

In recent digital playgroup sessions at the Children's Technology Play Space, children were invited to explore natural items using digital microscopes attached to iPad. Using the iPad's camera function, children and their adults captured still images and video footage as they moved the microscope across different items.

#### Children were curious about the items from their natural environment

'Look at this one!' and 'I can see the seeds!' are examples of what was heard as the children and their adults looked at the items. These interactions sparked interest and built field knowledge and discipline specific vocabulary about plants and insects (e.g., petal, stalk/stem, stamen, seed, lichen, antennae/feelers).

Figure 1 shows close-up photographs of different flowers and blossoms captured by the children that were used to build knowledge and vocabulary about the sorts of materials naturally occurring in their local spaces.

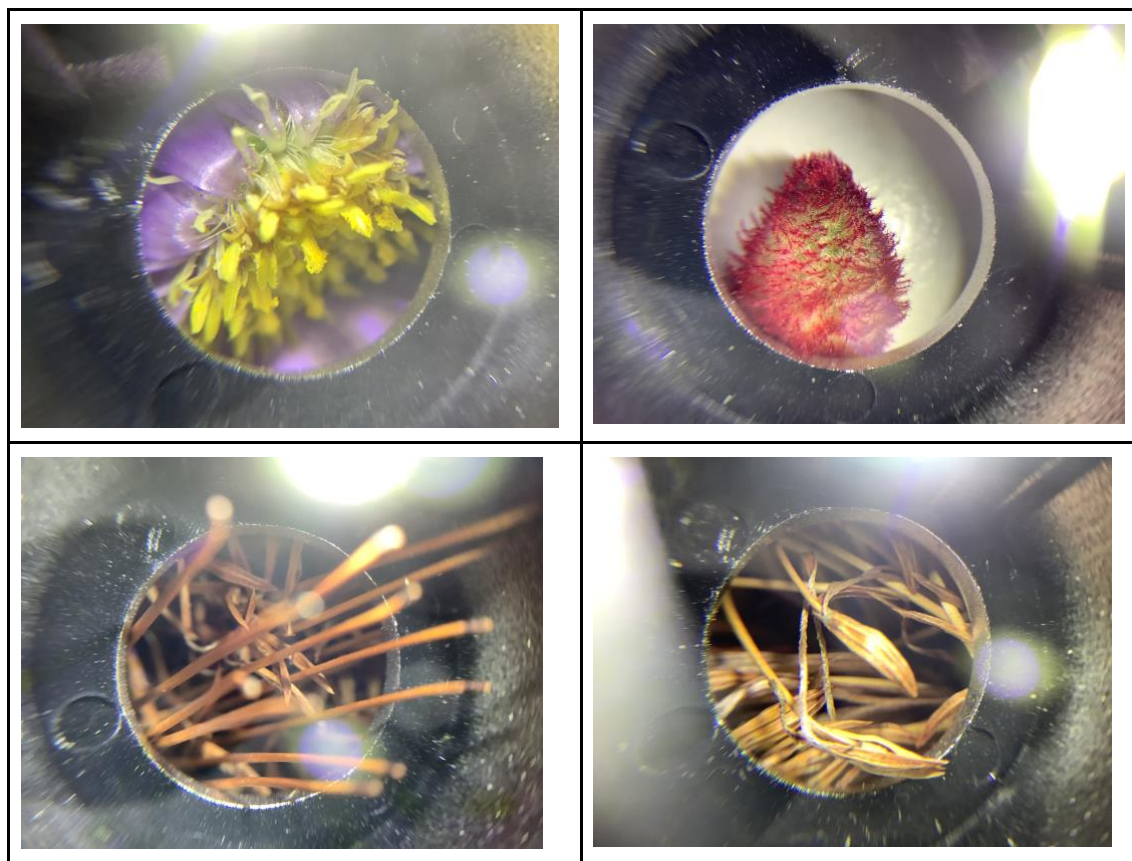


Figure 1: Technology afforded flexible understandings through observation and reflection

#### Children took time to look closely

The digital microscopes clipped to the camera of the iPad afforded opportunities for close examination and analysis of the natural materials on offer. Children and their adults (often equally fascinated about the opportunity to look closely!) were active users of the technology, exploring the features of the found objects. Figure 2 shows children exploring the natural materials through the microscopes independently and with support.



