|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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 aboutobjects, 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 | formulaterelevantorganisms environment |
| Strand 1: Inquiry ProcessConcept 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 aninvestigation 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 | PredictResultsInvestigationpatterns |
| 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 | DemonstrateBehaviorinstruments |
| Strand 1: Inquiry ProcessConcept 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 | InvestigationAdequateformulated |
| Strand 1: Inquiry ProcessConcept 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 | Conductplant life cyclespitch of a  soundproperties |
| Strand 1: Inquiry ProcessConcept 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 ProcessConcept 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 dataorganized 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 databar graphspictographs tally charts |
| Strand 1: Inquiry ProcessConcept 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 interpretationof data based on questions | ApplicationComprehension | [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 | Constructinterpretationsdata basedformulated |
| Strand 1: Inquiry ProcessConcept 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 myinvestigations with my predictions | ComprehensionApplication | [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 ProcessConcept 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 ProcessConcept 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 | Recordinquiry 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 ProcessConcept 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. | KnowledgeSynthesis | [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 ProcessConcept 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. | ComprehensionKnowledge | [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 DiverseJohn Muir naturalistInventorEngineerphysician astronautscientist |
| Strand 2: History and Nature of ScienceConcept 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 ScienceConcept 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/) | Systemdefective |
| **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 lightcan 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 prismsabsorbed dark surfaces  |
| Strand 5: Physical ScienceConcept 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 plastictranslucent waxed paperopaque cardboard |
| Strand 5: Physical ScienceConcept 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 producesound |
| Strand 5: Physical ScienceConcept 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 ofvibration | 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 theEarth. | 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 mantlecoreinner and outer  |
| Strand 6: Earth and Space ScienceConcept 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 metamorphicigneoussedimentary  |
| Strand 6: Earth and Space ScienceConcept 1: Properties of Earth Materials | **PO 3**. Classify rocks based on the following physical properties:* color
* texture

 **I M** | I can classify rocks based onits 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 ScienceConcept 1: Properties of Earth Materials | **PO 4.** Describe fossils as a record of past life forms. **I M** | I can describe how fossils are arecord 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 | Describefossils  |
| Strand 6: Earth and Space ScienceConcept 1: Properties of Earth Materials | **PO 5.** Describe how fossils are formed. **I M** | I can explain how fossils areformed. | 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 ScienceConcept 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 humansuse 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  |