**Constructing Explanations and Designing Solutions (K – 2)**

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| 1. **Constructing Explanations**
 | **0** | **1** | **2** |
| 1. **Explanation** a. Students construct evidence-based accounts of phenomena based on observations. |  |  |  |
|  **2. Evidence to construct or support the explanation** a. Students make observations (first-hand and/or from media) to provide evidence for phenomena. |  |  |  |
| 3. **Reasoning to connect the evidence to construct or support the explanation** a. Students use reasoning to connect the evidence to construct the explanation of phenomena. |  |  |  |

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| 1. **Designing Solutions**
 | **0** | **1** | **2** |
| 1. **Using scientific knowledge to generate the design solution**

 - - - - - - - - - - - - - - - - - - a. Given a problem to solve, students collaboratively design a solution(s) to the problem. In the design, students: i. Identify the scientific information (e.g., observations, scientific knowledge, evidence) that is related to the problem. |  |  |  |
| ii. Describe a solution(s) to the problem. |  |  |  |
| iii. Specify how the design solution uses the scientific information to address the problem. |  |  |  |
| 1. **Describing expected features of the design**

- - - - - - - - - - - - - - -- - - - - - - a. Students describe the desired features and limits for the solution, based on the factors presented in the problem and any resource considerations. |  |  |  |
| b. Students design a solution that is intended to meet the expected features. |  |  |  |
| 1. **Evaluating potential solutions**

 - - - - - - - - - - - - - - - - - a. Students evaluate the design solution(s) by assessing whether the solution meets each feature described.  |  |  |  |
| b. When appropriate, students compare design solutions to each other based on how well they meet the described features. |  |  |  |
|  | **0** | **1** | **2** |