Figure 2: Technology afforded a closer look at found materials

### Children were motivated to investigate more found items

Children used the technology to check back, reflect, compare and contrast, and confirm understandings. This led to new understandings, but also motivated new explorations of the items on the table and into the broader play space. For example, a shared interest in an image of a small bug found rolled up in a seed pod led to a broader exploration of living creatures. This new line of inquiry generated movement in the space between the natural materials introduced from the outside environment to a set of bugs set in resin that was part of a kit and a series of x ray print outs of small creatures. Figure 3 shows images captured across the assemblage of materials collected for this closer investigation.

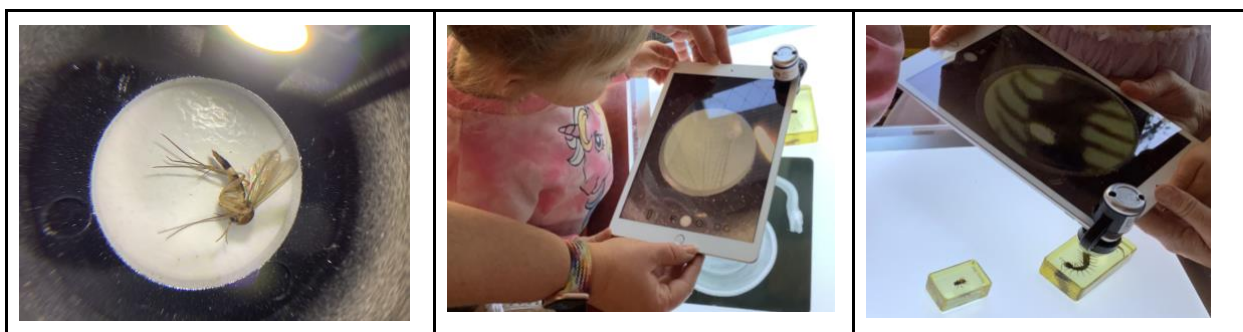


Figure 3: Expanding a line of inquiry to investigate body structure

### Children were excited to make discoveries

The discovery of a living creature, such as an ant or bug, prompted children to share their own stories (such as bugs they'd seen/experienced in other places). These opportunities to connect with personal experiences were significant to the children.

The discovery of a living creature was of interest to those beyond the person holding the microscope. While some children gathered closely around the physical object on the table (see Figure 4), mirroring the iPad onto the Play Space wall allowed everyone to view, discuss, develop knowledge and language about the nature of this discovery.



Figure 4: Investigating something new

In this example, the discovery of an ant prompted stories as the children connected with their own experiences with bugs.

**Researcher:** It's an ant. It seems to like this stick (moves the stick slightly. The ant scurries out.).

**Multiple voices:** There it is! There it is!

**Researcher:** Look at the ant. Can you see it? I've got it! (sees it through the microscope and mirrors the iPad onto the wall). There it is – look on the wall! Look on the wall!

(Children turn to the sharing wall where the ant can be seen running around under the microscope)

**Child 1:** I saw ants at my house. It was on a leaf in my backyard..

**Child 2:** A ant crawled on me once.

**Child 1:** Me too!

**Child 3:** A caterpillar crawled on me!

The sharing of personal experiences in this example connects the CTPS with the children's familiar home spaces, the found materials with those in other familiar spaces, and also connects them with their own experiences. The interactions appear to draw the children into a community with things in common inspiring dialogue and story.

Excerpt from Kervin, L., Mantei, J., Rivera, M. C. S. & Peach, L. (forthcoming). Looking more closely at the Children's Technology Play Space: Bringing space, bodies, materials and knowing together through investigation with microscopes.