### Strand: Chemistry

**Standard 1:** Students shall demonstrate an understanding of matter's composition and structure.

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<td>• lipids</td>
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<td>• proteins</td>
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<tr>
<td>• nucleic acids</td>
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<td>Strand: Physics</td>
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<td>Standard 5: Students shall demonstrate an understanding of the role of energy in physics.</td>
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<td>P.5.PS.1 Distinguish among thermal energy, heat, and temperature</td>
<td>SE/TE: 451, 474-475</td>
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<td>TR: Reading and Study Workbook: 185-186; Math Skills and Problem Solving Workbook: 16.1</td>
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<td>TECH: Interactive Textbook; <a href="http://www.SciLinks.org">www.SciLinks.org</a> web code: ccn-2161; Presentation Pro CD-ROM</td>
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<td>P.5.PS.2 Calculate changes in thermal energy</td>
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### ARKANSAS PHYSICAL SCIENCE CURRICULUM FRAMEWORK

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<td><strong>P.6.PS.1</strong> Analyze how force affects motion:</td>
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<td>• one-dimensional (linear)</td>
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<td>• two-dimensional (projectile and rotational)</td>
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<td>TR: Reading and Study Workbook: 143-144</td>
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<td>TECH: Interactive Textbook: 12.4; Presentation Pro CD-ROM</td>
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| **P.6.PS.2** Explain how motion is relative to a reference point | SE/TE: 328-331; Concepts in Action: 338-341; Quick Lab: 330 | |
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<p>| <strong>P.6.PS.3</strong> Compare and contrast among speed, velocity and acceleration | SE/TE: 332-337, 342-345; Math Practice: 333; Exploration Lab: 349 | |
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<td>• distance versus time (d-t)</td>
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<td>SE/TE: 346-347</td>
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| P.6.PS.7 Design and conduct investigations demonstrating Newton’s first law of motion | TR: Reading and Study Workbook: 139-142; Math Skills and Problem Solving Workbook: 12.2-12.3  
TECH: Interactive Textbook: 12.2-12.3;  
www.SciLinks.org web code: ccn-2121, ccn-2122, ccn-2123; Discovery Channel Videotape: Air Forces; Presentation Pro CD-ROM |
| P.6.PS.8 Conduct investigations demonstrating Newton’s second law of motion | SE/TE: Exploration Lab: 383  
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<td>P.6.PS.11 Relate the Law of Conservation of Momentum to how it affects the movement of objects</td>
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<td>TECH: Interactive Textbook: 13.2; Presentation Pro CD-ROM</td>
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<td>• Bernoulli’s principle</td>
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<td>P.6.PS.13 Design an experiment to show conversion of energy:</td>
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<td>• chemical</td>
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<td>• light</td>
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<td>SE/TE: 532-537; Quick Lab: 544</td>
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<td>TECH: Interactive Textbook: 10.4, 15.2; <a href="http://www.SciLinks.org">www.SciLinks.org</a> web code: ccn-1104; Presentation Pro CD-ROM</td>
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<td>P.6.PS.14 Solve problems by using formulas for gravitational potential and kinetic energy</td>
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<td>TECH: Interactive Textbook: 15.1, 15.2; <a href="http://www.SciLinks.org">www.SciLinks.org</a> web code: ccn-2151; Presentation Pro CD-ROM</td>
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Standard 7: Students shall demonstrate an understanding of wave and particle motion.

