

CAT 4 RESOURCE DEVELOPMENT

Group 4-096

PRIMARY SCIENCE BIOLOGY GROVE

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ABSTRACT

Primary Science Biology Grove (PSBG) is a resourceful website that provides gathered, relevant and comprehensive information on primary science biology-related topics (Cells, Characteristics of Environment and Adaptations) and a special enrichment on COVID-19 (Coronavirus Disease 2019). Educational videos, mind maps and images are present in each topic. Besides, our website is enriched through additional information with real-life applications of concepts. With various forms of information, our website aims to assist upper-primary students in science study. Our website helps students in excelling in the biology-related topics; the enrichment of coronavirus and other various enrichment enhances students' understanding of COVID-19 and raises their interests in current affairs as well as self-awareness of protection.

1 INTRODUCTION

1.1 Rationale

During Primary 5 and 6, numerous students were struggling with science. A variety of factors negatively affects their study, such as the inability of searching useful information and affording expensive tuition. As a result, they usually fail to achieve their goals in exams. Moreover, it is crucial for students to recognise the current serious situation and learn to protect themselves through our special enrichment on COVID-19.

1.2 Objectives

The objectives of Primary Science Biology Grove are to :

- Assist students in science study and revision while catering to their individual learning styles
- Encourage students to enjoy science study and learn beyond their syllabus (about the current coronavirus in simple, understandable terms and in relation to

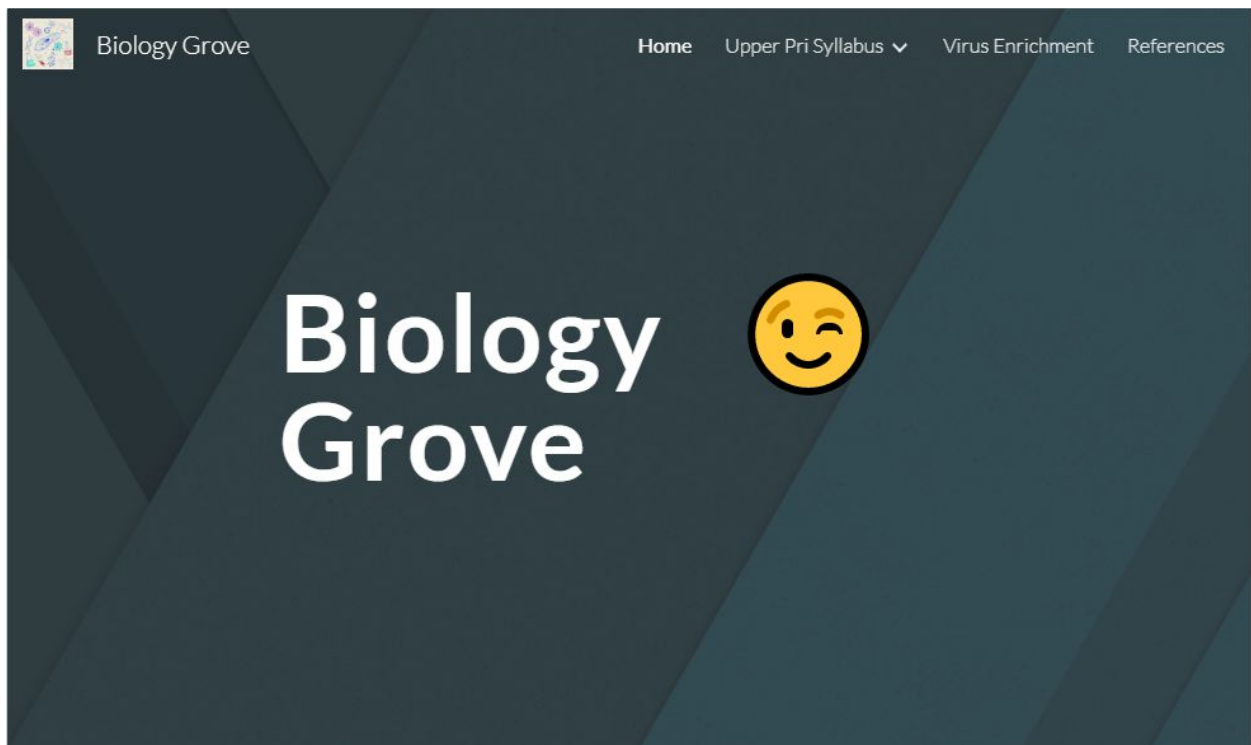
their current syllabus etc).

