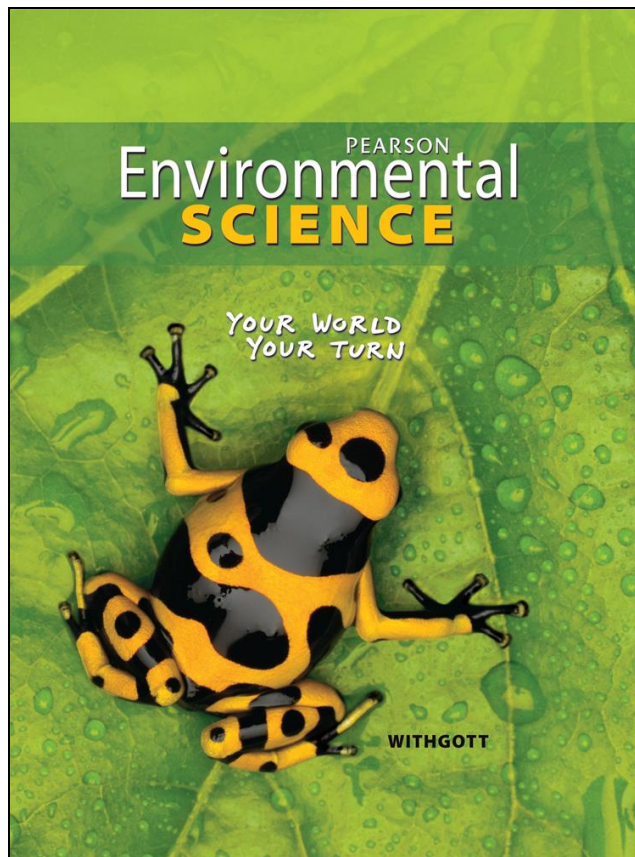


A Correlation and Narrative Summary of

Pearson Environmental Science

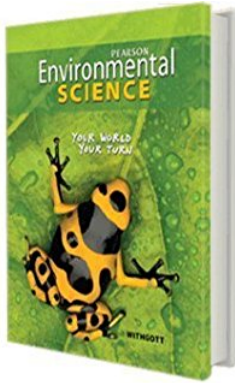
Your World, Your Turn



To the

Tennessee Academic Standards for Science Environmental Science





Environmental Science: Your World, Your Turn

with **Pearson Realize**

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The Pearson Advantages:

The **Environmental Science: Your World, Your Turn** program is based on real, current, and relevant content with cutting-edge digital support that makes environmental science personal and actionable for each student.

- ✓ The lessons in every chapter include **summative assessments** that are directly tied to both state and national standards and measure students' progress toward mastering the Tennessee Academic Standards for Science.
- ✓ Students explore real issues through a **Case-Study Approach**. Opening every chapter, and integrated throughout the text and support materials both online and in print, the Central Case provides a consistent and engaging path for teaching core environmental science principles.
- ✓ Pearson's Environmental Science program empowers students to draw their own conclusions and encourages them to think and act on both local and global levels. They will build the critical thinking skills that they will need long after the class ends.
- ✓ Every lesson introduction offers tools to help students master concepts by introducing them to key concepts, vocabulary, and a reading and note-taking strategy. Additionally, graphs, charts, illustrations, and photos work hand-in-hand with the text to clarify complex topics for those students who think and learn visually.
- ✓ The **ExamView® Test Bank Generator CD** enables teachers to create and print customizable tests from a bank of thousands of questions.
- ✓ Pearson's Environmental Science program resides on **Pearson Realize™**, Pearson's newest learning management system (LMS), offering standards-aligned content, flexible class management tools, and embedded assessments that deliver reports and student usage data to teachers instantly

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realize™ **Realize Your Potential**

Pearson Realize™ provides premium content to help teachers enhance their instructional materials and customize lessons to fit learners' needs. Teachers can reorder the table of contents, upload files and media, add links, and create custom lessons and assessments. Flexible class management tools enable teachers to create classes, organize students by groups, and create assignments targeted to those groups, individual students, or the entire class. Powerful search tools allow teachers to search by keyword, skill, topic, or standard to quickly find lessons, lesson plans, and instructional resources.

