

Photography Challenge: Macro Mastery

As part of the ALEPH mission, optimising mass and volume for future space missions is crucial. In a larger, closed payload design, it becomes increasingly important to capture detailed, close-up images of plant growth.

Understanding how close we can photograph small plants or seeds while maintaining clarity will inform future designs of payload cameras and observation equipment. By mastering macro photography, we can ensure that no detail is overlooked, even in compact, closed environments.



The ALEPH project is an Australian payload putting seeds and plants on the Moon.

What you'll need:

- This Instruction booklet (check!)
- Choose a small plant/lichen/algae/fungus with intricate textures or start growing your own from seed.
- Macro Lens or Smartphone with Macro Mode
- (Optional) tripod to keep camera/smartphone steady

Caution: Handle macro lenses and smartphones carefully. Ensure your equipment is secure and positioned on a stable surface to prevent damage or accidents.



Your Objective: Capture a highly detailed macro image of a small seedling/lichen/algae/fungus.

This close-up will help us assess the level of detail that can be achieved in a compact payload environment.

Set the Scene

1. Select a small seedling/lichen/algae/fungus. You could also try growing a small plant from a seed.
2. Place the plant or seed on a flat surface in a stable position.

Keep all electronic devices dry and away from water, especially when working with freshly watered plants.
Handle your equipment with care to avoid damage.

Steps



1. Position Your Subject:

- Place the plant or seedling on a flat surface in a well-lit area. Make sure the subject has interesting features, such as leaf veins, fine hairs, or detailed root systems.

2. Choose Your Equipment:

- **For Cameras:** Attach a macro lens or use a lens with a close focusing distance.
- **For Smartphones:** Enable the macro mode or zoom in closely to focus on the intricate details of the plant.

3. Set Up Your Lighting:

- Use soft, even lighting to highlight the plant without casting harsh shadows. Avoid strong backlighting, as it can obscure small details.

4. Experiment with Angles:

- Take shots from different perspectives and distances. Try getting closer or capturing the plant from a unique angle to see which provides the most detail.

5. Capture the Shot:

- Once satisfied with your focus and composition, take multiple images, adjusting the settings slightly with each shot to ensure you capture the best version.

6. Note down Proximity:

- Take note of how far from your subject your camera/smartphone is. You can use the template on the last page to help you measure.

Share your results!



<https://forms.gle/1TcEVCj5fK8bxqwF9>

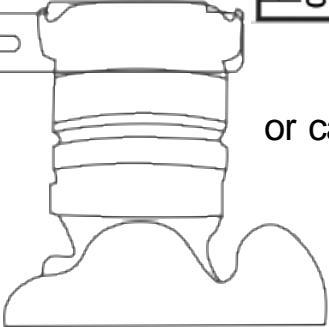
Share your results by uploading them via the form above or posting them on Instagram with the tag @plantsonthemoonau or hashtag #plantsonthemoon.

Disclaimer: The creators of this project have taken all reasonable measures to ensure the activities are safe and educational. However, participants are responsible for following instructions carefully and conducting all activities in a safe manner. Adult supervision is required for all participants under the age of 15, and for any handling of electronic or fragile equipment.

Place plant along here and measure distance



Place smartphone



or camera

