|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Strand 1: Inquiry Process**  **Concept 1:** Observations, Questions, and Hypotheses | **S1C1PO** **1.** Formulate relevant questions about the properties of objects, organisms, and events in the environment  **C** | I can create  questions about the properties of objects, organisms, and events in the environment | Comprehension  Synthesis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, Chapters 1, 2, 3, & 4  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | organism  environment  observations  questions  hypothesis |
| **Strand 1: Inquiry Process**  **Concept 1:** Observations, Questions, and Hypotheses | **S1C1PO 2**. Predict the results of  An investigation (e.g., in Animal life cycles, phases of matter, the water cycle).  **C** | I can predict the results of an investigation. | Application  Comprehension  Knowledge  Synthesis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | predict  results  life cycles  phases  water cycle |
| **Strand 1: Inquiry Process**  **Concept 2:** Scientific Testing (Investigating and Modeling) | **S12PO 1**. Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, organisms) in all science inquiry  **C** | I can show safe behavior and procedures. | Application  Comprehension | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16  Classroom Rules  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | safe behavior  procedures  instruments  materials  organisms |
| **Strand 1: Inquiry Process**  **Concept 2:** Scientific Testing (Investigating and Modeling) | **S1C2PO** **2.** Participate in guided  investigations in life, physical, and Earth and space sciences.  **C** | I can participate in guided investigations. | Application  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, Ch 1 Les 3, Ch 2 Les 3, Ch 4 Les 3  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | investigations  life  physical  Earth  space science |
| **Strand 1: Inquiry Process**  **Concept 2:**  Scientific Testing (Investigating and Modeling) | **S1C2PO** **3.** Use simple tools such as rulers, thermometers, magnifiers, and balances to collect data (U.S. customary units).  **C** | I can use simple tools to collect data. | Application  Analysis  Synthesis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | tools  rulers  thermometers  magnifiers  balances  data |
| **Strand 1: Inquiry Process**  **Concept 2:**  Scientific Testing (Investigating and Modeling) | **S1C2PO** **4**. Record data from  guided investigations in an  organized and appropriate format (e.g., lab book, log, notebook, chart paper).  **C** | I can record data from guided investigations in  an organized format. | Application  Synthesis  Comprehension | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, Ch 1 L3, Ch 2 L3, Ch 4 L2, Ch 4 L3  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | record data  investigations  lab book  log  notebook |
| **Strand 1: Inquiry Process**  **Concept 3:**  Analysis and Conclusions | **S1C3PO** **1**. Organize data using  graphs (i.e., pictograph, tally chart), tables, and journals.  **C** | I can organize data using graphs. | Application  Comprehension  Knowledge | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, 141  Interactive Science Notebook  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | analysis  conclusions  graphs  pictograph  tables  journals |
| **Strand 1: Inquiry Process**  **Concept 3:**  Analysis and Conclusions | **S1C3PO** **2.** Construct reasonable  explanations of observations on the basis of data obtained (e.g., Based on the data, does this makes sense? Could this really happen?)  **C** | I can explain my observations of data. | Application  Comprehension  Synthesis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, 129, 171  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | reasonable explanations  observations |
| **Strand 1: Inquiry Process**  **Concept 3:**  Analysis and Conclusions | **S1C3PO** **3**. Compare the results of the investigation to predictions made prior to the investigation.  **C** | I can compare the results of the investigation to my predictions. | Comprehension  Analysis  Evaluation | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, Ch 1, 2, 3, & 4  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | investigation  predictions  prior |