Reports and student usage data give teachers the power to target teaching to improve student outcomes. Digestible student progress reports give teachers instant access to student and class data that show standards mastery on assessments, online activity, overall progress, and the length of time students take on assessments.

To learn more about this program please visit
www.PearsonSchool.com

**A Correlation of Pearson Environmental Science to the
Tennessee Academic Standards for Science, Environmental Science**

Tennessee Science Standards Environmental Science	Environmental Science
EVSC.LS2: Ecosystems: Interactions, Energy, and Dynamics	
1) Using a variety of data sources, construct an explanation for the impact of climate, latitude, altitude, geology, and hydrology patterns on plant and animal life in various terrestrial biomes.	<p>SE/TE: 77, 166-167, 169-180, 181-182, 183-187, 188-191 Real Data: 179 Lesson Assessment: 180 (#1-3), 191 (#4, 5) Chapter Assessment: 196-197 (#22, 23)</p> <p>TE Only: Big Question: 173, 188</p>
2) Develop an explanation of behavioral and physical adaptations organisms have for life in aquatic habitats with varying chemical and physical features.	<p>SE/TE: 181-187, 187-191 Go Outside: 183 Lesson Assessment: 191 (#5) Chapter Assessment: 196 (#26, 27)</p> <p>TE Only: Big Question: 188</p>
3) Using mathematical models, support arguments regarding the effects of biotic and abiotic factors on carrying capacity for populations within an ecosystem.	<p>SE/TE: 115-117, 328 (Figure #4) Go Outside: 102 Lesson Assessment: 117 (#1-4) Chapter Assessment: 123 (#28-30, 31, 34)</p>
4) Compare and contrast production (photosynthesis, chemosynthesis) and respiratory (aerobic respiration, anaerobic respiration, consumption, decomposition) processes responsible for the cycling of matter and flow of energy through an ecosystem. Using evidence, construct an argument regarding the importance of homeostasis in maintaining these processes in ecosystems.	<p>SE/TE: 84-85, 142-143, 144-145, 146-147 Lesson Assessment: 89 (#2), 148 (#1-3) Chapter Assessment: 160 (#25)</p>
5) Use a mathematical model to explain energy flow through an ecosystem. Using the first and second laws of thermodynamics, construct an explanation for: A) necessity for constant energy input; B) limitations on energy transfer from one trophic level to the next; and, C) limitations on number of trophic levels that can be supported.	<p>SE/TE: 144-145 Real Data: 144 Lesson Assessment: 148 (#2)</p>

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Tennessee Science Standards Environmental Science	Environmental Science
6) Evaluate the interdependence among major biogeochemical cycles (water, carbon, nitrogen, phosphorus) in an ecosystem and recognize the importance each cycle has in maintaining ecosystem stability.	<p>SE/TE: 83-89, 90-91 Lesson Assessment: 89 (#3, 4) Chapter Assessment: 94 (#29) Ecological Footprint: 95</p> <p>TE Only: Big Question: 87</p>
7) Examine stability and change within an ecosystem by using a model of succession (primary or secondary) to predict impacts of disruption on an ecosystem.	<p>SE/TE: 149-155 Quick Lab: 152 Lesson Assessment: 155 (#1-3) Chapter Assessment: 160 (#27, 28)</p> <p>TE Only: Big Question: 150 Guiding Question: 149</p>
EVSC.LS4: Biological Change: Unity and Diversity	
1) Construct an explanation based on scientific evidence for mechanisms of natural selection that result in behavioral, anatomical, and physiological adaptations in populations.	<p>SE/TE: 127-129 Lesson Assessment: 132 (#1, 3)</p>
2) Justify claims with scientific evidence that changes in environmental conditions lead to speciation and extinction.	<p>SE/TE: 118-119, 131-132, 207-208 Lesson Assessment: 132 (#2)</p>
3) Evaluate the impact of habitat fragmentation and destruction, invasive species, overharvesting, pollution, and climate change on biodiversity (genetic, species, and ecosystem).	<p>SE/TE: 118-119, 125, 209-211, 125, 153-155, 497-499 What Do You Think: 153 Map It: 210 Lesson Assessment: 155 (#2, 3), 211 (#2, 3), 501 (#1, 4)</p> <p>TE Only: Guiding Question: 497, Big Question: 500</p>

