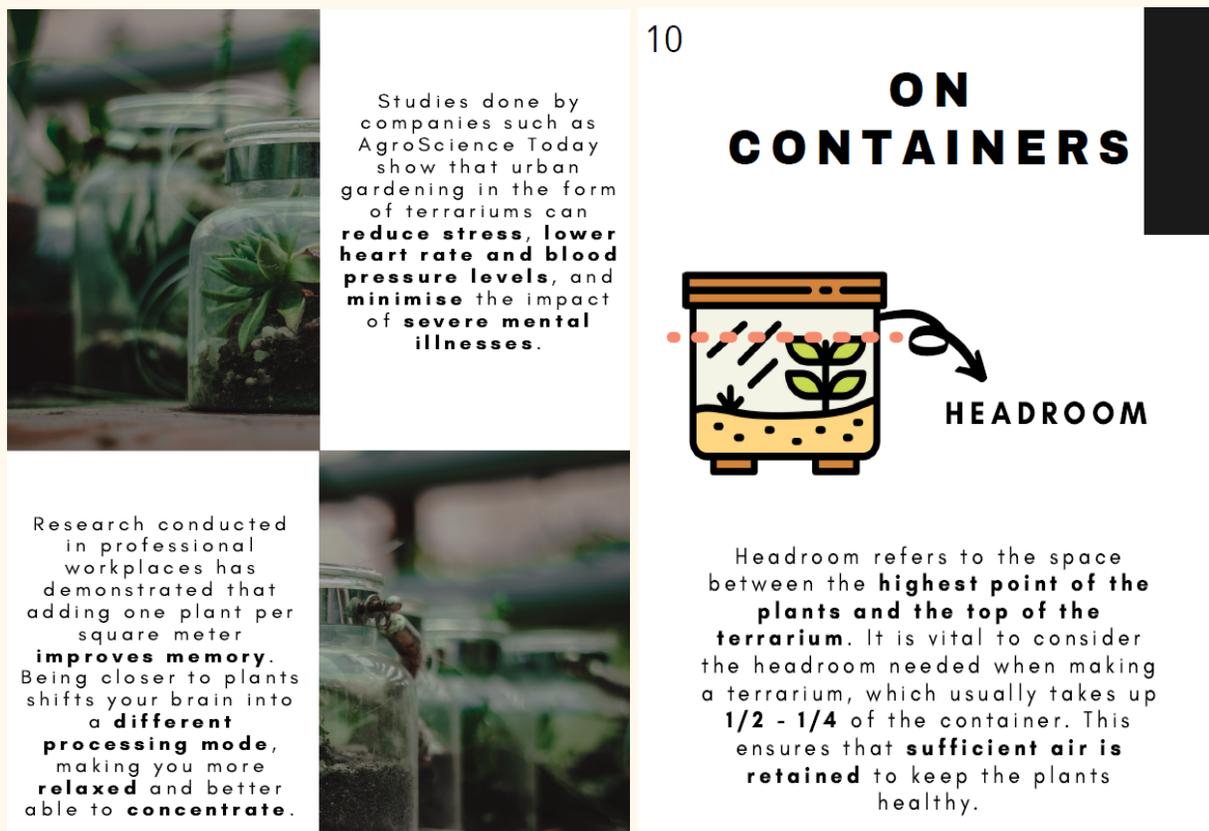


Our Website

A website featuring information about terrariums was also created. Link to website: <https://sites.google.com/view/boxofgreen/home>. Unlike our Instagram which shares facts in a more scattered manner, Google Site allows for subsections such as “Benefits of Terrariums” and “History of Terrariums” such that students can better navigate through the site for information.

3.2.1. Booklet

“Green Box - Exploring Terrariums” is a booklet about terrariums designed by our team-- the main resource of our project. 30 booklets were printed and donated to children from families of lower socio-economic status in collaboration with Project Lumino, a service learning project which reaches out to such children.