| **Strand 1: Inquiry Process**  **Concept 3:**  Analysis and Conclusions | **S1C3PO** **4.** Generate questions  For possible future Investigations based on the conclusions of the  investigation.  **C** | I can develop questions for future investigations using what I learned. | Synthesis  Application  Knowledge | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, 148  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | generate  future investigation  conclusions |
| **Strand 1: Inquiry Process**  **Concept 4:** Communication | **S1C4PO** **1**. Communicate the results and conclusions of an investigation (e.g., verbal, drawn, or written).  **C** | I can share the results and conclusions of an investigation. | Knowledge  Comprehension  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, 29, Ch 2, Ch 3  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | communicate results  conclusions verbal  drawn  written |
| **Strand 1: Inquiry Process**  **Concept 4:** Communication | **S1C4PO** **2.** Communicate with other groups to describe the results of an investigation.  **C** | I can share the results of an investigation with others. | Knowledge  Comprehension  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, pages 3-16, 29, Ch 2, Ch 3  <http://www.rockingham.k12.va.us/curriculum-resources.html>  [www.sciencebuddies.org](http://www.sciencebuddies.org) | communicate  results  conclusions |
| **Strand 2: History and Nature of Science**  **Concept 1:**  History of Science as a Human Endeavor | **S2C1PO** **1.** Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations  **C** | I can identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations | Knowledge  Comprehension  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, Ch 2 pages 66 – 67, Ch 3 pp. 110 – 111, Ch 4 pp. 126 – 127  StoryTown Lesson 19 | diverse  scientific innovations |
| **Strand 2: History and Nature of Science**  **Concept 1:**  History of Science as a Human Endeavor | **S2C1PO** **2**. Identify science-related career opportunities.  **C** | I can identify science-related career opportunities | Knowledge  Comprehension  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Inquiry Process, Ch 2 pages 66 – 67 & 82, Ch 3 pp. 110 – 111, Ch 4 pp. 126 – 127  [www.marinecareers.net](http://www.marinecareers.net)  jobs.aol.com/Articles&News | career  opportunities |
| Strand 2: History and Nature of Science  **Concept 2: Nature of Scientific Knowledge** | **S2C2PO** **1**. Identify components of familiar systems (e.g.*,* organs of the digestive system, bicycle).  **C** | I can identify components of familiar systems. | Knowledge  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Systems in the Body, pages R8 – R11  Kidshealth.org>Kids>How the  Body Works  [www.kidskonnect.com/subject...31/...337-human-body.html](http://www.kidskonnect.com/subject...31/...337-human-body.html) | components  systems  organs  digestive |
| **Strand 2: History and Nature of Science**  **Concept 2:**  Nature of Scientific Knowledge | **S2C2PO** **2**. Identify the following characteristics of a system   * consists of multiple parts or subsystems * parts work interdependently   **C** | I can identify the following characteristics of a system:  \*consists of multiple parts or subsystems  \* parts work interdependently | Knowledge  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Systems in the Body, pages R8 – R11  Kidshealth.org>Kids>How the  Body Works  www.kidskonnect.com/subject...31/...337-human-body.html | system  multiple parts  subsystems  interdependently |
| **Strand 2: History and Nature of Science**    **Concept 2:**  Nature of Scientific Knowledge | **S2C2PO** **3**. Identify parts of a system too small to be seen (e.g.*,* plant and animal cells).  **C** | I can identify parts of a system too small to be seen. | Knowledge  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Systems in the Body, Ch 1 Les 1, Ch 12 Les 3 & 4  [http://www.rockingham.k12.va.us/resources /elementary/2science](http://www.rockingham.k12.va.us/resources%20/elementary/2science)  www.proteacher.org/c/461-Human-Body-Systems.html | system  cells |