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Tennessee Academic Standards for Science, Environmental Science**

Tennessee Science Standards Environmental Science	Environmental Science
4) Engage in argument from scientific evidence critiquing effectiveness of the Endangered Species Act. Give specific examples to support your argument.	<p>SE/TE: 212-213 Lesson Assessment: 217 (#1, 4)</p> <p>TE Only: Big Question: 213</p>
EVSC.ESS2: Earth's Systems	
1) Research the development of the theory of plate tectonics. Use the theory to construct an explanation for how changes in Earth's crust cause mountain formation, volcanoes, earthquakes, and tsunamis. Provide evidence to support the explanation using information pertaining to plate boundary types (divergent, convergent, transform).	<p>SE/TE: 77-78, 277-278, 279 Map It: 77 Lesson Assessment: 82 (#1)</p> <p>TE Only: Focus: 76</p>
2) Considering Earth's position within our solar system, use a model to demonstrate the causes of day length, seasons, and climate.	<p>SE/TE: 485-486, 487 Quick Lab: 486</p>
3) Analyze the composition of the Earth's atmosphere. Obtain information and use graphs to observe patterns regarding stability and change within the Earth's atmospheric composition (O ₂ , N ₂ , CO ₂ , etc.) over geologic time.	<p>SE/TE: 452, 462-463, 467 Go Outside: 467 Chapter Assessment: 478 (#17)</p> <p>TE Only: Focus: 452</p>
4) Differentiate weather and climate and analyze and interpret data examining naturally occurring patterns pertaining to each.	<p>SE/TE: 165, 458-460, 488-490 Real Data: 179 Graphs: 169-178</p>
5) Plan and carry out an investigation examining the chemical and physical properties of water and the impact of water on Earth's topography. Analyze data and share findings.	<p>SE/TE: 69-70, 420-425 Find Out More: 421 Map It: 422 Lesson Assessment: 71 (#3), 425 (#1, 2)</p>

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Tennessee Science Standards Environmental Science	Environmental Science
6) Develop a model to explain soil formation and the flow of matter in the rock cycle.	<p>SE/TE: 352-354, 355, 356-357, 395-397 Go Outside: 356, 396 Lesson Assessment: 357 (#1-3), 397 (#3, 4)</p>
EVSC.ESS3: Earth and Human Activity	
1) Research Earth's natural resources (renewable and nonrenewable resources). Construct an argument from evidence supporting the claim that a particular type of resource is important for humans.	<p>SE/TE: 6-7, 324-327, 420-421 Find Out More: 421 Ecological Footprint: 33 Lesson Assessment: 425 (#1)</p> <p>TE Only: Guiding Question: 324 Big Question: 325</p>
2) Interpret graphical data representing global human population growth over time. Look for patterns within this data and construct possible explanations for the patterns. Revise the explanations as needed based on research.	<p>SE/TE: 228-229, 229 (Figure 1), 230-231, 231 (Figure 4), 232 (Figure 5), 232-233 Real Data: 230 Lesson Assessment: 233 (#1-3) Chapter Assessment: 252 (#26), 253 (#33, 34)</p> <p>TE Only: Big Question: 231</p>
3) Obtain and evaluate information regarding demographics for a variety of countries. Construct an explanation for varying fertility rates and life expectancies between countries and throughout human history. Taking into account demographic transition, predict what trends are likely to occur in various countries over time.	<p>SE/TE: 234-235, 235 (Figure 8), 236 (Figure 9), 236-237, 238-241, 240 (Figure 12) What Do You Think: 235 Quick Lab: 237 Lesson Assessment: 241 (#1-5) Chapter Assessment: 252 (#28-30)</p> <p>TE Only: Guiding Question: 234 Big Question: 239</p>