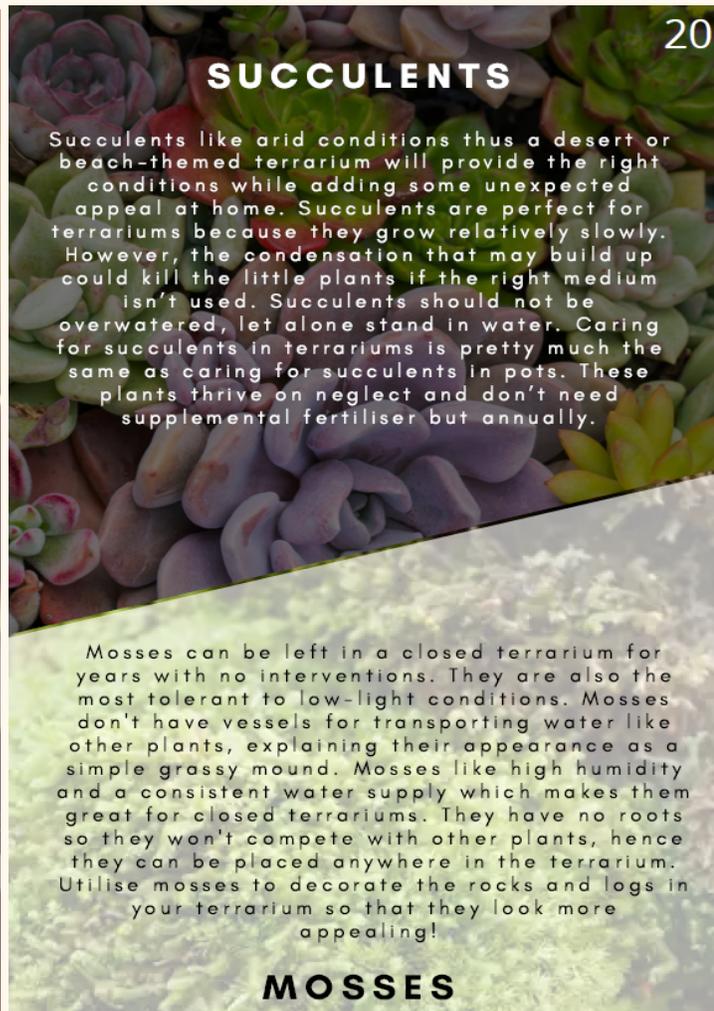


Pages 8 and 10 of the booklet

Our booklet includes, the origin of terrariums, benefits of terrariums, and instructions to terrarium-making. A range of colours were used to make the booklet more appealing, and a theme (colour and font) is sustained throughout the booklet for professionalism. Note that the softcopy of the booklet was also uploaded on our website for a larger outreach.



