



Answer Key for Investigating Life Science in the Garden (3–5 years)

This handout provides sample responses to support discussions following video observations on how children explore living things and how educators use the M5 Early STEAM Approach to support children's investigations.



Video:

[Investigating Life Science in the Garden \(3–5 years\)](#)

[Investigating Life Science in the Garden \(3–5 years\) – Audio Descriptive Version](#)

Slide 22: Discuss: Investigating Living Things

In what ways are children investigating living things?

Possible Responses

- Children investigate living things by observing and exploring different fruit and vegetable plants in the garden.
- With support from their teacher, children plant, water, and harvest fruits and vegetables from the garden.

What concepts and phenomena might children be learning about?

Possible Responses

- Children learn about the needs of living things (for example, plants need water).
- Children learn how plants grow and change—beginning with planting a seed and observing and documenting the way the plant grows and changes over time.



What inquiry skills (for example, observing, measuring, collecting data, interpreting data, testing ideas) do children use when investigating these concepts?

Possible Responses

- Children make observations of the plants—noticing the way the plants grow and change over time. Children also notice when some fruits and vegetables are ripe and ready to harvest.
- Children document. They draw pictures of the different stages of growth of a zucchini. Children also use digital cameras to capture the growth of plants.

Slide 30: Discuss: Supporting Children to Investigate Living Things

In what ways did the educator use the M⁵ practices to support children to investigate and learn about living things?

Mutual Learning

In what ways is the educator responsive to children’s abilities, interests, or lived experiences?

Possible Responses

- The educator discusses ways she observes and responds to children’s curiosity in the garden. She talks about how she pays attention to their interests and tries to deepen children’s thinking and expand on what they are already observing.
- Educators can learn more about ways children explore life science concepts at home and in community spaces. For example, educators might ask families to share examples of a plant that grows near their home.



Meaningful Investigations

In what ways does the educator offer meaningful investigations?

Possible Responses

- The educator provides an outdoor, active learning experience to support learning about the life cycle of the zucchini. This is a meaningful experience because children are able to directly observe and document the zucchini growing and changing over time from a seed to a mature vegetable.
- The educator supports children to investigate the garden in different ways (for example, planting seeds, watering plants, harvesting fruits and vegetables). These experiences are meaningful because they provide children with opportunities with different entry points to engage, hands on, with living things in a setting that is relevant to their lives—their school garden.



Materials and Learning Environment

In what ways does the educator provide materials and a learning environment that support children to explore living things?

Possible Responses

- The educator provides children access to a school garden as a way to support them to investigate and learn about living things first-hand.
- Children are also provided with tools to encourage them to learn and care for the garden. For example:
 - ◇ The educator offers the children seeds to plant—this helps children learn about how plants begin life.
 - ◇ Children use a watering can to water the garden—supporting their understanding that plants need water to survive and grow healthily.
 - ◇ Children use digital cameras to support their documentation of different living things in the garden. Documentation of living things is important when the changes that occur happen slowly (for example, plants growing and changing). Children can rely on their documentation (for example, drawings and photographs) to compare plants and notice change over time.
 - ◇ The educator provides clipboards and coloring tools to support children's creation of representational drawings of the plants, fruits, and vegetables in their garden.



Mindful Vocabulary and Discourse

In what ways does the educator support children's science vocabulary and engagement in discourse about living things?

This clip primarily features an educator's narration about ways children investigate in the garden and learn about the life cycle of the zucchini plant. There are a few moments in the clip where we can observe ways the educator interacts with children to support vocabulary and discourse. Below are some ways educators might support children's vocabulary and discourse about life science in the garden context:

Possible Responses

- Educators can use open-ended prompts to encourage children to share their ideas about the characteristics of plants, how plants grow and change, and their needs. For example, educators might ask the following:
 - ◇ **Characteristics:** "What do you notice about the color and shape of the leaves? How are the leaves of the zucchini different from the leaves of the watermelon?"; "Let's pull out this weed. What do you notice is growing underground? What do you think the roots do for the plant?"
 - ◇ **Needs:** "I see you watering the plant. Why are you doing that?"; "Our plants are growing in the sun. I wonder what would happen if we tried to grow the plant in the dark."
 - ◇ **Growth and Change:** "Let's look at our drawings from last week. How is the plant different now?"
- Educators can model relevant terms while observing and touching different parts of plants with children and observing them grow and change over time. For example, educators might use the following vocabulary when describing what children notice in the garden:

◇ seedling	◇ blossom
◇ leaves	◇ fruit
◇ roots	◇ vegetable
◇ stem	



Multiple Representations

How does the educator provide different ways for children to explore and express their ideas about living things?

Possible Responses

- The educator supports children to explore and express their ideas about living things by encouraging them to draw representations of plants over time. Children can also explore and express their ideas about plants using digital cameras.
- The educator involves children in caring for the plants at different stages of growth and observing how the plants change, including noticing when fruits and vegetables are ready to harvest.
- Here are some other ways children might express their ideas about living things:
 - ◇ Act out (through movement) the life cycle of a plant.
 - ◇ Tell stories about plants and other living things. Stories might include ideas about what plants need, where they live and grow, and how they change. Storytelling might also provide opportunities for families to share stories related to plants and living things unique to their cultures.
 - ◇ Support children to explain their drawings and photographs that they have taken. Educators might provide sentence frames or other key vocabulary as supports.