| **Strand 3: Science in Personal and Social Perspectives**  **Concept 2:**  Science and Technology in Society | **S3C2PO** **1.** Analyze how various technologies impact aspects of people’s lives (e.g.*,* entertainment, medicine,transportation,  communication).  **C** | I can analyze how various technologies impact aspects of people’s lives. | Analysis  Knowledge  Comprehension | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, pp. 3 – 148  www.macmillanmh.com/tlxnews/.../how-does-technology-affect-life-2 | technologies  impact |
| **Strand 3: Science in Personal and Social Perspectives**    **Concept 2:**  Science and Technology in Society | **S3C2PO** **2.** Describe important  technological contributions  made by people, past and  present:   * automobile – Henry Ford * airplane – Wilbur and Orville Wright * telephone – Alexander G. Bell   **I** | I can describe technological contributions made by people, past and present:   * automobile- Henry Ford * airplane- Wilbur and Orville Wright * telephone- Alexander G. Bell | Knowledge  Comprehension  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, pp. 66 – 67, 82, 110 – 111, 126 – 127, 148  StoryTown Lesson12, Lesson 19  <https://en.wikipedia.org/wiki/History_of_technology>  <http://gardenofpraise.com/ibdwrigh.htm>  <https://en.wikipedia.org/wiki/The_Henry_Ford> | technological contributions  past  present |
| **Strand 3: Science in Personal and Social Perspectives**  **Concept 2:**  Science and Technology in Society | **S3C2PO** **3.** Identify a simple problem that could be solved by using a suitable tool.  **C** | I can identify a simple problem that could be solved by using a suitable tool. | Knowledge  Analysis  Application | MacMillan/McGraw-Hill, Science- A Closer Look, grade 2, pp. 3 – 148  [www.coe.uh.edu/archive/science/science.../finalhome.htm](http://www.coe.uh.edu/archive/science/science.../finalhome.htm)  [www.mos.org/sin/Leonardo/inventorsToolbox.html](http://www.mos.org/sin/Leonardo/inventorsToolbox.html)  [www.wired.com/wiredscience/2011/04/orangutan-tools-fishing/](http://www.wired.com/wiredscience/2011/04/orangutan-tools-fishing/) | simple problem  solved  suitable tool |
| **Strand 4: Life Science**  **Concept 1:** Characteristics of Organisms | **S4C1PO 1**. Identify animal structures that serve different functions (e.g.,sensory,defense, locomotion).  **C, M** | I can identify animal structures that serve different functions. | Knowledge  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science R8 – R11  [*https://www.middletownschools.org/uploaded/Curriculum/Curriculum\_Office/Gr\_1\_Plants\_and\_Animals.pdf*](https://www.middletownschools.org/uploaded/Curriculum/Curriculum_Office/Gr_1_Plants_and_Animals.pdf)  [*https://www.middletownschools.org/uploaded/Curriculum/Curriculum\_Office/Gr\_1\_Life\_Cycles.pdf*](https://www.middletownschools.org/uploaded/Curriculum/Curriculum_Office/Gr_1_Life_Cycles.pdf)  [*http://www.exploringnature.org/db/main\_index.php*](http://www.exploringnature.org/db/main_index.php) | animal structures  serve  functions |
| **Strand 4: Life Science**  **Concept 1:** Characteristics of Organisms | **S4C1PO 2**. Identify the following major parts of:   * the digestive system – mouth, esophagus, stomach, small and large intestines * respiratory system – nose, trachea, lungs, diaphragm   circulatory system – heart, arteries, veins, blood  **C, M** | I can identify major parts of the digestive, respiratory, and circulatory systems. | Knowledge  Comprehension  Analysis | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science R8 – R11  [www.sciencenetlinks.com/interactives/systems.html](http://www.sciencenetlinks.com/interactives/systems.html)  <http://www.kidsbiology.com/human_biology/>  <http://www.exploringnature.org/db/main_index.php> | digestive system  esophagus stomach intestines  respiratory system  trachea  lungs diaphragm circulatory system  heart  arteries  veins  blood |
| **Strand 4: Life Science**  **Concept 1:** Characteristics of Organisms | **S4C1PO 3**. Describe the basic functions of the following systems:   * digestive – breakdown and absorption of food, disposal of waste * respiratory – exchange of oxygen and carbon dioxide * circulatory – transportation of nutrients and oxygen throughout the body   **C, M** | I can describe the basic functions of the digestive, respiratory and circulatory systems. | Comprehen-sion  Analysis  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science R8 – R11  [www.sciencenetlinks.com/interactives/systems.html](http://www.sciencenetlinks.com/interactives/systems.html)  <http://www.kidsbiology.com/human_biology/>  <http://www.exploringnature.org/db/main_index.php> | functions  systems  digestive absorption disposal of waste respiratory exchange oxygen  carbon dioxide circulatory transportation nutrients  oxygen |