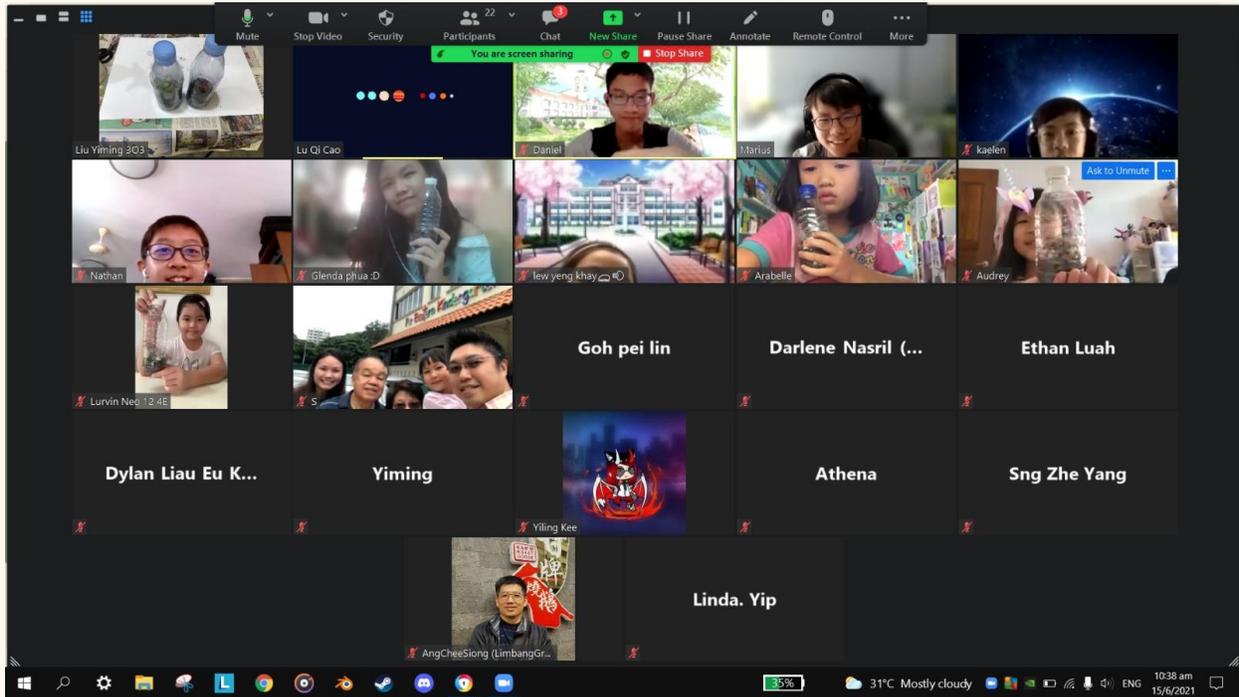
30 copies of the booklet



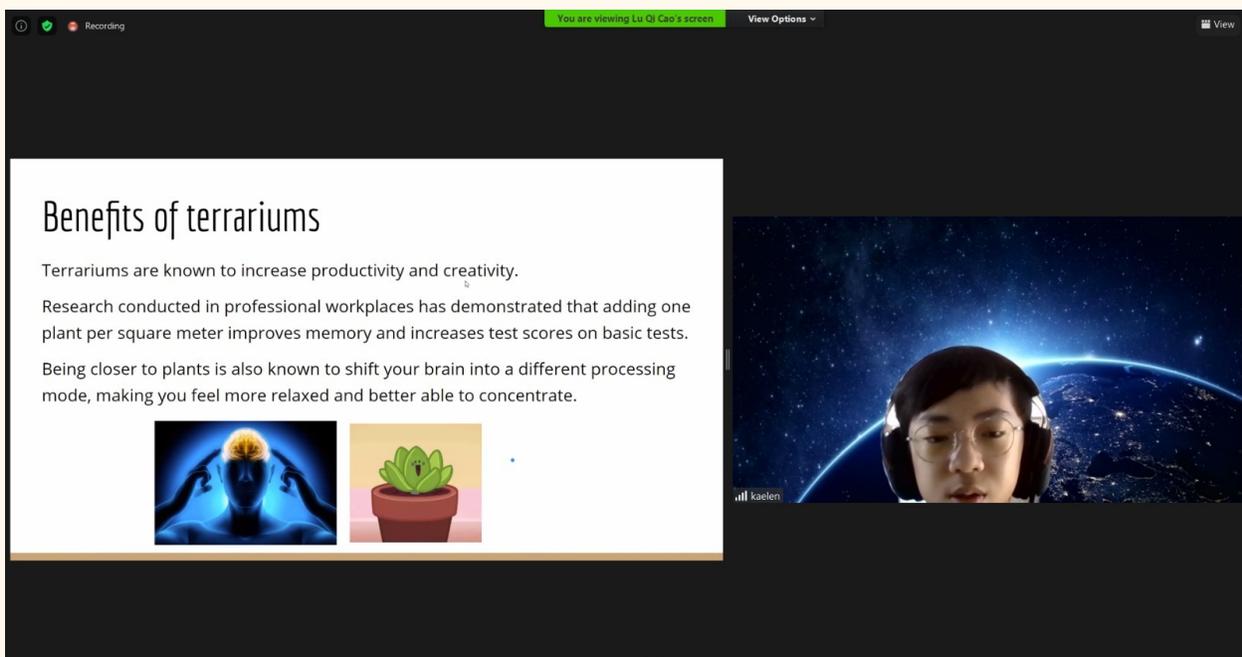
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3.3. Workshop with Project Learn Create Reuse

We also organised an online workshop through Zoom with Project Learn Create Reuse to teach children from Yew Tee Childcare Centre to make their own homemade terrariums. In the workshop, we hosted a live demonstration on terrarium-making using plastic bottles (the materials were previously sent to their homes). Online handouts were distributed and they enjoyed a Kahoot quiz about terrariums as well.