P.7.PS.1 Compare and contrast a wave’s speed through various mediums

SE/TE: 505-506, 509, 613-614
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<td>P.7.PS.2 Explain diffraction of waves</td>
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<td>P.7.PS.3 Explain Doppler effect using examples</td>
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<td>P.7.PS.4 Calculate problems relating to wave properties</td>
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<td>P.7.PS.5 Describe how the physical properties of sound waves affect its perception</td>
<td>SE/TE: 514-515; Concepts in Action: 522-523; How it Works: 520; Exploration Lab: 524-525</td>
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<td>P.7.PS.6 Define light in terms of waves and particles</td>
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<td>P.7.PS.8 Investigate the separation of white light into colors by diffraction</td>
<td>SE/TE: 550-551</td>
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<td>P.7.PS.9 Illustrate constructive and destructive interference of light waves</td>
<td>SE/TE: 510-512</td>
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<td>P.7.PS.10 Differentiate among the reflected images produced by concave, convex, and plane mirrors</td>
<td>SE/TE: 570-573; Quick Lab: 571; Consumer Lab: 593</td>
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<td>TECH: Interactive Textbook: 19.2; Presentation Pro CD-ROM</td>
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<td>P.7.PS.12 Research current uses of optics and sound</td>
<td>SE/TE: 516, 518-519, 521, 539-545, 580-584; Concepts in Action: 522-523, 586-587; How it Works: 520; Science and History: 582-583</td>
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Standard 8: Students shall demonstrate an understanding of the role of electricity and magnetism in the physical world.

| P.8.PS.1 Calculate voltage, current, and resistance from a schematic diagram | SE/TE: 606-607, 609-610 |
| | TR: Reading and Study Workbook: 241-242; Math Skills and Problem Solving Workbook: 20.2 |

<p>| P.8.PS.2 Calculate electrical power using current and voltage | SE/TE: 611; Math Practice: 611; Forensic Lab: 623 |
| | TR: Reading and Study Workbook: 243-244; Math Skills and Problem Solving Workbook: 20.3; Laboratory Manual: 211-214 |</p>
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<td>P.8.PS.4 Explain the use of electromagnets in step-up and step-down transformers</td>
<td>SE/TE: 644-647; Problem-solving Activity: 646; Writing in Science: 647</td>
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<td>P.8.PS.5 Research current uses of electromagnets</td>
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<td>TR: Reading and Study Workbook: 253-254</td>
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Strand: Nature of Science

Standard 9: Students shall demonstrate an understanding that science is a way of knowing.

NS.9.PS.1 Explain why science is limited to natural explanations of how the world works | SE/TE: 2-3 |
| | TR: Reading and Study Workbook: 3-4 |
| | TECH: Interactive Textbook: 1.1; www.phschool.com web code: cce-0011; Presentation Pro CD-ROM |

NS.9.PS.2 Compare and contrast hypotheses, theories, and laws | SE/TE: 8-9 |
<p>| | TE: Build Science Skills: 9 |
| | TR: Reading and Study Workbook: 5-6 |</p>
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<td>NS.9.PS.3 Distinguish between a scientific theory and the term “theory” used in general conversation</td>
<td>SE/TE: 9; TR: Reading and Study Workbook: 5-6; TECH: Interactive Textbook: 1.2; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-0011; Presentation Pro CD-ROM</td>
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<td>NS.9.PS.4 Summarize the guidelines of science:</td>
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<td>• explanations are based on observations, evidence, and testing</td>
<td>SE/TE: 8-9; TR: Reading and Study Workbook: 5-6; TECH: Interactive Textbook: 1.2; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-0011; Presentation Pro CD-ROM</td>
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<td>• hypotheses must be testable</td>
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<td>• understandings and/or conclusions may change with additional empirical data</td>
<td>SE/TE: 9; TR: Reading and Study Workbook: 5-6; TECH: Interactive Textbook: 1.2; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-0011; Presentation Pro CD-ROM</td>
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<td>• scientific knowledge must have peer review and verification before acceptance</td>
<td>SE/TE: Design Your Own Lab: 220-221, 493; Chapter Assessment: 30, 64, 154, 224, 258, 352, 508...; TR: Laboratory Manual: 77-84, 89-96, 123-128, 145-152</td>
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<td>Standard 10: Students shall design and safely conduct a scientific inquiry to solve valid problems.</td>
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<td>NS.10.PS.1 Develop and explain the appropriate procedure, controls, and variables (dependent and independent) in scientific experimentation</td>
<td>SE/TE: 11; Science Skills: 868-869</td>
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<td>TR: Reading and Study Workbook: 5-6</td>
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<td>TECH: Interactive Textbook: 1.2; Presentation Pro CD-ROM</td>
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<tr>
<td>NS.10.PS.2 Research and apply appropriate safety precautions (refer to ADE Guidelines) when designing and/or conducting scientific investigations</td>
<td>N/A</td>
</tr>
<tr>
<td>NS.10.PS.3 Identify sources of bias that could affect experimental outcome</td>
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<td>TR: All labs contained in the laboratory manual and probeware lab manual.</td>
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<td>NS.10.PS.5 Formulate valid conclusions without bias</td>
<td>SE/TE: All Exploration, Consumer, Forensics, Application, and Design Your Own Labs</td>
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<td>TR: All labs contained in the laboratory manual and probeware lab manual.</td>
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<td>NS.10.PS.6 Communicate experimental results using appropriate reports, figures, and tables</td>
<td>SE/TE: 25; All Exploration, Consumer, Forensics, Application, and Design Your Own Labs</td>
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<td>TR: Reading and Study Workbook: 9-10; ; Math Skills and Problem Solving Workbook: 1.4; All labs contained in the laboratory manual and probeware lab manual.</td>
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Standard 11: Students shall demonstrate an understanding of historical trends in physical science.

