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| **Next Generation Science Standards ~ Scientific and Engineering Practices** | | | | |
| **Practice** | **K-2 Expectations** | **Foreground**  **(directly emphasized)** | **Background**  **(not directly emphasized)** | **Instructional Notes** |
| **Practice 1**  **Asking Questions and Defining Problems** | Ask questions based on observations to find more information about the natural and/or design world(s). |  |  |  |
| **Practice 2**  **Developing and Using Models** | Distinguish between a model and the actual object, process, and/or events the model represents. |  |  |  |
| **Practice 3**  **Planning and Carrying Out Investigations** | Make observations (firsthand or from media) and/or measurements of a proposed object or tool or solution to determine if it solves a problem or meets a goal. |  |  |  |
| Plan and conduct an investigation collaboratively to produce data to serve as the basic for the evidence to answer a question. |  |  |  |
| **Practice 4**  **Analyzing and Interpreting Data** | Record information (observation, thoughts, and ideas). |  |  |  |
| Use and share pictures, drawings, and/or writings about observations. |  |  |  |
| Use observations (firsthand or from media) to describe patterns and /or relationships in the natural and designed worlds(s) in order to answer scientific questions and solve problems. |  |  |  |
| Analyze data from tests of an object or tool to determine if it works as intended. |  |  |  |
| **Practice 5**  **Use Mathematics and Computational Thinking** | Use counting and numbers to identify and describe patterns in the natural and designed worlds. |  |  |  |
| Describe, measure, and/or compare quantitative attributes of different objects and display the data using simple graphs. |  |  |  |

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| **Practice** | **K-2 Expectation** | **Foreground**  **(directly emphasized)** | **Background**  **(not directly emphasized)** | **Instructional Notes** |
| **Practice 6 Constructing Explanations and Designing Solutions** | Use tools and /or materials to design and/or build a device that solve a specific problem or solution to a specific problem. |  |  |  |
| Make observations (firsthand and from media) to construct an evidence-based account for natural phenomena. |  |  |  |
| **Practice 7**  **Engage in Argument from Evidence** | Make a claim about the effectiveness of an object, tool, or solution that is supported by relevant evidence. |  |  |  |
| **Practice 8**  **Obtaining, Evaluating, and Communicating Information** | Describe how specific images (e.g. a diagram showing how a machine works) support a scientific or engineering idea. |  |  |  |
| Obtain information using various texts, text features (e.g. headings, tables of contents, glossaries, electronic menus, icons) and other media that will be useful for answering a scientific question and/or supporting a scientific claim. |  |  |  |
| Communicate information or design ideas and/or solutions with other in oral and or written forms using models, drawings, writing, or numbers that provide detail about scientific ideas, practices, and or design ideas. |  |  |  |