|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strand 1: Inquiry Process**  **Concept 1: Observations, Questions, and Hypotheses** | **PO 1.** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge.  (See M03-S2C1-01)  **C** | I can formulate questions about  objects, organisms and events of the environment. | Synthesis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | formulate  relevant  organisms environment | |
| Strand 1: Inquiry Process  Concept 1: Observations, Questions, and Hypotheses | **PO 2**. Predict the results of an investigation based on observed patterns, not random guessing.  **C** | I can predict the results of an  investigation based on my observations. | Synthesis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Predict  Results  Investigation  patterns | |
| Strand 1: Inquiry Process  **Concept 2: Scientific Testing (Investigating and Modeling)** | **PO 1**. Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, organisms) in all science inquiry.  **C** | I can model safe behavior in all science inquiry. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Demonstrate  Behavior  instruments | |
| Strand 1: Inquiry Process  Concept 2: Scientific Testing (Investigating and Modeling) | **PO 2**. Plan a simple investigation (e.g., one plant receives adequate water, one receives too much water, and one receives too little water) based on the formulated questions.  **C** | I can plan simple investigations based on questions. | Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Investigation  Adequate  formulated | |
| Strand 1: Inquiry Process  Concept 2: Scientific Testing (Investigating and Modeling) | **PO 3**. Conduct simple investigations (e.g., related to plant life cycles, changing the pitch of a sound, properties of rocks) in life, physical, and Earth and space sciences.  **C** | I can conduct simple investigations related to plant life cycles. | Synthesis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Conduct  plant life  cycles  pitch of a  sound  properties | |
| Strand 1: Inquiry Process  Concept 2: Scientific Testing (Investigating and Modeling) | **PO 4.** Use metric and U.S. customary units to measure objects.  (See M03-S4C4-04)  **C** | I can use metric and U.S customary units to measure objects. | Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | metric  U.S. customary  units | |
| Strand 1: Inquiry Process  Concept 2: Scientific Testing (Investigating and Modeling) | **PO 5.** Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).  (See W03-S3C2-01 and W03-S3C3-01) **C** | I can record data on a t-chart. | Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Record  data  organized  t-chart  table | |
| Strand 1: Inquiry Process  **Concept 3: Analysis and Conclusions** | **PO 1**. Organize data using the following methods with appropriate labels:   * bar graphs * pictographs * tally charts   (See M03-S2C1-02)  **C** | I can categorize information on to bar graphs. | Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Organize  data  bar graphs  pictographs  tally charts | |
| Strand 1: Inquiry Process  Concept 3: Analysis and Conclusions | **PO 2**. Construct reasonable interpretations of the collected data based on formulated questions.  (See M03-S2C1-03)  **C** | I can formulate interpretation  of data based on questions | Application  Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Construct  interpretations  data based  formulated | |
| Strand 1: Inquiry Process  Concept 3: Analysis and Conclusions | **PO 3.** Compare the results of the investigation to predictions made prior to the investigation.  **C** | I can compare the results of my  investigations with my predictions | Comprehension  Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Compare results investigation predictions | |
| Strand 1: Inquiry Process  Concept 3: Analysis and Conclusions | **PO 4.** Generate questions for possible future investigations based on the conclusions of the investigation.  **C** | I can develop questions to help with future investigations. | Synthesis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Generate investigations conclusions investigation | |
| Strand 1: Inquiry Process  Concept 3: Analysis and Conclusions | **PO 5**. Record questions for further inquiry based on the conclusions of the investigation.  **C** | I can record the conclusions of my investigation. | Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Record  inquiry conclusions investigation | |
| Strand 1: Inquiry Process  **Concept 4: Communication** | **PO 1**. Communicate investigations and explanations using evidence and appropriate terminology.  See W03-S3C2-01)  **C** | I can explain investigations by using appropriate terminology. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Communicate investigations explanations terminology | |
| Strand 1: Inquiry Process  Concept 4: Communication | **PO 2.** Describe an investigation in ways that enable others to repeat it.  (See W03-S3C2-01 and LS-F1)  **C** | I can summarize an investigation that enables others to repeat it. | Knowledge  Synthesis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | investigation | |
| Strand 1: Inquiry Process  Concept 4: Communication | **PO 3**. Communicate with other groups to describe the results of an investigation.  (See LS-E1)  **C** | I can explain the results of my investigation to other students. | Comprehension  Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 4-6, Explore Activities, Quick Labs, & Inquiry Skills and investigations | Communicate results investigation | |