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<td>NS.11.PS.1 Recognize the factors that constitute a scientific theory</td>
<td>SE/TE: 9&lt;br&gt;TE: Build Science Skills: 9&lt;br&gt;TR: Reading and Study Workbook: 5-6&lt;br&gt;TECH: Interactive Textbook: 1.2; Presentation Pro CD-ROM</td>
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<tr>
<td>NS.11.PS.2 Explain why scientific theories may be modified or expanded using additional empirical data, verification, and peer review</td>
<td>SE/TE: 9&lt;br&gt;TE: Build Science Skills: 9&lt;br&gt;TR: Reading and Study Workbook: 5-6</td>
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<tr>
<td>NS.11.PS.6 Research current events and topics in physical science</td>
<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252</td>
</tr>
</tbody>
</table>

Standard 12: Students shall use mathematics, science equipment, and technology as tools to communicate and solve physical science problems.

| NS.12.PS.1 Use appropriate equipment and technology as tools for solving problems (e.g., balances, scales, calculators, probes, glassware, burners, computer software and hardware) | SE/TE: All Exploration, Consumer, Forensics, Application, and Design Your Own Labs |
| NS.12.PS.2 Collect and analyze scientific data using appropriate mathematical calculations, figures, and tables | SE/TE: All Exploration, Consumer, Forensics, Application, Design Your Own Labs, and Data Analysis found in the textbook. |
| NS.12.PS.3 Utilize technology to communicate research findings | SE/TE: 25; Exploration Lab: 349, 783; Consumer Lab: 26-27, 438-439; Application Lab: 467, 648-649 |

TR: All labs contained in the laboratory manual and probeware lab manual.

Standard 13: Students shall describe the connections between pure and applied science.

<p>| NS.13.PS.1 Compare and contrast physical science concepts in pure science and applied science | SE/TE: 3-5 |
| NS.13.PS.2 Discuss why scientists should work within ethical parameters | N / A |</p>
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<tr>
<td>NS.13.PS.3 Evaluate long-range plans concerning resource use and by-product disposal for environmental, economic, and political impact</td>
<td>SE/TE: 462-464, 466; How it Works: 465</td>
</tr>
<tr>
<td></td>
<td>TE: Teacher Demo: 464; Integrate Earth Science: 463</td>
</tr>
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<td></td>
<td>TR: Reading and Study Workbook: 177-178</td>
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<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-2153; Presentation Pro CD-ROM</td>
</tr>
<tr>
<td>NS.13.PS.4 Explain how the cyclical relationship between science and technology results in reciprocal advancements in science and technology</td>
<td>SE/TE: 3</td>
</tr>
<tr>
<td></td>
<td>TR: Reading and Study Workbook: 3-4</td>
</tr>
<tr>
<td></td>
<td>TECH: Interactive Textbook: 1.1; Presentation Pro CD-ROM</td>
</tr>
<tr>
<td>NS.13.PS.5 Describe in detail the methods used by scientists in their research</td>
<td>SE/TE: 7-9</td>
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<td>TE: Build Science Skills: 8, 9</td>
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<td></td>
<td>TR: Reading and Study Workbook: 5-6</td>
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<td></td>
<td>TECH: Interactive Textbook: 1.2; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-0011; Discovery Channel Videotape: Cracking the Case; Presentation Pro CD-ROM</td>
</tr>
</tbody>
</table>

Standard 14: Students shall describe various physical science careers and the training required for the selected career.