1.3 Target Audience

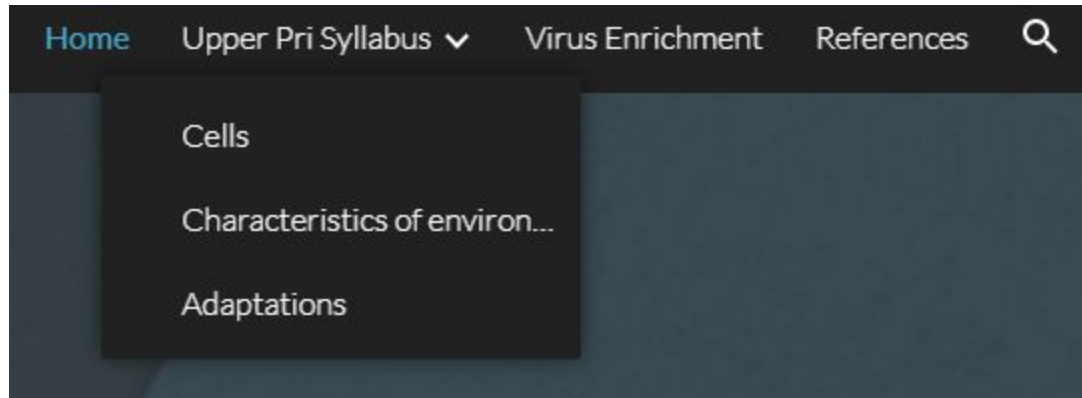
We have targeted the upper primary students seating for exams as they are preparing for their first major exam and are not new to the subject of science. Besides, we will specially cater the needs from students who are disadvantaged in their learning, due to restrictions.

1.4 Resources

The resources created for our project are compiled into a website. The website has four main components, which are Home, Upper Pri Syllabus (with three small sections: Cells, Characteristics of Environment and Adaptations) , Virus Enrichment and References. Visitors can find required information in each section.



PSBG homepage



Component topics under Upper Pri Syllabus

2 REVIEW

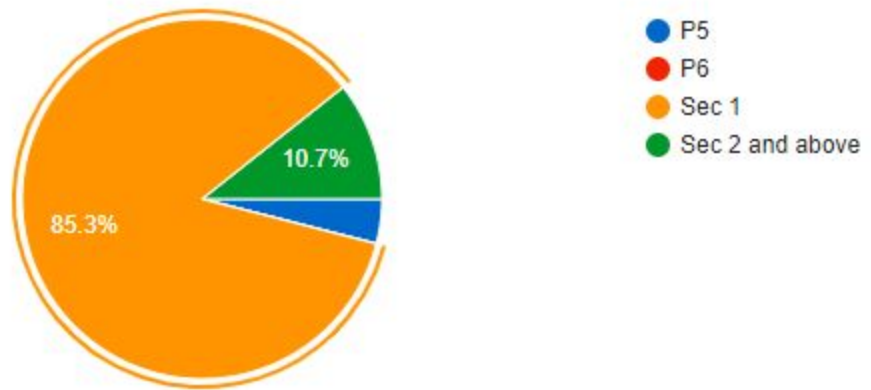
Although scattered and disorganised information on primary science and COVID-19 can be found in resources like textbooks or online platforms, it is inconvenient and impractical for research. Moreover, other websites often do not cater to Singaporean students' syllabus. To improve on their learning process, a website with gathered and comprehensive information was created to reduce students' workload while gathering information.

3 METHODOLOGY

3.1 Need Analysis

To ensure that our website can fulfill the investigated students' requirements, we have created a questionnaire to find out their needs and preferences before we began creating our website. With reference to the survey results, we can draw conclusions and set the goals for our project. We received 75 respondents in total.