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Tennessee Science Standards Environmental Science	Environmental Science
4) Gather, organize, analyze, and present data on current land use trends by humans. Based on analysis, predict future trends.	<p>SE/TE: 242-245, 292-294, 293 (Figure 2), 303 Lesson Assessment: 247 (#1, 3)</p> <p>TE Only: Guiding Question: 242, 292 Big Question: 245</p>
5) Plan and carry out an investigation examining best management practices in water usage, agriculture, forestry, urban/suburban development, mining, or fishing and communicate findings.	<p>SE/TE: 292-294, 297, 299-301, 305-308, 307 (Figure 15), 309-313, 324-329, 332-334, 337-339, 342, 362- 363, 381-382, 408-410, 432-434 What Do You Think: 306, 409 Go Outside: 310 Central Case: 291, 323 Point Counterpoint: 412-413 Unit Project: 320 Lesson Assessment: 313 (#1-6), 329 (#1-3), 336 (#1-4), 364 (#3), 411 (#2), 434 (#5) Chapter Assessment: 318 (#27-31)</p> <p>TE Only: Guiding Question: 305 Big Question: 296, 311, 333</p>
6) Use a model to make predictions regarding the impact of topsoil loss due to erosion resulting from human activity. Design, evaluate, and revise a solution to preserve topsoil.	<p>SE/TE: 358-361, 361-363 Lesson Assessment: 364 (#1, 5)</p> <p>TE Only: Guiding Question: 358 Big Question: 363</p>
7) Construct an argument including claim, evidence, and scientific reasoning regarding the impact of the Green Revolution on agricultural practices, food availability, and the environment.	<p>SE/TE: 368-372, 381-383 Lesson Assessment: 372 (#2, 3, 5), 383 (#1, 4) Chapter Assessment: 388 (#23)</p> <p>TE Only: Big Question: 368</p>

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Tennessee Science Standards Environmental Science	Environmental Science
8) Research information on the environmental impacts of genetically modified organisms and engage in debate regarding pros and cons of this agricultural technology.	SE/TE: 375-377 What Do You Think: 377 Lesson Assessment: 383 (#2) Chapter Assessment: 388 (#25)
9) Evaluate ecosystem services provided by forests ecosystems. Construct an explanation for human impact on these services.	SE/TE: 327 (Figure 3), 327, 328, 330-334, 335-336, 337-339, 342 What Do You Think: 328 Real Data: 332 Quick Lab: 334 Lesson Assessment: 336 (#1-4) Chapter Assessment: 348 (#26), 349 (#35)
10) Using scientific data, analyze effectiveness of conservation versus preservation efforts. Obtain and communicate information on organizations involved in protecting natural resources.	SE/TE: 215-217, 337-339, 362-363 Lesson Assessment: 217 (#3, 4)
11) Define problems and suggest solutions associated with using, conserving, and recycling energy and mineral resources taking into account economic, social, and environmental costs and benefits.	SE/TE: 398-402, 405-411, 520-521, 524-526, 527-528, 530-535, 539-541 What Do You Think: 409, 540 Map It: 402, 534 Real Data: 530 Quick Lab: 520 Central Case: 515 Point Counterpoint: 412-413 Ecological Footprint: 417 Lesson Assessment: 404 (#4), 411 (#1-4), 528 (#6), 535 (#2, 5), 541 (#5) TE Only: Guiding Question: 536 Big Question: 400, 407, 532, 540

