

Letters to David: Caves in the Clouds Instructions and Answers

- Venue: Crystal Mountain Cave and Lost World – Cloud Forest (indoors)
- Estimated duration to complete all the activities: 30 minutes (excluding welcome and briefing)

Age Range / Subject

- 4 – 9 years old (Science): Conservation and Plant Diversity

Learning Objectives:

- Understand what a living thing is and know the difference between living and non-living things
- Learn the features of a cave
- Learn about carnivorous plants
- Develop investigative and problem-solving skills

About Letters to David: Caves in the Clouds

Letters to David is a series of online children's activities which visitors can download for free, for their visit to Gardens by the Bay.

Each activity sheet features a different set of correspondences between David, the Botanist, and his friends around the world. Within each letter, is something interesting for your children to do in a different part of Gardens by the Bay.

Letters to David: Caves in the Clouds introduces natural features and plants of cloud forests. Through the exchange between David, and his friend, Andy, the children will learn about geological formations – stalactites and stalagmites and be introduced to some carnivorous plants.

Welcome and Briefing (10 min)

Upon arrival, allow the children to adjust to the new surroundings. Give a quick list of instructions to the children:

- Do not run or push your friends as you walk in the gardens
- Do not touch any plants unless instructed
- Whatever you bring to the gardens, bring them back with you; whatever you find in the gardens, leave them in the gardens
- Raise your hand if you wish to speak or answer any questions
- Let your teachers know if you feel unwell

Give the children time to visit the toilet. Once ready, take the children to the **Crystal Mountain Cave** or the **Lost World** at the Cloud Forest. For this activity, you may choose to go to either venue first. For groups with younger children, you may wish to take the lift between the venues.

On the way up, ask the children about the differences between living and non-living things. (Living things need air, water, and food/sunlight.) Point out things and plants (and people) along the way and ask the children if those are living or non-living things.

Suggested Plan for Page 1 (10 min)

Take the children up to the **Crystal Mountain Cave** in the Cloud Forest mountain. While walking up, ask the children if they know what a huge hole in a mountain is called (a cave). Tell them that they will now visit a "cave" in the Cloud Forest mountain.

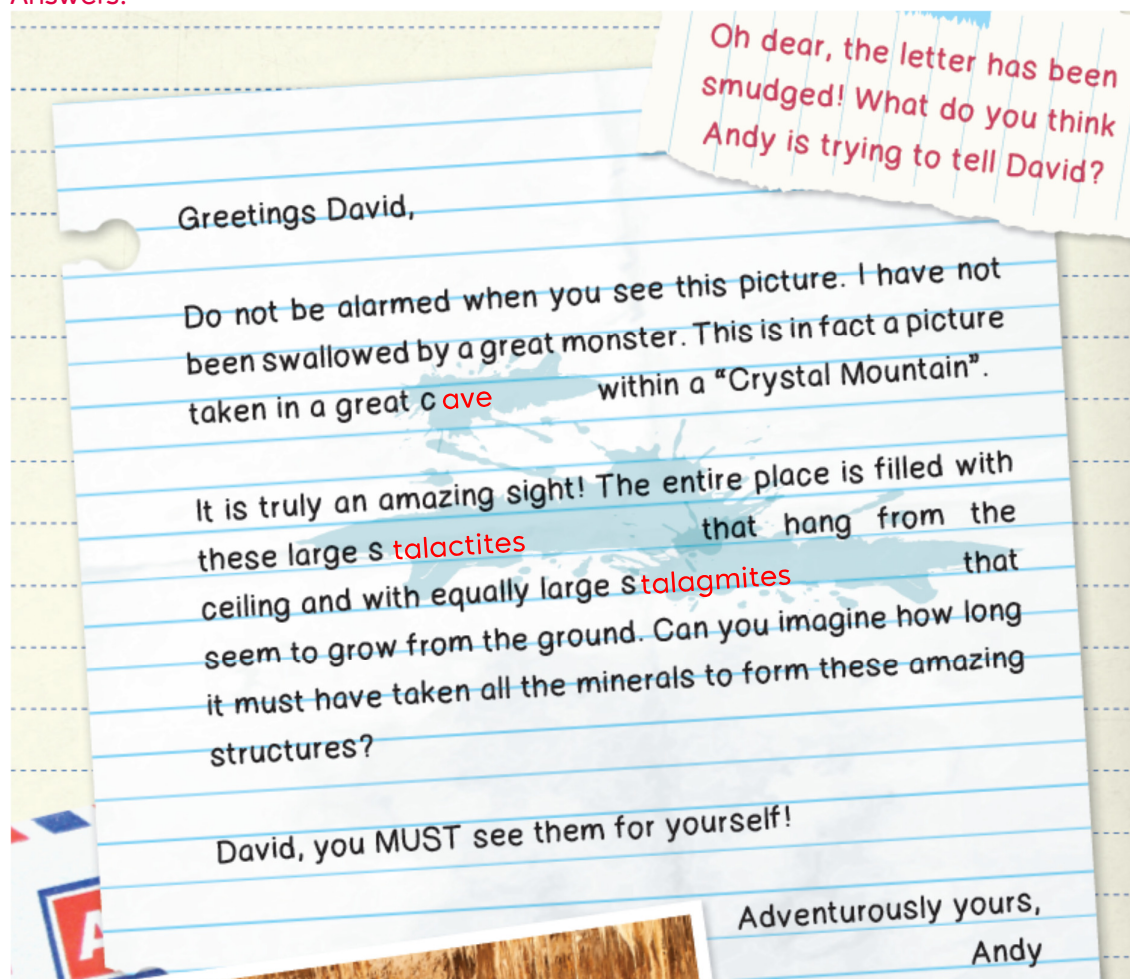
At the **Crystal Mountain Cave**, ask the children to look around and talk about their surroundings. They should notice the large stalactite and stalagmite formations. Ask the children if the formations remind them of anything.