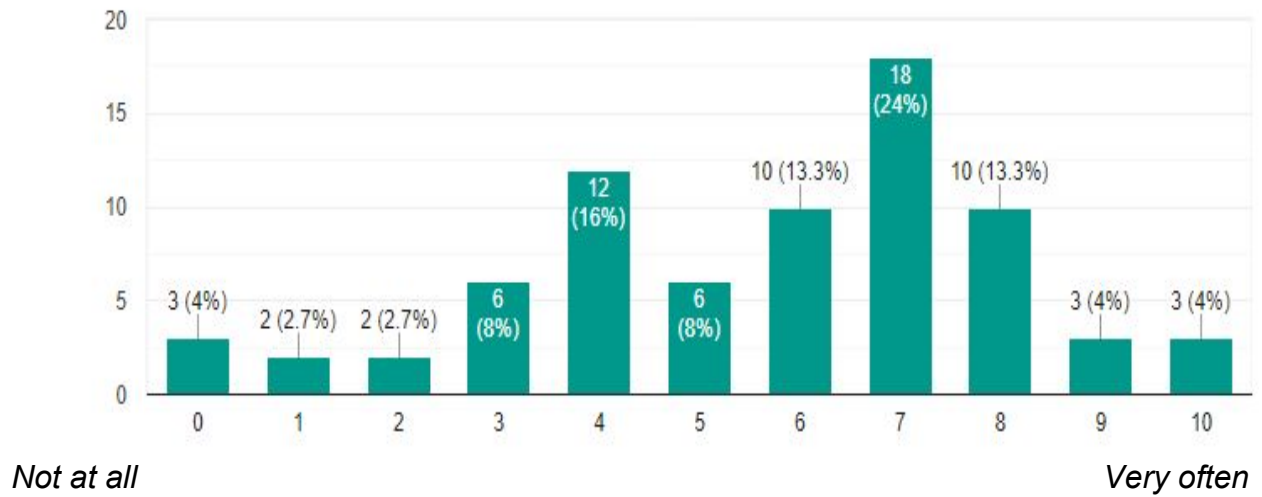
3.2 Survey results



Participants

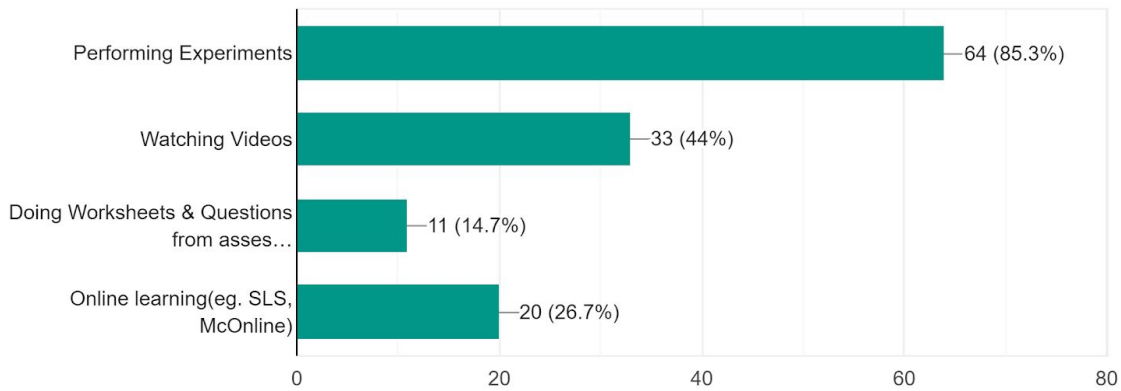
Q1. How frequent do your science teachers show the class videos during science?(in p5&6)

75 responses



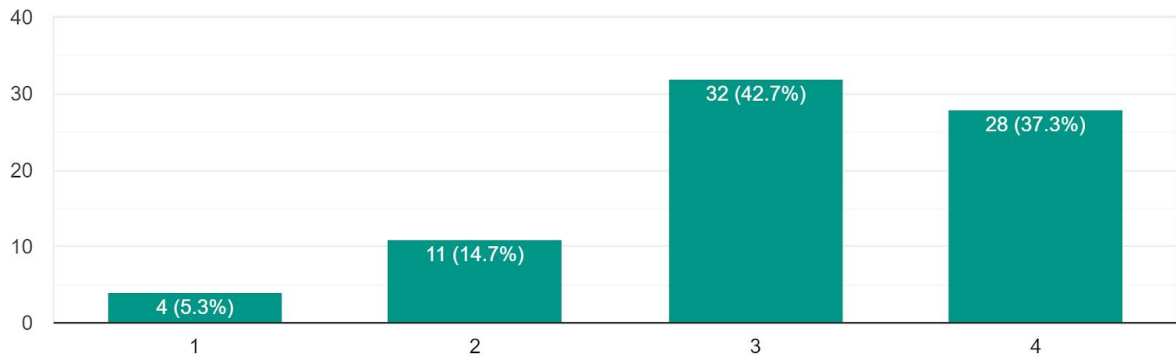
Q2. Which mode of learning science appeals to you the most?

75 responses



Q3. You will appreciate a science website that caters to your individual learning styles and pace. e.g. There are basic videos and advanced/enrichmen...also included if you are more of a visual learner.