NS.14.PS.1 Research and evaluate physical science careers using the following criteria:

- educational requirements
  - SE/TE: 34-35, 324-325, 656-657

- salary
  - SE/TE: 34-35, 324-325, 656-657

- availability of jobs
  - SE/TE: 34-35, 324-325, 656-657
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<td>working conditions</td>
<td>SE/TE: 34-35, 324-325, 656-657</td>
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<td>Strand: Physical Dynamics</td>
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<tr>
<td>Standard 1: Students shall understand the physical dynamics of Earth</td>
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<tr>
<td>PD.1.ES.1 Describe the structure, origin, and evolution of the Earth’s components:</td>
<td></td>
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<tr>
<td>• atmosphere</td>
<td>SE/TE: 746-751; Quick Lab: 749</td>
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<td></td>
<td>TE: Build Science Skills: 750; Teacher Demo: 748</td>
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<td></td>
<td>TR: Reading and Study Workbook: 305-306</td>
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<tr>
<td></td>
<td>TECH: Interactive Textbook: 24.1; <a href="http://www.phschool.com">www.phschool.com</a> web code: ccc-3241; Presentation Pro CD-ROM</td>
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<tr>
<td>• biosphere</td>
<td>SE/TE: 732-738; Problem-Solving Activity: 734</td>
</tr>
<tr>
<td></td>
<td>TE: Build Science Skills: 736</td>
</tr>
<tr>
<td></td>
<td>TECH: Interactive Textbook: 24.1; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-3236; Presentation Pro CD-ROM</td>
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<td></td>
<td>TE: Build Science Skills: 706, 716, 728; Teacher Demo: 710, 726</td>
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<td></td>
<td>TR: Reading and Study Workbook: 23.1-23.3, 23.5; Laboratory Manual: 247-250</td>
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<td>• lithium SE/TE: 661-663, 664-669, 670-674; Quick Lab: 668; Exploration Lab: 739</td>
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<td>TE: Build Science Skills: 661, 672</td>
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<td>TR: Reading and Study Workbook: 265-270; Math Skills and Problem Solving Workbook: 22.2</td>
<td></td>
</tr>
<tr>
<td>PD.1.ES.2 Relate eras, epochs, and periods of Earth’s history to geological development SE/TE: 734-738</td>
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</tr>
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<td>TE: Build Science Skills: 736</td>
<td></td>
</tr>
<tr>
<td>TR: Reading and Study Workbook: 295-296</td>
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<tr>
<td>TECH: Interactive Textbook: 23.6; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-3236; Presentation Pro CD-ROM</td>
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</tr>
<tr>
<td>PD.1.ES.3 Determine the relative and absolute ages of rock layers SE/TE: 732-734; Problem-Solving Activity: 734</td>
<td></td>
</tr>
<tr>
<td>TE: Build Science Skills: 733</td>
<td></td>
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<tr>
<td>TR: Reading and Study Workbook: 295-296</td>
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<tr>
<td>TECH: Interactive Textbook: 23.6; Presentation Pro CD-ROM</td>
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</tr>
<tr>
<td>PD.1.ES.4 Categorize the type and composition of various minerals SE/TE: 665-669; Data Analysis: 666; Inquiry Activity: 659; Quick Lab: 668</td>
<td></td>
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<tr>
<td>TE: Build Science Skills: 666</td>
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<tr>
<td>TR: Reading and Study Workbook: 267-268; Math Skills and Problem Solving Workbook: 22.2</td>
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<tr>
<td>PD.1.ES.5 Explain the processes of the rock cycle SE/TE: 671-675; Writing in Science: 675</td>
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<td>TE: Build Science Skills: 673</td>
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### ARKANSAS PHYSICAL SCIENCE CURRICULUM FRAMEWORK

