Various Ways Children Document

The purpose of this activity is for educators to explore various ways children in early childhood might document science concepts and phenomena.

Key Concept

- Discuss different ways children document science concepts and phenomena

Materials and Setup

- Photo cards (pages 2–4)
- Sample Answers (pages 5–7)

15 minutes

Small groups

In-person or virtual professional learning

Activity Instructions

1. Examine the images on each card.
2. Discuss with a partner or your table group:
   a. ways children document
   b. how the documentation supports children's understanding of science concepts and phenomena
3. Review the "Sample Answers" after you discuss with your team to discover additional ideas related to each image.

Photo Cards

- In what ways did children document?
- How might this documentation support children's understanding of science concepts and phenomena?

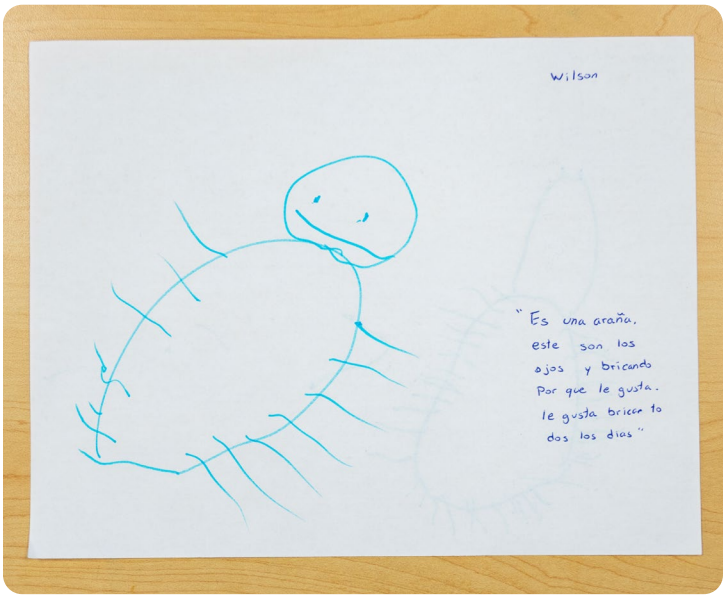

Photo translation: *"It's a spider. These are the eyes and jumping because he likes it. he likes to jump every day."*

- In what ways did children document?
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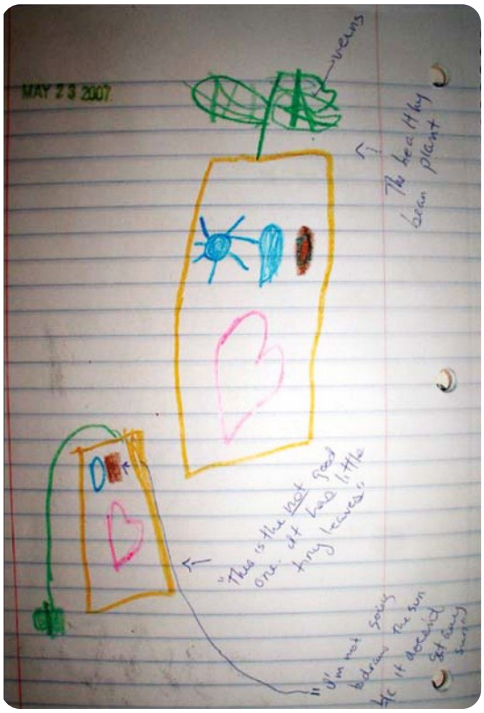
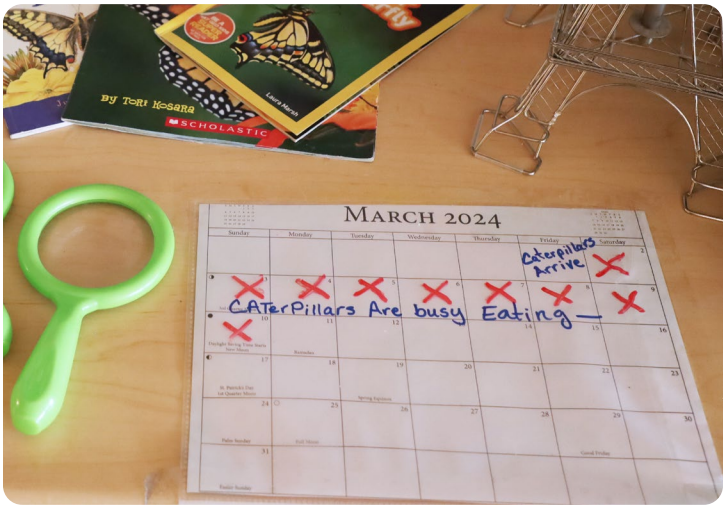