75 responses



(*Q3. You will appreciate a science website that caters to your individual learning styles and pace. e.g. There are basic videos and advanced/enrichment videos for students of different capabilities. Videos of experiments are also included if you are more of a visual learner.)

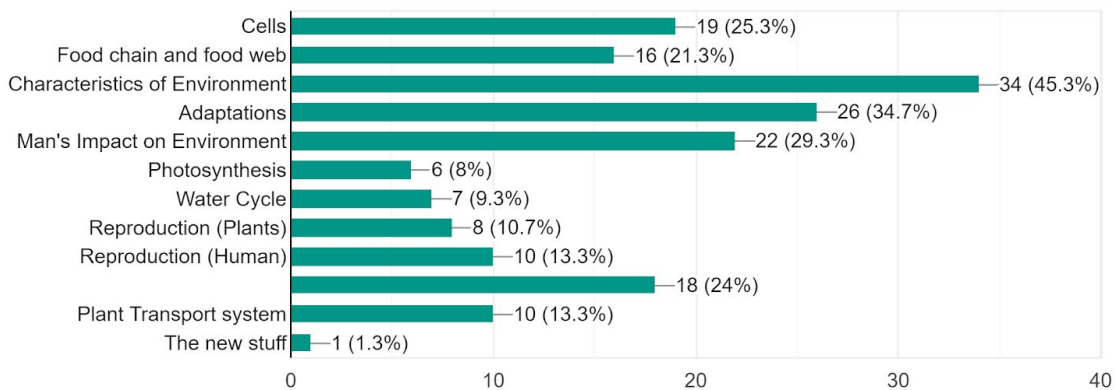
Q6. Would you like to know how the COVID-19(or similar viruses) spreads and changes through adaptations?

75 responses



Q7. Which of the following topics do you find hard in?

75 responses



3.3 Development of Resources

Firstly, We have searched for reputable website domains like sites in the “.org” and “.edu”, and always check if information is useful and trustworthy. Then, we extract relevant information and videos from platforms such as YouTube. To ensure the suitability of information for revision and study, we only chose the most relevant

information and refrained from copy-and-paste. The selection of key information is conducted to improve on students' efficiency of study and revision.

3.4 **Limited Pilot Test**

Due to the COVID-19 situation, opportunities for contacts have drastically decreased and the project progress is not fluent and efficient. However, we still manage to conduct limited tests of our website among students and parents. From the feedback given, we can improve on the current version of the website.

The main points from the feedback are as follow (summary):

1. The Primary Science Biology Grove website sufficiently provides useful information.
2. The selection of resources, such as videos and diagrams are engaging and suitable for upper primary students.
3. Font size of diagrams should be increased so visitors can have a better view.
4. Love the website.

Examples of comments:

From Olivia:

"The website is good! I especially enjoyed the videos. I find the misconceptions section very useful."

From Verena:

"I just love the section where you state facts about Covid-19 and the interesting science videos! However I think the font size is a bit too small, you could make it bigger. Maybe you could also add more pictures for the Cells section? Then it'll be more interesting and easier to understand. Overall, good job! The website is very useful!"

From Sam:

“Cells section: map colour can be improved and font can be bigger. Diagrams of animal and plant cells are well presented . Video selection is good. Virus enrichment: Virus diagram is colourful and easy to understand with given labels. Link to AEC2 protein info is too high level for P5 student; same for E protein Video on Dr Binocs is suitable for P5 student; same for ‘what happens if you caught the coronavirus. The sections on Interactions within the environment and Adaptations are filled with good videos and useful info.”

Mainly, our website is positively commented and evaluated by the participants of the pilot test.

4 OUTCOME & DISCUSSION

The website provides a helpful source of comprehensive and comprehensible information for students' consolidation of learning when they have to study for their examinations, while also providing some enrichment information for students that want to find out more information about the topic. The website also has videos that appeal to learners who don't want to read words and text, but learn better through watching videos.

5 CONCLUSION

Constructing a website out of gathered resources is a heavy task but nonetheless, we have acquired new skills like website designing, accurate selection of information and various research skills. These skills are commonly applied throughout the building of our website.

In the process, we have also faced many challenges during this project work. It did not turn out to be totally smooth and fluent, partly caused by the COVID-19 situation, which, to a certain extent, diminished our morale. Challenges we faced include:

- Members not participating in the group work
- Difficulties in scheduling of meeting time
- Improper time management.

Because of limited face-to-face discussion and contacts, group members could not conduct individual tasks effectively. Nevertheless, we still managed to overcome these issues and completed the final product and perseverance is presented.

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