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<td>PD.1.ES.7 Describe tectonic forces relating to internal energy production and convection currents</td>
<td>SE/TE: 676-683; Exploration Lab: 697</td>
</tr>
<tr>
<td>PD.1.ES.8 Describe the relationships of degradation (a general lowering of the earth's surface by erosion or weathering) and tectonic forces:</td>
<td></td>
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<tr>
<td>• volcanoes</td>
<td>SE/TE: 690-693, 696; Concepts in Action: 694-695; Exploration Lab: 697</td>
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<td></td>
<td>TE: Build Science Skills: 691, 694</td>
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<tr>
<td>• earthquakes</td>
<td>SE/TE: 684-687, 689; How it Works: 688; Quick Lab: 687; Exploration Lab: 697</td>
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<tr>
<td>PD.1.ES.9 Construct and interpret information on topographic maps</td>
<td>TR: Reading and Study Workbook: 273-274</td>
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<tr>
<td>PD.1.ES.10 Describe the characteristics of each of the natural divisions of Arkansas:</td>
<td>TECH: Interactive Textbook: 22.5; <a href="http://www.phschool.com">www.phschool.com</a> web code: ccc-3225; Presentation Pro CD-ROM</td>
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<tr>
<td>• Ozark Plateau</td>
<td>SE/TE: Skills Handbook: 888</td>
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<tr>
<td>• Arkansas River Valley</td>
<td>SE/TE: basis of concept: 715, 720-721</td>
</tr>
<tr>
<td>• Ouachita Mountains</td>
<td>TR: Reading and Study Workbook: 289-290</td>
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<tr>
<td>• Coastal Plain</td>
<td>N / A</td>
</tr>
<tr>
<td>• Mississippi Alluvial Plain (Delta)</td>
<td>SE/TE: basis of concept: 716</td>
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<tr>
<td>• Crowley's Ridge</td>
<td>TR: Reading and Study Workbook: 269-270</td>
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<tr>
<td>PD.1.ES.11 Describe the physical and chemical properties of water</td>
<td>N / A</td>
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<tr>
<td>PD.1.ES.12 Compare and contrast characteristics of the oceans:</td>
<td>SE/TE: 168-169, 704-706; Quick Lab: 705</td>
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<td>• composition</td>
<td>TE: Teacher Demo: 169</td>
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<td></td>
<td>TR: Reading and Study Workbook: 61-62, 285-286</td>
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<td></td>
<td>TECH: Interactive Textbook: 6.2, 23.1; Presentation Pro CD-ROM</td>
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<tr>
<td>• physical features of the ocean floor</td>
<td>SE/TE: 726; Concepts in Action: 730-731</td>
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<td>TE: Build Science Skills: 730</td>
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<td>TR: Reading and Study Workbook: 293-294</td>
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<tr>
<td>TECH: Interactive Textbook: 23.5; Discovery Channel Videotape: Under the Sea; Presentation Pro CD-ROM</td>
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<tr>
<td>• life within the ocean</td>
<td>SE/TE: 726</td>
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<td>• lateral and vertical motion</td>
<td>SE/TE: 726-728</td>
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<td>TE: Build Science Skills: 728</td>
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<td>TR: Reading and Study Workbook: 293-294</td>
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<td>TECH: Interactive Textbook: 23.5; Presentation Pro CD-ROM</td>
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<tr>
<td>PD.1.ES.13 Investigate the evolution of the ocean floor</td>
<td>SE/TE: 678-679</td>
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<td>TE: Build Science Skills: 678</td>
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<td>TR: Reading and Study Workbook: 271-272</td>
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<td>TECH: Interactive Textbook: 22.4; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-3224; Presentation Pro CD-ROM</td>
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<tr>
<td>PD.1.ES.14 Investigate the stratification of the ocean:</td>
<td>SE/TE: 231; How it Works: 233</td>
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<tr>
<td>• colligative properties (depends on the ratio of the number of particles of solute and solvent in the solution, not the identity of the solute)</td>
<td>TE: 226C; Teacher Demo: 231</td>
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<tr>