Online workshop with Project Learn Create Reuse



Kaelen on Benefits of Terrariums

Recording You are viewing Lu Qi Cao's screen View Options View

What are terrariums?

There are two main types of terrariums, the open terrarium, and the closed terrarium.

Different plants can be grown in these two types of terrariums depending on their needs.

Did you know?

In the closed terrarium, plants do not require air holes to survive. Plants inside the terrarium constantly recycle the air through a cycle of photosynthesis and respiration.





Daniel on Types of Terrariums

Recording You are viewing Lu Qi Cao's screen View Options View

Benefits of terrariums

Terrariums are fantastic learning materials.

They are miniature ecosystems that can put science up close and personal for an audience, allowing them to closely watch how plants grow and how the water cycle operates through the system.




Marius on Benefits of Terrariums

Zoom Meeting

Recording

Benefits of terrariums

Terrariums are a great way for beginners to get into gardening.
They are low-maintenance and are easy to care for.

As a general rule of thumb, closed terrariums need 2 tablespoons of water every 2-3 months and open terrariums need 4-5 tablespoons of water every week or so.



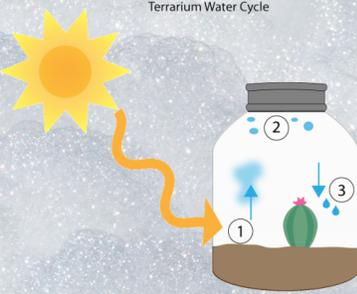

Nathan on Benefits of Terrariums

TERRARIUMS

By Project Green Box and Project Learn Create Reuse

How Terrariums Work

Terrarium Water Cycle



Terrariums are a container for growing plants. It is similar to an aquarium but without water. Terrariums are like gardens, but they don't need to be watered regularly because the water cycle provides water for the plants.

Virtual Handout

What is NOT a benefit of terrariums?

13



0 Answers

▲ increase creativity

◆ make your house ugly

● lots of plants can be grown in them

■ low-maintenance

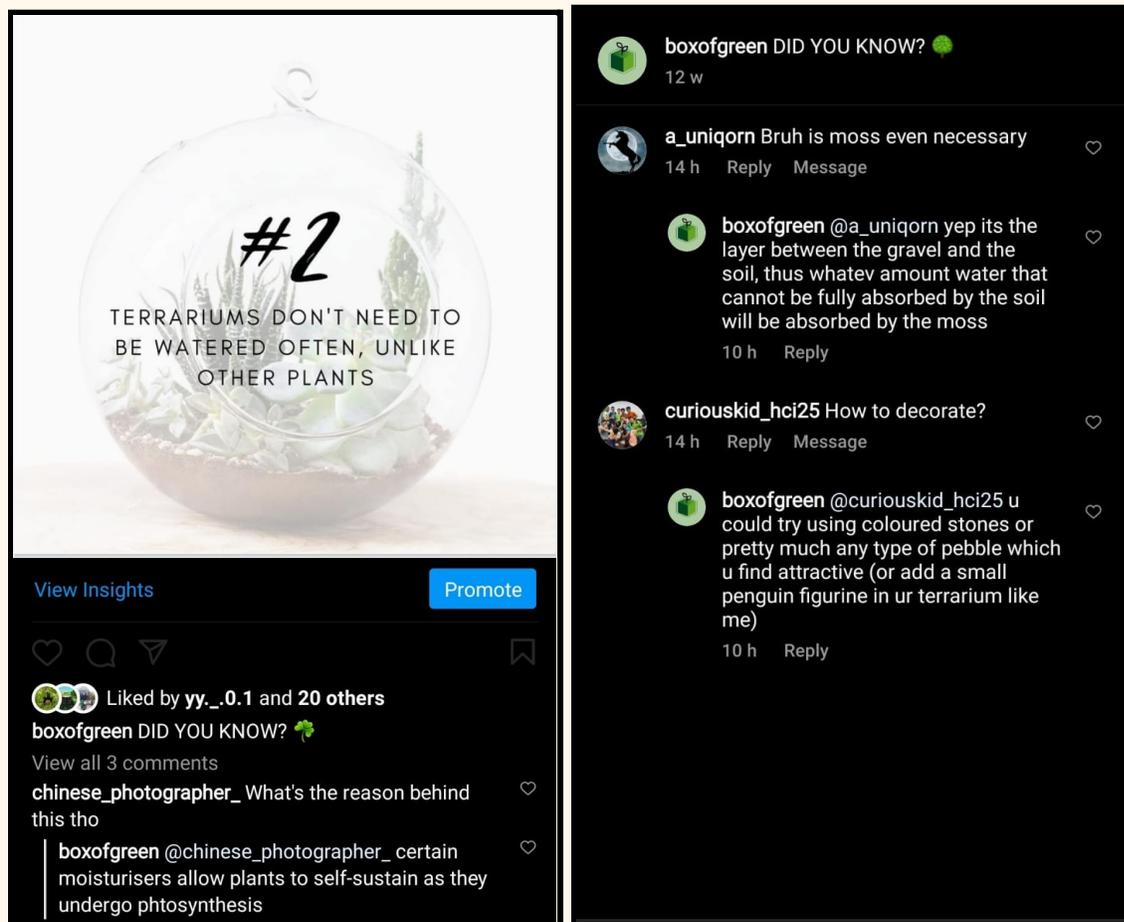
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kahoot.it Game PIN: 9622261

