|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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) **I** | I can formulate questions aboutobjects, organisms and events of the environment. | Synthesis | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | formulaterelevantorganisms environment |
| Strand 1: Inquiry ProcessConcept:: Observations, Questions, and Hypotheses | **PO 2**. Predict the results of an investigation based on observed patterns, not random guessing. **I** | I can predict the results of aninvestigation based on my observations. | Synthesis | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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.**I** | I can model safe behavior in all science inquiry. | Comprehension | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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. **I** | I can plan simple investigations based on questions. | Application | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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. **I** | I can conduct simple investigations related to plant life cycles. | Synthesis | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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)  **I** | I can use metric and U.S customary units to measure objects. | Application | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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) **I** |  I can record data on a t-chart. | Application | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | Record dataorganized t-chart tablelistwritten 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) **I** | I can categorize information on to bar graphs. | Application | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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) **I** | I can formulate interpretationof data based on questions | ApplicationComprehension | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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. **I** | I can compare the results of myinvestigations with my predictions | ComprehensionApplication | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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. **I** | I can develop questions to help with future investigations. | Synthesis | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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. **I** |  I can record the conclusions of my investigation. | Application | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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) **I** | I can explain investigations by using appropriate terminology. | Comprehension | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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) **I** | I can summarize an investigation that enables others to repeat it. | KnowledgeSynthesis | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | investigation  |
| Strand 1: Inquiry ProcessConcept 4: Communication | **PO 3.** Communicate with other groups to describe the results of an investigation. (See LS-E1) **I** | I can explain the results of my investigation to other students. | ComprehensionKnowledge | <http://www.learningscience.org/his1sciencehumanendeavor.htm>[www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/) | 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). **I** | 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. **I** | 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. **I** | 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. **I** | 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 4: Life Science****Concept 1: Characteristics of Organisms** | **PO 1.** Describe the function of the following plant structures: * roots – absorb nutrients
* stems – provide support
* leaves – synthesize food
* flowers – attract pollinators and produce seeds for reproduction

**I M** | I can describe the functions of plant structures. | 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 | StructuresRootsStemsLeavesFlowersReproducePollinator |
| Strand 4: Life Science**Concept 2: Life Cycles** | **PO 1.** Compare life cycles of various plants (e.g. conifers, flowering plants, ferns**)** **I M** | I can compare the life cycles of various plants. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)Science A Closer Look: Unit A Chapter 2 | Life cycleConifersFernsFlowering plants |
| Strand 4: Life ScienceConcept 2: Life Cycles | **PO 2**. Explain how growth, death, and decay are part of the plant life cycle. **I M** | I can explain how growth, death and decay are part of the plant life cycle. | Comprehension | [www.macmillanmh.com](http://www.macmillanmh.com)[www.macmillanmh.com/nsdl/](http://www.macmillanmh.com/nsdl/)Science A Closer Look: Unit A Chapter 2 | DecayLife cycle |