<td>TECH: <a href="http://www.SciLinks.org">www.SciLinks.org</a> web code: ccn-1081; Presentation Pro CD-ROM</td>
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<tr>
<td>• biological zonation (distribution of organisms in biogeographic zones)</td>
<td>This concept is covered in Prentice Hall Biology (Miller/Levine) (2006)</td>
</tr>
<tr>
<td>PD.1.ES.15 Predict the effects of ocean currents on climate</td>
<td>SE/TE: 726-727, 758-759, 779-781</td>
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<td>TR: Reading and Study Workbook: 293-294, 317-318</td>
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<td>TECH: Interactive Textbook: 23.5, 24.7; Presentation Pro CD-ROM</td>
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<td>Pressure</td>
<td>SE/TE: 748; Quick Lab: 749</td>
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<td>TE: Teacher Demo: 748</td>
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<tr>
<td>Winds</td>
<td>SE/TE: 757-759; 765-768; How it Works: 756; Quick Lab: 766</td>
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<td>TE: Build Science Skills: 757; Teacher Demo: 757, 758</td>
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<td>TR: Reading and Study Workbook: 309-310, 313-314</td>
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<td>Evaporation</td>
<td>SE/TE: 760-763</td>
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<td>TR: Reading and Study Workbook: 311-312; Laboratory Manual: 251-256</td>
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<td>Precipitation</td>
<td>SE/TE: 762-764, 769-771; Concepts in Action: 772-773</td>
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<td></td>
<td>TE: Build Science Skills: 772</td>
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<tr>
<td></td>
<td>TR: Reading and Study Workbook: 311-312; Laboratory Manual: 251-256</td>
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<tr>
<td>PD.1.ES.17 Compare and contrast meteorological processes related to air masses, weather systems, and forecasting</td>
<td>SE/TE: 765-771, 774-777; Concepts in Action: 772-773; Data Analysis: 775; Quick Lab: 766</td>
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<td></td>
<td>TE: Build Science Skills: 765, 768, 772, 777</td>
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<td></td>
<td>TR: Reading and Study Workbook: 313-316; Math Skills and Problem Solving Workbook: 24.6</td>
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<td>PD.1.ES.18 Construct and interpret weather maps</td>
<td>SE/TE: 774-777; Appendix: 898</td>
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<td>TE: Build Science Skills: 777</td>
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<td>TR: Reading and Study Workbook: 315-316; Math Skills and Problem Solving Workbook: 24.6</td>
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<td></td>
<td>TECH: Interactive Textbook: 24.6; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-3246; Presentation Pro CD-ROM</td>
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<tr>
<td>PD.1.ES.19 Describe the cycling of materials and energy:</td>
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</tr>
<tr>
<td>• nitrogen</td>
<td>This concept is covered in Prentice Hall Chemistry (2005)</td>
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<tr>
<td>• oxygen</td>
<td>SE/TE: 282-283</td>
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<td>TE: 283</td>
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<td>TR: Reading and Study Workbook: 109-110</td>
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<td></td>
<td>TECH: Interactive Textbook: 9.4; Presentation Pro CD-ROM</td>
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<tr>
<td>• carbon</td>
<td>SE/TE: 282-283</td>
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<td>TE: 283</td>
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<td></td>
<td>TECH: Interactive Textbook: 9.4; Presentation Pro CD-ROM</td>
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<tr>
<td>• phosphorous</td>
<td>This concept is covered in Prentice Hall Chemistry (2005)</td>
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<td>• hydrological</td>
<td>SE/TE: 705-706; Quick Lab: 705</td>
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<td>TR: Reading and Study Workbook: 285-286</td>
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<td>TECH: Interactive Textbook: 23.1; <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-3231; Presentation Pro CD-ROM</td>
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<tr>
<td>• sulfur</td>
<td>This concept is covered in Prentice Hall Chemistry (2005)</td>
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## Strand: Social Perspectives