Explain that these are gigantic pieces of crystal called "stalactites" and "stalagmites", and talk more about them using information from Andy's letter to David.

Direct the children to the picture in the activity sheet to show them what the formations look like in an actual cave setting. Finally, ask them if caves, stalactites and stalagmites are living or non-living things. If the children are old enough, ask them for reasons.

Revise what was covered by reading out Andy's letter and pausing for the children to fill in the blanks verbally. If the children have learnt to write, you may spell out the names of the formations and help them to write the names in the blanks.

Answers:



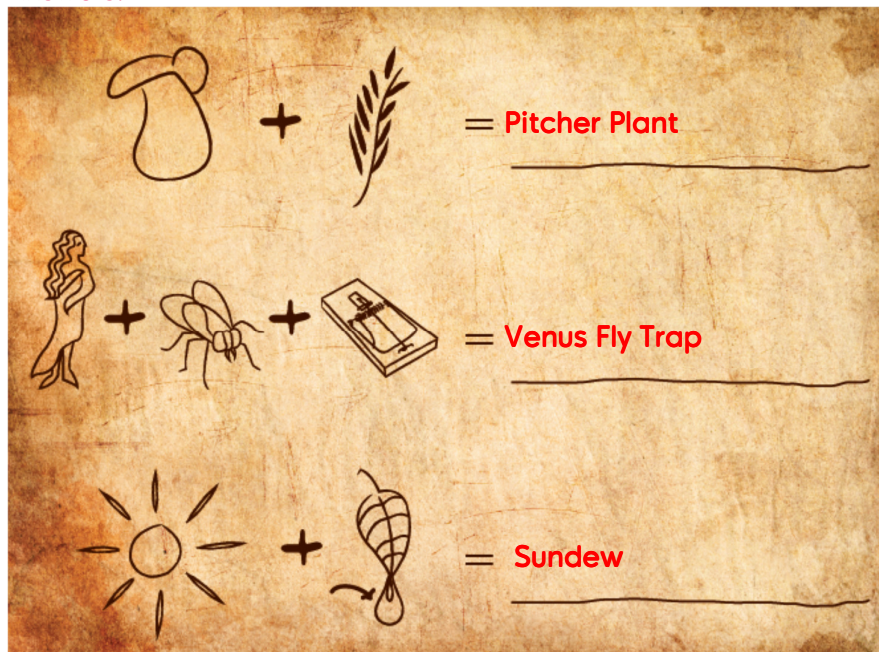
Allow about 5 minutes to move between the two places.

Suggested Plan for Page 2 (10 min)

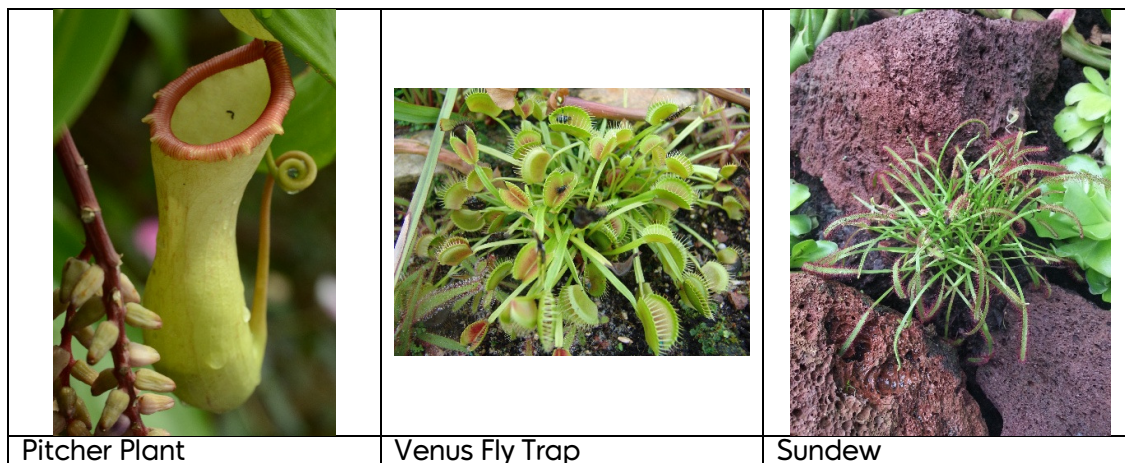
Take the children to the **Lost World**. Tell them that in the Cloud Forest, there is a group of plants that "catch" insects for food. They are called "carnivorous plants". Help the children to decode the visual puzzles to find out the names of the plants, and when you do, take the children around to find the plants.

For older children, explain to them that these plants trap insects for food because the places where they grow in nature cannot provide them with enough food to help them grow big and strong.

Answers:



Use the photo below to identify the plants.



End off by asking the children if plants are living or non-living things. If the children are old enough, ask them for reasons.

Conclusion (5 min)

Remind the children of what they have learnt about caves and carnivorous plants. Tell them that these are just some of the living and non-living things they can find in cloud forests.

Note to Educator:

The above is a suggested plan. Please feel free to adjust the duration and complexity of the activities to suit the needs of your children.