

Letters to David: Earth Check Instructions and Answers

- Venue: Cloud Forest Gallery and Cloud Forest Theatre, 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 the importance of protecting the environment
- Know simple, daily life habits for sustainable living
- Develop investigative and problem-solving skills

About Letters to David: Earth Check

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: Earth Check helps children to start thinking about and in the process, make sense of difficult concepts like climate change and the need to live an environmentally sustainable life. Through a simple newspaper article and an entry in David's journal, the children can become aware of global environmental issues and consider how they can make a difference.

Given the nature of the content, this sheet may be more suitable for children aged 6 to 9 years old. However, with careful guidance, younger children may be introduced to these topics as well.

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 [Cloud Forest Gallery](#) and [Cloud Forest Theatre](#) via the [Crystal Mountain Cave](#) in the Cloud Forest.

Suggested Plan for Page 1 (20 min)

At the [Crystal Mountain Cave](#), show the children the picture in the newspaper article. Ask them to identify the animal pictured (polar bear). Next, ask the children to deduce what the polar bear is doing. Ask them where they think polar bears live. Using the article, explain to them that something called "global warming" is causing the temperature around the world, including that in the polar bears' home, to get warmer.

As such, the ice and snow where the polar bears live is starting to melt. This causes all kinds of problems for the Earth, including the polar bears losing their home.

Older children may be allowed to read the article on their own, and you can follow up with the questions above.

Next, tell the children that you will take them to [Cloud Forest Gallery](#). There, they will learn about the causes and effects of global warming. (You may choose to skip the shaded portion for younger children.)

At [Cloud Forest Gallery](#), take the children around the interactive display. Inform them that Man has developed the ability to use tools to modify or transform the environment. In so doing, this has affected other organisms and ecosystems living alongside us. In this room, they can find out about the impact of Man's activities on the environment.

On the far side of the room, you will find a display listing the human activities that contribute to carbon emissions. Tell the children that one of the causes of global warming is the imbalance of carbon emission and use. Explain that in nature, carbon is released into the air through different gases. Of these, a gas called "carbon dioxide" is the air that living things breathe out. This was not a problem originally, because plants use carbon dioxide when they make food, and give out oxygen which we then breathe in. So there is a "balance" in the cycle.

Referring the children back to the display, explain that it becomes a problem when we do things that create more carbon than what the plants can use. Use the display to cite examples - industrial and vehicular emissions, deforestation, etc. So all the carbon gases trap heat on Earth, making the temperature warmer.

Next, ask the children what they think they can do to protect the Earth. Tell them that they will now watch a video illustrating the importance of protecting the environment, and how Man can live sustainably to protect the Earth.

Take the children down to the Cloud Forest Gallery and allow them to watch the video and holographic display. You may need to summarise some of the content for the children, particularly the younger ones. Note down 2 to 3 suggestions for sustainable living from the video or holographic display.

After this, take the children out to a sheltered seating area like the Canopy.

Suggested Plan for Page 2 (10 min)

At the seating area, ask the children what they thought about the displays. Younger children may need more prompting. Go through the impact of Man's activities on the environment.

Explain that many of these consequences can be prevented, and we can help to do so. For older children, ask them if they can think of some ways to help protect the Earth (save water and electricity, recycle paper, reuse plastic bags, etc.). Encourage them to be specific. You may have to list these for the younger children. Next, ask the children to commit to doing one or more of these things when they go back home or in school. Allow them to write or draw the things on the activity sheet. Conclude by reinforcing the fact that we all have a part to play in protecting the Earth.

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.