**Standard 3: Students shall understand the impact of human activities on the environment.**

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<td>SP.3.ES.1 Explain the reciprocal relationships between Earth's processes (natural disasters) and human activities</td>
<td>SE/TE: 463-464, 684-685, 734-738, 776-777; Concepts in Action: 772-773</td>
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<td>TR: Reading and Study Workbook: 273-274</td>
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<td>TECH: Interactive Textbook: 22.5; <a href="http://www.phschool.com">www.phschool.com</a> web code: ccc-3245; Discovery Channel Videotape: Wild Weather; Presentation Pro CD-ROM</td>
</tr>
<tr>
<td>SP.3.ES.2 Investigate the relationships between human consumption of natural resources and the stewardship responsibility for reclamations including disposal of hazardous and non-hazardous waste</td>
<td>SE/TE: 311-313, 462-464, 466</td>
</tr>
<tr>
<td></td>
<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cce-2153</td>
</tr>
</tbody>
</table>

**SP.3.ES.3 Explain common problems related to water quality:**

- conservation  
  N / A
- usage  
  N / A
- supply  
  SE/TE: 706-707
- treatment  
  SE/TE: Concepts in Action: 52-53
  
  TE: Build Science Skills: 52
  
  TECH: Discovery Channel Videotapes: Fresh-Squeezed Water
- pollutants (point and non-point sources)  
  N / A

**SP.3.ES.4 Explain problems related to air quality:**

- automobiles  
  SE/TE: How it Works: 488; Issues in Science: 608
  
  TECH: www.phschool.com web code: cch-2203
- industry  

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<td>• natural emissions</td>
<td>TECH: Discovery Channel Videotape: Clean Energy</td>
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<tr>
<td>SP.3.ES.5 Evaluate the impact of different points of view on health, population, resource, and environmental issues:</td>
<td></td>
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<tr>
<td>• governmental</td>
<td>SE/TE: Issues in Science: 59, 281, 302, 513, 579, 608, 718, 802</td>
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<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252</td>
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<tr>
<td>• economic</td>
<td>SE/TE: Issues in Science: 59, 281, 302, 513, 579, 608, 718, 802</td>
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<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252</td>
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<tr>
<td>• societal</td>
<td>SE/TE: Issues in Science: 59, 281, 302, 513, 579, 608, 718, 802</td>
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<tr>
<td></td>
<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252</td>
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<tr>
<td>SP.3.ES.6 Research how political systems influence environmental decisions</td>
<td>N/A</td>
</tr>
<tr>
<td>SP.3.ES.7 Investigate which federal and state agencies have responsibility for environmental monitoring and action</td>
<td>N/A</td>
</tr>
<tr>
<td>SP.3.ES.8 Compare and contrast man-made environments and natural environments</td>
<td>N/A</td>
</tr>
<tr>
<td>SP.3.ES.9 Evaluate personal and societal benefits when examining health, population, resource, and environmental issues</td>
<td>SE/TE: Issues in Science: 59, 281, 302, 513, 579, 608, 718, 802</td>
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<tr>
<td></td>
<td>TECH: <a href="http://www.phschool.com">www.phschool.com</a> web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252</td>
</tr>
<tr>
<td>SP.3.ES.10 Predict the long-term societal impact of specific health, population, resource, and environmental issues</td>
<td>SE/TE: Issues in Science: 59, 281, 302, 513, 579, 608, 718, 802</td>
</tr>
<tr>
<td>ARKANSAS PHYSICAL SCIENCE CURRICULUM FRAMEWORK</td>
<td>PAGE (S) WHERE TAUGHT (If submission is not a text, cite appropriate resource(s))</td>
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<td>SP.3.ES.11 Investigate the effect of public policy decisions on health, population, resource, and environmental issues</td>
<td>N / A</td>
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<tr>
<td>SP.3.ES.12 Explain the impact of factors such as birth rate, death rate, and migration rate on population changes</td>
<td>N / A</td>
</tr>
<tr>
<td>SP.3.ES.13 Distinguish between developed and developing countries</td>
<td>N / A</td>
</tr>
</tbody>
</table>

TECH: www.phschool.com web code: cch-1020, cch-1090, cch-1102, cch-2173, cch-2193, cch-2203, cch-3233, cch-3252