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Tennessee Science Standards Environmental Science	Environmental Science
<p>12) Ask questions about technology needed to develop alternative energy sources and obtain information from various sources to answer those questions.</p>	<p>SE/TE: 550-555, 556-560, 561-566, 566-569, 570-573 What Do You Think: 553 Go Outside: 564 Map It: 568 Real Data: 552 Point Counterpoint: 574-575 Lesson Assessment: 555 (#1, 4), 560 (#4), 569 (#5), 573 (#3) Chapter Assessment: 579 (#35, 37)</p> <p>TE Only: Guiding Question: 556, 561, 570 Big Question: 554, 558, 566</p>
<p>13) Analyze and interpret data on the effects of land, water, and air pollution on the environment and on human health. Propose solutions for minimizing pollution from specific sources.</p>	<p>SE/TE: 273-274, 363-364, 368-371, 437, 438 (Figure 19), 439-443, 463 (Figure 12), 464, 469-473 Real Data: 471 Lesson Assessment: 276 (#2, 4), 443 (#4)</p> <p>TE Only: Big Question: 368, 470</p>
<p>14) Obtain and communicate information on environmental laws pertaining to the regulation of pollution and on regulatory agencies. Provide a specific example of how a given business/industry would comply with such regulations.</p>	<p>SE/TE: 46-47, 48-51, 52-53, 439, 441-442, 462-463, 469, 470-473 Real Data: 51, 471 Success Stories: 56-57 Lesson Assessment: 364 (#3), 473 (#1, 3) Chapter Assessment: 61 (#31, 32)</p> <p>TE Only: Guiding Question: 48 Big Question: 53</p>

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Tennessee Science Standards Environmental Science	Environmental Science
15) Evaluate current methods of waste management and reduction and design possible improvements.	<p>SE/TE: 582-588, 589-595, 596-603 What Do You Think: 594 Central Case: 581 Find Out More: 587 Quick Lab: 591 A Closer Look: 604-605 Ecological Footprints: 609 Lesson Assessment: 588 (#2, 3), 595 (#3), 603 (#3, 6) Chapter Assessment: 609 (#33, 34)</p> <p>TE Only: Guiding Question: 589, 596 Big Question: 583, 592, 597</p>
16) Obtain, evaluate, and communicate scientific information tracing the breakdown of ozone caused by chlorofluorocarbons and the effectiveness of efforts to address this environmental problem.	<p>SE/TE: 14-20, 472-473 Central Case: 3 Go Outside: 19 Lesson Assessment: 473 (#2)</p>
17) Using mathematics and computational thinking, analyze data linking human activity to climate change. Design solutions to address human impacts on climate change.	<p>SE/TE: 491-492, 493-495, 495-496, 496 (Figure 10), 500-501, 502-507 Real Data: 493 Science Behind the Stories: 508-509 Ecological Footprint: 513 Chapter Assessment: 513 (#33-37)</p> <p>TE Only: Guiding Question: 502 Big Question: 495</p>
18) Use mathematics to calculate ecological footprints. Develop a personal plan for reducing your impact on the environment.	<p>SE/TE: Ecological Footprint: 61, 95, 197, 223, 289, 319, 389, 449, 479, 513, 547, 579, 609</p>

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Tennessee Science Standards Environmental Science	Environmental Science
EVSC.ETS2: Links Among Engineering, Technology, Science, and Society	
1) Engage in argument from evidence on the role engineering and technology play in a sustainable human society.	<p>SE/TE: 246-247, 305-312, 313 What Do You Think: 306 Go Outside: 310 Lesson Assessment: 247 (#2), 313 (#1, 2, 4, 5)</p> <p>TE Only: Guiding Question: 305 Big Question: 311</p>
2) Research and communicate information on an environmental science career. Analyze the role of society, engineering, technology, and science in that career.	<p>SE/TE: 5-6, 12-13, 14-20, 24-27, 30-41, 42-43, 46-47, 48-50 Go Outside: 19 Quick Lab: 37</p> <p>TE Only: Big Question: 39</p>
EVSC.ETS3: Applications of Science	
3) Plan and carry out an investigation of a local ecosystem to assess human impacts. Based on your findings, design and evaluate a solution to minimize impacts.	<p>SE/TE: 53-55 Lesson Assessment: 55 (#4) Unit Projects: 96, 224, 320, 480, 610</p>