Photo transcription (top to bottom, left to right): *"Veins"; "This is the <u>not</u> good one. It has little tiny leaves"; "The healthy bean plant"; "I'm not going to draw the sun because it doesn't get any sun"*



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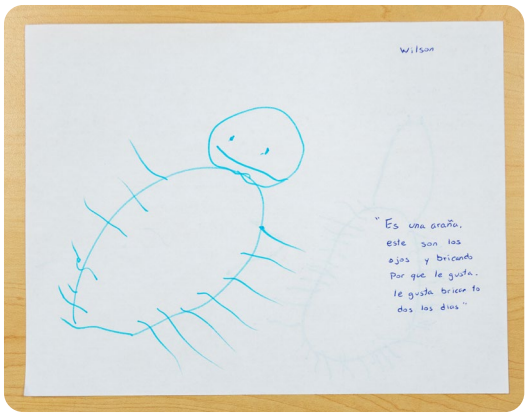
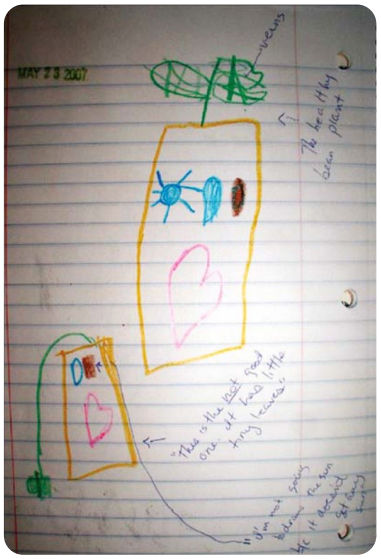
Sample Answers

Representational Drawings



- The child documented by creating a representational drawing and dictating their observations to the educator.
- The dictation tells us that this is a spider.
- The child is communicating their understanding of the different attributes of the spider using their home language. The child observed that the spider has many legs, eyes, and a mouth.
- This form of documentation can support children's understanding of the attributes of different objects and living things. In this case, the child has represented that the spider has many legs. Educators might deepen children's knowledge by encouraging them to examine the details of their documentation and use other models or drawings to compare. For example, the educator might ask the child to count the legs on a real or model spider and count the legs on their drawing.

Using Representational Drawings to Document Processes and Results



- The child drew a picture (from Brenneman & Louro, 2008) to represent the different conditions that plants received as part of an experiment to understand the needs of plants. In this image, we observe that one plant received water, soil, care, and sunlight—the healthy plant. The other plant—the "not healthy one"—received water, soil, care, but no sunlight. The child represents these different conditions by drawing symbols on the different pots. We also notice dictation where the child further explains the documentation.
- Through this documentation, the child is communicating their understanding of the needs of plants. Plants without sunlight are not healthy.
- This documentation helps the child consider the different conditions that the plants received. It deepens their understanding of ways to design experiments—providing space for them to consider the different ways the plants were cared for. This also supports the child to be a critical observer. The process of documenting helped the child think more critically about the differences in the conditions.

Sample Answers

Charting Changes Over Time

- The educator and children documented caterpillars' behavior over time using a calendar.
- Through this documentation, children might learn about the ways caterpillars behave and how their behavior changes over time.
- By keeping track of the behaviors or growth of different living things, children can build an understanding of the way living things change, grow, and behave. In this instance, an educator and children document what caterpillars do on different days. Children might notice how long it takes caterpillars to build a cocoon and eventually emerge as butterflies. They will be able to count how many days the caterpillars are in each of the different phases and wonder why they behave differently in different phases. For example, they might think about why caterpillars spend so much time eating (to store energy to prepare for building a cocoon and metamorphosizing into a butterfly).

Taking Photographs

- The child is taking photographs with a digital camera to document a watermelon growing on a vine.
- Taking a photo of the watermelon over several days might allow the child to consider ways the watermelon changes over time. Photographs provide accurate ways of capturing an object or phenomena and allowing for comparison over time.
- Photos allow children to capture real-life details and changes they can examine closely and interpret. Photos also provide an accessible way for children to document and represent objects and phenomena in a way that does not depend on children's fine motor skills or drawing abilities.

Sample Answers

- Through this documentation, children are communicating their understanding of where animals live and how people interact with them.
- Charts and graphs can support children to compare different groups. In this example, the documentation helps children compare domestic and wild animals. They might think more deeply about the needs of living things and their habitats. They can also begin to think about how people interact with different animals and how people affect the ways animals live (for example, protecting the habitats of wild animals).
- Children might sort tangible objects into different groups at an early stage of learning to document the similarities and differences among objects or phenomena.