| **Strand 2: History and Nature of Science**  **Concept 1: History of Science as a Human Endeavor** | **PO 1**. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., John Muir [naturalist], supports Strand 4; Thomas Edison [inventor], supports Strand 5; Mae Jemison [engineer, physician, astronaut], supports Strand 6, Edmund Halley [scientist], supports Strand 6).  **C** | I can identify how different people have made important contributions to science. | Knowledge | <http://www.learningscience.org/his1sciencehumanendeavor.htm>  [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | Identify  Diverse  John Muir naturalist  Inventor  Engineer  physician astronaut  scientist | |
| Strand 2: History and Nature of Science  Concept 1: History of Science as a Human Endeavor | **PO 2.** Describe science-related career opportunities.  **C** | I can describe science-related career opportunities. | Knowledge | <http://www.learningscience.org/his1sciencehumanendeavor.htm>  [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | career opportunities | |
| Strand 2: History and Nature of Science  **Concept 2: Nature of Scientific Knowledge** | **PO 1**. Describe how, in a system (e.g., terrarium, house) with many components, the components usually influence one another.  **C** | I can describe how one system can influence another system. | Knowledge | <http://www.learningscience.org/his1sciencehumanendeavor.htm>  [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | system terrarium components | |
| Strand 2: History and Nature of Science  Concept 2: Nature of Scientific Knowledge | **PO 2.** Explain why a system may not work if a component is defective or missing.  **C** | I can explain why a system may not work if a component is defective or missing. | Comprehension | <http://www.learningscience.org/his1sciencehumanendeavor.htm>  [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | System  defective | |
| **Strand 5: Physical Science**  **Concept 3: Energy and Magnetism** | **PO 1.** Demonstrate that light can be:   * reflected (with mirrors) * refracted (with prisms) * absorbed (by dark surfaces)   **C** | I can demonstrate how light  can be reflected, refracted and absorbed. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Chapter 12, lesson 3 | Demonstrate  reflected refracted prisms  absorbed  dark surfaces | |
| Strand 5: Physical Science  Concept 3: Energy and Magnetism | **PO 2**. Describe how light behaves on striking objects that are:   * transparent (clear plastic) * translucent (waxed paper) * opaque (cardboard)   **C** | I can describe how light behaves on different objects. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Chapter 12, lesson 3 | transparent  clear plastic  translucent waxed paper  opaque cardboard | |
| Strand 5: Physical Science  Concept 3: Energy and Magnetism | **PO 3.** Demonstrate that vibrating objects produce sound.  **C** | I can demonstrate how vibrating objects produce sound. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Chapter 12, lesson 2 | vibrating objects produce  sound | |
| Strand 5: Physical Science  Concept 3: Energy and Magnetism | **PO 4**. Demonstrate that the pitch of a sound depends on the rate of the vibration (e.g.*,* a long rubber band has a lower pitch than a short rubber band).  **I M** | I can demonstrate that the pitch of a sound depends on the rate of  vibration | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Chapter 12, lesson 2 | pitch  sound vibration lower pitch | |
| **Strand 6: Earth and Space Science**  **Concept 1: Properties of Earth Materials** | **PO 1**. Identify the layers of the Earth:   * crust * mantle * core (inner and outer)   **I M** | I can describe the layers of the  Earth. | Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | Identify  crust  mantle  core  inner and outer |
| Strand 6: Earth and Space Science  Concept 1: Properties of Earth Materials | **PO 2**. Describe the different types of rocks and how they are formed:   * metamorphic * igneous * sedimentary   **I M** | I can describe different types of rocks and how they are formed. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | Describe metamorphic  igneous  sedimentary |
| Strand 6: Earth and Space Science  Concept 1: Properties of Earth Materials | **PO 3**. Classify rocks based on the following physical properties:   * color * texture   **I M** | I can classify rocks based on  its physical properties. | Analysis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | Classify physical properties  texture |
| Strand 6: Earth and Space Science  Concept 1: Properties of Earth Materials | **PO 4.** Describe fossils as a record of past life forms.  **I M** | I can describe how fossils are a  record of past life forms. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | Describe  fossils | |
| Strand 6: Earth and Space Science  Concept 1: Properties of Earth Materials | **PO 5.** Describe how fossils are formed.  **I M** | I can explain how fossils are  formed. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | Describe  fossils | |
| Strand 6: Earth and Space Science  Concept 1: Properties of Earth Materials | **PO 6.** Describe ways humans use Earth materials (e.g.*,* fuel, building materials, growing food).  **I M** | I can describe the way humans  use Earth materials. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 6, lessons 1- 4 | humans  Earth materials fuel | |