| **Strand 4: Life Science**  **Concept 2:**  Life Cycles | **S4C2PO 1**. Describe the life cycles of various insects  **C, M** | I can describe the life cycles of various insects. | Comprehen-sion  Analysis  Application | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science Chapters 1 & 2  www.utahbugclub.org/lifec*enchantedlearning.com/subjects/insects/printouts.shtml* -  kidzone.ws/animals/  <http://www.exploringnature.org/db/main_index.php> | life cycles insects |
| **Strand 4: Life Science**  **Concept 2:**  Life Cycles | **S4C2PO 2**. Describe the life cycles of various mammals.  **C, M** | I can describe the life cycles of various mammals. | Comprehen-sion  Analysis  Evaluation | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science Chapters 1 & 2  kidzone.ws/animals/  [www.enotes.com/.../animal-life-cycles-mammals-reptiles-20813](http://www.enotes.com/.../animal-life-cycles-mammals-reptiles-20813)  <http://www.exploringnature.org/db/main_index.php> | life cycles mammals |
| **Strand 4: Life Science**  **Concept 2:**  Life Cycles | **S4C2PO 3.** Compare the life cycles of various organisms.  **C, M** | I can compare the life cycles of various organisms. | Comprehen-sion  Analysis  Evaluation | MacMillan/McGraw-Hill, Science – A Closer Look, grade 2, Life Science Chapters 1 & 2  kidzone.ws/animals/  [www.enotes.com/.../animal-life-cycles-mammals-reptiles-20813](http://www.enotes.com/.../animal-life-cycles-mammals-reptiles-20813)  <http://www.exploringnature.org/db/main_index.php> | life cycles  organisms |
| **Strand 6: Earth and Space Science**  **Concept 3:**  Changes in the Earth and Sky | **S6C3PO** **1**. Measure weather conditions (e.g.*,* temperature, precipitation).  **I** | I can measure weather conditions. | Application  Knowledge  Synthesis | MacMillan/McGraw-Hill, Science- A Closer Look, Grade 2, Solids, Observing Weather, pages 220 - 247  Daily classroom calendar time  http://web.ccsd.k12.wy.us /techcurr/Science /02/science.html | measure  temperature  precipitation |
| **Strand 6: Earth and Space Science**  **Concept 3:**  Changes in the Earth and Sky | **S6C3PO** **2**. Record Weather conditions (e.g.*,* temperature, precipitation).  **I** | I can record weather conditions. | Application  Knowledge  Synthesis | MacMillan/McGraw-Hill, Science- A Closer Look, Grade 2, Solids, Observing Weather, pages 220 – 247  Daily classroom calendar time  Weather journal  www.weatherwizkids.com/weather-instruments.htm | record  temperature  precipitation |
| **Strand 6: Earth and Space Science**  **Concept 3:**  Changes in the Earth and Sky | **S6C3PO** **3**. Identify the following  types of clouds:   * cumulus * stratus * cirrus   **I** | I can identify types of clouds. | Knowledge  Application  Synthesis | MacMillan/McGraw-Hill, Science- A Closer Look, grade 2, Solids, Changes in Weather, pages 236-241  eo.ucar.edu/webweather/cloud3.html  [www.weatherwizkids.com/weather-clouds.htm](http://www.weatherwizkids.com/weather-clouds.htm)  science.nationalgeographic.com/science/earth/…/clouds-article/  <http://www.enchantedlerning.com/subjects/astronomy/planets/earth/clouds/> | cumulus  stratus  cirrus |
| **Strand 6: Earth and Space Science**  **Concept 3:**  Changes in the Earth and Sky | **S6C3PO** **4**. Analyze the relationship between clouds, temperature, and weather patterns.  **I** | I can analyze the relationship between clouds, temperature, and weather patterns. | Knowledge  Application  Synthesis | MacMillan/McGraw-Hill, Science- A Closer Look, grade 2, Solids, Changes in Weather, Chapter 7, Lessons 1 – 3  eo.ucar.edu/webweather/cloud3.html  [www.weatherwizkids.com/weather-clouds.htm](http://www.weatherwizkids.com/weather-clouds.htm)  science.nationalgeographic.com/science/earth/…/clouds-article/  <http://www.enchantedlerning.com/subjects/astronomy/planets/earth/clouds/> | Analyze  Weather patterns |