**Science: Inquiry and Observation Learning Progression**

| **Domain: Science** | | | | | |
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| **Strand: Skills and Processes/Life Science** | | | | | |
| **Learning Progression: Inquiry and Observation** | | | | | |
| **Operational Definition: Learns about the natural world by observing, investigating, and communicating what is learned** | | | | | |
|  | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |

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| **Explore, Examine, and Investigate** | Exhibits interest in and curiosity about objects and living things by repeating the same actions in different situations to compare effects. | Asks “why” or “what” questions about objects, living things, and natural events, and seeks answers by examining and describing their attributes. | Asks a broad range of questions (e.g., “how,” “what if . . .”) about objects, living things, and natural events, and describes actions, details, and changes that are directly observable. | Asks specific questions about the relationship between two objects, living things, or natural events; carries out observations and simple investigations to answer the questions; and communicates findings (e.g., draws pictures, dictates explanations). | Generates predictions about two objects, living things, or natural events by applying past knowledge to current observations, planning and carrying out observations and investigations to gather information, and communicating findings in a variety of ways (e.g., keeps logs that include pictures, explanations, charts, and graphs). |

**Explore, Examine, and Investigate**

| **Directions** | **Level Descriptors** | | **Evidence Examples** |
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| Observe children during the regular daily routine and look for instances when they are exploring the natural world.  For each child, pay attention to the following details as you observe:   * what is explored, examined, or investigated * which senses are used to explore * which questions are asked about what is explored * how investigations are done * how findings are communicated   Collect and record evidence for each instance and each child that you observe. Use the evidence to determine and record each child’s level. | **1** | Child exhibits interest in and curiosity about objects and living things by repeating the same actions in different situations to compare effects. | **Tonya—**Tonya rode a tricycle on the paved area of the playground. Then, she looked at the sand next to the path and rode the tricycle into the sand. She stopped and looked at how the wheels sunk into the sand. |
| **2** | Child asks “why” or “what” questions about objects, living things, and natural events, and seeks answers by examining and describing their attributes. | **Derrick—**Derrick noticed a cicada on the tree in the play yard and asked what it was. When I explained that it was an insect called a cicada, he got closer to it. He said he could see “lines” in the wings, wondered if it could fly, wondered why its eyes were on the side of its head, and laughed at its clicking sound. |
| **3** | Child asks a broad range of questions (e.g., “how,” “what if . . .”) about objects, living things, and natural events, and describes actions, details, and changes that are directly observable. | **Nicole—**Nicole was very interested in the plastic prism that Harrison brought to school today. She said that she could see through it and that it made rainbow colors on the table when held in the light. She asked if there was a way to make more colors, and if the colors would change or be bigger if the prism were bigger or a different shape. |
| **4** | Child asks specific questions about the relationship between two objects, living things, or natural events; carries out observations and simple investigations to answer the questions; and communicates findings (e.g., draws pictures, dictates explanations). | **Asha—**Asha wondered what would happen if she mixed baking soda with vinegar. She smelled them both, saying the vinegar was “stinky,” talked about how one was “wet” and the other one wasn’t, and then decided to try mixing them. She added a scoop of baking soda to the vinegar and then called me over when it started to create bubbles. She drew a picture to show what she had done and what she had learned. |
| **5** | Child generates predictions about two objects, living things, or natural events by applying past knowledge to current observations, planning and carrying out observations and investigations to gather information, and communicating findings in a variety of ways (e.g., keeps logs that include pictures, explanations, charts, and graphs). | **Hitesh—**Today, Hitesh was working at the science table to determine which objects would float when put in water and which would sink. He had a large bucket of different objects he was testing. He selected one object at a time, made a guess whether it would float or sink, tried it out in the water, and then recorded his findings on a chart with two columns, one labeled “Floats” and the other labeled “Sinks.” He readily explained what he was finding out to any children who showed an interest. |