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| **­­­2-PS1 Matter and Its Interactions**  [*https://www.nextgenscience.org/pe/2-ps1-1-matter-and-its-interactions*](https://www.nextgenscience.org/pe/2-ps1-1-matter-and-its-interactions)  [*https://www.nextgenscience.org/pe/2-ps1-2-matter-and-its-interactions*](https://www.nextgenscience.org/pe/2-ps1-2-matter-and-its-interactions)   * The chart below makes one set of connections between the instruction outlined in this article and the *NGSS*. Other valid connections are likely; however, space restrictions prevent us from listing all possibilities. * The materials, lessons, and activities outlined in the article are just one step toward reaching the performance expectation listed below.   **Performance Expectation**  2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. | |
| **Dimension** | **Connections to Classroom Activity** |
| **Science and Engineering Practices** |  |  |
| Planning and Carrying Out Investigations  Constructing Explanations | Students plan and carry out an investigation to test the bounciness of different balls.  Students construct a written explanation for what causes a bouncy ball to be so bouncy based on evidence they have gathered from their own investigations. |
| **Disciplinary Core Ideas** |  |
| **PS1.A: Structure and Properties of Matter**  ﻿Different kinds of matter exist. Matter can be described and classified by its observable properties. Different properties are suited to different purposes. | Students read to obtain information about the properties of rubber. Students evaluate which property of rubber is most important for making a ball bounce.  Students use and apply disciplinary core ideas about matter and the properties of materials to construct a written explanation for what causes a bouncy ball to be so bouncy. |
| **Crosscutting Concepts** |  |
| Patterns  Cause and Effect | Students use patterns in data to classify balls as low or high bouncers. Students look for similarities and differences in the materials that different balls are made of.  Students construct a written explanation for what causes a bouncy ball to be so bouncy. |

**Connections to the *Common Core State Standards* (NGAC and CCSSO 2010):**

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| **ELA** | **SL.2.1** - Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.  **RI.2.3 -** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.  **RI.2.8** - Describe how reasons support specific points the author makes in a text.  **RI.2.10 - R**ead and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.  **W.2.1** - Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because*,*and*,*also*) to connect opinion and reasons, and provide a concluding statement or section.  **W.2.7** - Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).  **W.2.8** - Recall information from experiences or gather information from provided sources to answer a question. |
| **Mathematics** | **2.MD.D.10** - Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.  **2.MDA.1** - Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.  **2.MDA.2** - Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.  **MP.2** - Reason abstractly and quantitatively.  **MP.4** - Model with mathematics.  **MP.5** - Use appropriate tools strategically. |