Kahoot Quiz

4. Outcome and Discussion

4.1. Our Resources



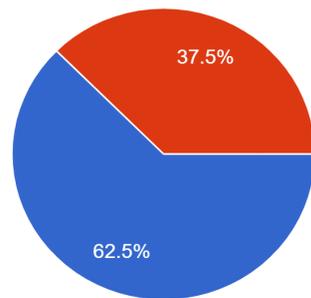
We have amassed 306 followers and most of them are students of our age group. A number of students showed interest in our facts and clarified their doubts. We responded to their questions promptly.

4.2. Workshop with Project Learn Create Reuse

After our online workshop, we conducted a post-workshop survey on our participants to seek feedback and assess the quality of our workshop. The results are presented below.

I enjoyed this workshop.

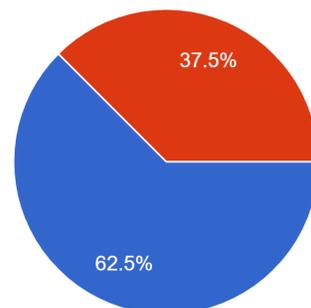
8 responses



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I have benefitted from this workshop.

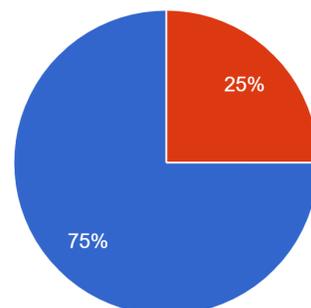
8 responses



- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

I have learnt more about terrariums and how they work.

8 responses

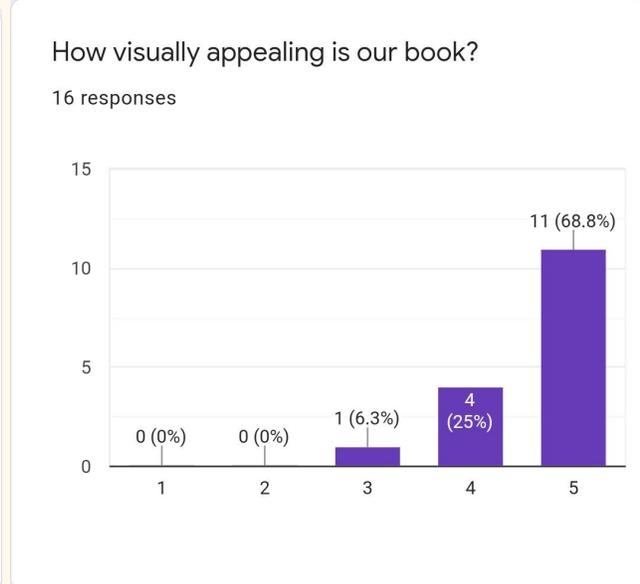
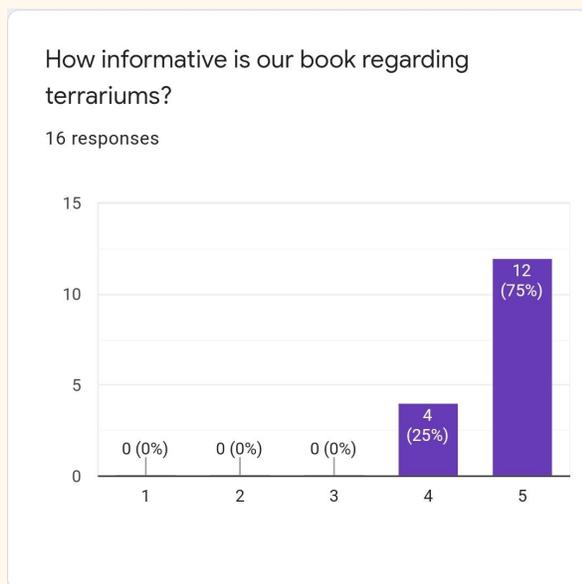


- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

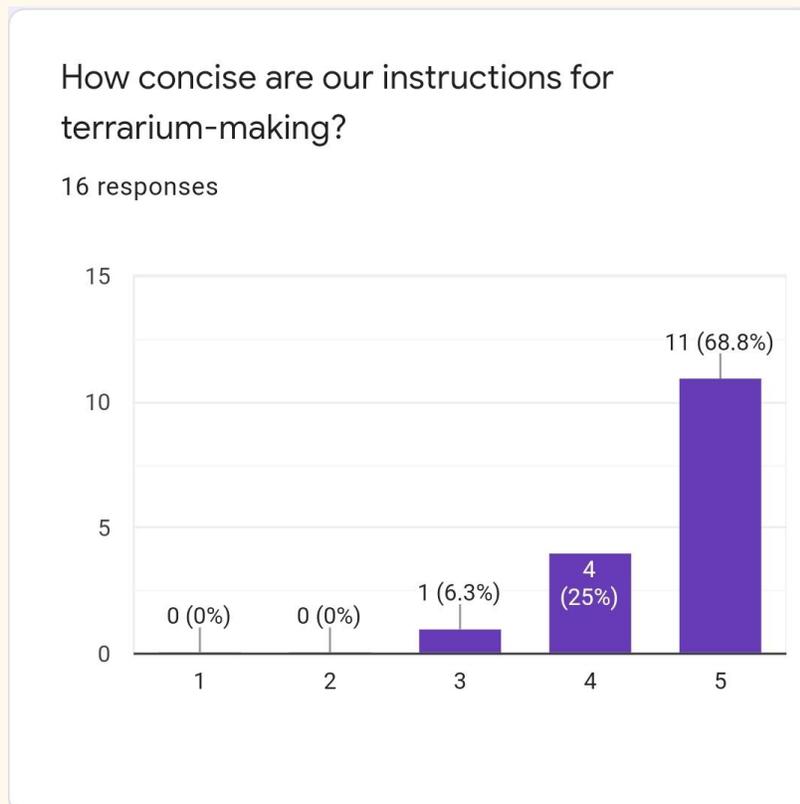
Generally, our participants found our workshop beneficial, and they have learnt more about terrariums. Overall, our workshop has allowed the children to build their interest in terrarium-making. Also, the majority of our participants had an enjoyable experience during our workshop.

4.3. Pilot Test - Booklet

A pilot test was conducted to assess the quality of our self-designed booklet.



On a scale of 1 to 5, with 1 being not informative at all and 5 being very informative, all our respondents said our book was informative, with 75% saying it is very informative. Most of our respondents said our book was visually appealing. 68.8% said it was very visually appealing.



Most of our respondents also said that our instructions for terrarium-making are concise. 68.8% said that the instructions are very concise. Their comments substantiate the quality, in terms of design and information, of our booklet.

Conclusion

The Covid-19 pandemic has posed a large challenge for us to carry out our proposal physically with the younger generation. This greatly limited the range of our public outreach in terms of physical meetups and events. However, we were able to overcome these difficulties by using a plethora of online platforms to share more about terrariums. Booklets were designed as our alternative main resource. We have also learnt that collaboration, especially during the pandemic, is essential in moving forward with our motives. (Virtual) Communication is also indispensable in ensuring group members are on the same track. This project has definitely allowed us to exercise our creativity as the topic itself is not well-known. Most of us developed new skills such as video-editing, graphic designing and terrarium-making.

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