|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & Inquiry Skills and Investigations | Record  data  organized  t-chart  table  list  written log | |
| 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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 predications | Comprehension  Application | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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: Chapters 1-4,Explore Activities, Quick Lab, & 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 3: Science in Personal and Social Perspectives**  **Concept 1: Changes in Environments** | **PO 1.** Describe the major factors that could impact a human population (e.g.*,* famine, drought, disease, improved transportation, medical breakthroughs).  **I M** | I can describe the major  factors that impact the human population. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 4, lesson 1-4 | human population famine  drought  disease transportation medical breakthroughs | |
| Strand 3: Science in Personal and Social Perspectives  Concept 1: Changes in Environments | **PO 2.** Describe the beneficial and harmful impacts of natural events and human activities on the environment (e.g.*,* forest fires, flooding, pesticides).  **I M** | I can describe how events can impact the environment. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit C Chapter 5, lesson 1-3 | beneficial harmful impacts natural events human activities environment forest fires flooding, pesticides | |
| Strand 3: Science in Personal and Social Perspectives  **Concept 2: Science and Technology in Society** | **PO 1.** Identify ways that people use tools and technology to solve problems.  **I M** | I can identify ways that people use tools and technology to solve problems. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Chapter 5 |  | |
| Strand 3: Science in Personal and Social Perspectives  Concept 2: Science and Technology in Society | **PO 2**. Describe the development of different technologies (e.g. communication, entertainment, transportation, medicine) in response to resources, needs and values.  **I M** | I can describe the development of different technologies.. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Chapter 5 |  | |
| Strand 3: Science in Personal and Social Perspectives  Concept 2: Science and Technology in Society | PO 3. Design and construct at a technological solution to a common problem or need using common materials. **I M** | I can construct a project using common materials. | Analysis | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Chapter 5  Solar panels  Wind energy products  batteries |  | |
| **Strand 4: Life Science**  **Concept 3: Organisms and Environments** | **PO 1**. Identify the living and nonliving components of an ecosystem.  **I M** | I can identify the living and nonliving parts of an ecosystem. | Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit A Chapter 1, lesson 1 | Identify  Living  Nonliving  Components  ecosystems |
| Strand 4: Life Science  Concept 3: Organisms and Environments | **PO 2**. Examine an ecosystem to identify microscopic and macroscopic organisms. **I M** | I can examine an ecosystem and its organisms. | Analysis  Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 3, lesson 2 | ecosystem microscopic macroscopic organisms |
| Strand 4: Life Science  Concept 3: Organisms and Environments | **PO 3**. Explain the interrelationships among plants and animals in different environments:  producers – plants  consumers – animals  decomposers – fungi, insects, bacteria  **I M** | I can explain how plants relate to their environment. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit A Chapter 1, lesson 2 | interrelationships environments  producers  consumers  decomposers fungi  bacteria |
| Strand 4: Life Science  Concept 3: Organisms and Environments | **PO 4.** Describe how plants and animals cause change in their environment.  **I M** | I can describe how plants and animals cause change in their environment. | Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit A Chapter 1, lesson 3 | change environment | |
| Strand 4: Life Science  Concept 3: Organisms and Environments | **PO 5.** Describe how environmental factors (e.g., soil composition, range of temperature, quantity and quality of light or water) in the ecosystem may affect a member organism’s ability to grow, reproduce, and thrive.  **I M** | I can explain how environmental factors in the ecosystem affect organisms. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 4, lesson 1-4 | environmental factors  soil composition range of  temperature quantity  quality  ecosystem organism reproduce  thrive | |
| Strand 4: Life Science  **Concept 4: Diversity, Adaptation, and Behavior** | **PO 1**. Identify adaptations of plants and animals that allow them to live in specific environments.  **I M** | I can identify how plants and animals adapt to their environments. | Knowledge | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 3, lesson 1-3 | Identify adaptations  environments | |
| Strand 4: Life Science  Concept 4: Diversity, Adaptation, and Behavior | **PO 2.** Describe ways that species adapt when introduced into new environments.  **I M** | I can describe ways species adapt to new environments. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 3, lesson 1-3 | Describe  species  adapt  environments | |
| Strand 4: Life Science  Concept 4: Diversity, Adaptation, and Behavior | **PO 3**. Cite examples of how a species’ inability to adapt to changing conditions in the ecosystem led to the extinction of that species.  **I M** | I can explain how a species  can become extinct due to their inability to adapt to a changing environment. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)  [www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)  Science A Closer Look: Unit B Chapter 3, lesson 1-3 | species’ inability changing conditions ecosystem extinction  species | |