

INSTRUCTIONAL MATERIALS PUBLISHERS

Bid Item

Course: Biology 1 (2000310)

Title: HMH Science Dimensions, Biology , Edition: First

Copyright: 2018

Author: Nowicki

Grade Level: 9 - 12

Publisher Questionnaire

AUTHORS & CREDENTIALS: LIST FULL NAME OF AUTHOR(S), WITH MAJOR OR SENIOR AUTHOR LISTED FIRST. BRIEFLY PROVIDE CREDENTIALS FOR EACH AUTHOR.

Stephen Nowicki, Ph.D., Bass Fellow and Professor, Departments of Biology, Psychology, and Neurobiology, Duke University Stephen Nowicki is Bass Fellow and Professor in the Departments of Biology, Psychology, and Neurobiology at Duke University. He has been at Duke since 1989, and he was appointed Dean of Natural Sciences there in 2004 and a few years later became the Dean of Undergraduate Education. He has taught an upper-level neurobiology course at Duke and currently teaches upper-level and graduate courses on animal behavior and communication. Dr. Nowicki's research explores proximate mechanisms underlying the evolution of behavior. He is especially interested in the structure, function, and evolution of animal communication systems, using birdsong as a model system. His current research includes work on the evolution of signal complexity, constraints on signal evolution, and mechanisms of signal production and perception. This work has been funded by the National Institutes of Health, the National Science Foundation, and several private foundations. He introduced major curricular reforms to the introductory biology course at Duke, emphasizing both a novel conceptual organization and the development of small-group active learning exercises conducted in "seminar" groups embedded in the larger class as a whole. Among his professional activities, Nowicki is currently serving in the four-year presidential cycle of the Animal Behavior Society, and he serves regularly on proposal review panels for the Animal Behavior Program of the National Science Foundation. Dr. Nowicki received BS and MS degrees from Tufts University. He received his Doctorate in Neurobiology and Behavior at Cornell University.

STUDENTS: DESCRIBE THE TYPE(S) OF STUDENTS FOR WHICH THIS SUBMISSION IS INTENDED.

HMH Science Dimensions: Biology © 2018 is a high school core science curriculum designed for all learners in the general education setting, including those who perform on grade level, below grade level, and above grade level, as well as English Language Learners. The HMH Science Dimensions program extends from Kindergarten through Grade 12, giving students coherence and continuity in their science curriculum across the elementary, middle, and high school years.

1. LIST THE FLORIDA DISTRICTS IN WHICH THIS PROGRAM HAS BEEN PILOTED IN THE LAST EIGHTEEN MONTHS.

Not Applicable

2. HOW ARE YOUR DIGITAL MATERIALS SEARCHABLE BY FLORIDA STATE STANDARDS (SECTION 1006.33(1)(E), FLORIDA STATUTES)?

HMH Science Dimensions: Biology does not align with Florida's Next Generation Sunshine State Standards (NGSSS). Instead, this program reflects the national Next General Science Standards (NGSS). The HMH Science Dimensions: Biology program's team of authors and advisors includes key members of the group that drafted the NGSS. Their critical work and feedback ensures that HMH Science Dimensions: Biology comprehensively meets the letter and the spirit of these national standards and their Performance Expectations. Full-text standards correlations are provided in the print and digital Teacher Edition and Student Edition. In the Teacher Edition, each Unit Opener includes an NGSS Across the Grades table, which displays the connections among concepts across the elementary, middle, and high school levels. Each Unit Opener also includes a Unit Prerequisite Knowledge note that provides a bulleted list of the concepts that students should understand before starting the unit. At the lesson level, each Lesson Opener includes a Build on Prior Knowledge note, which lists the prerequisite concepts for the current lesson, as well as suggested verbiage and activities for activating students' prior knowledge. The online teacher resources include the powerful online Trace Tool, which gives teachers a user-friendly view of the Next Generation Science Standards, their correlations to the lessons and resources, and they ways they connect and spiral across the grade levels, from Kindergarten to Grade 12. The full-text standards and Performance Expectations appear, along with the Scientific and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), and Disciplinary Core Ideas (DCIs). A grade-level overview for the scope of the NGSS standards address for the entire school year is also available from the Trace Tool.

3. IDENTIFY AND DESCRIBE THE COMPONENTS OF THE MAJOR TOOL. The Major Tool is comprised of the items necessary to meet the standards and requirements of the category for which it is designed and submitted. As part of this section, include a description of the educational approach of the submission.

Educational Approach (The information provided here will be used in the instructional materials catalog in the case of adoption of the program. Please limit your response to 500 words or less.)

HMH Science Dimensions is the first program from a major provider to be designed for, not just aligned to the Next Generation Science Standards. This dynamic program introduces a comprehensive solution to the market, giving students coherence and continuity in their science curriculum across Kindergarten through Grade 12. The HMH Science Dimensions powerfully develops college and career readiness with 100 percent alignment to the NGSS, embedded Performance Expectations, and a consistent pedagogical framework across the grade levels. The program immerses students in the most contemporary science learning environment and engages them in continuous active participation and exploration. Each lesson is organized by the 5E Instructional Model (Engage, Explore, Explain, Elaborate, and Evaluate) and presented as an activity. This transcends the outdated approach in which a lesson was dotted with a few loosely connected, discrete activities. The program's activity-centric design further aligns to the pedagogical approach espoused by NGSS. The activities display the presence and interaction of the three dimensions of the NGSS. Students are presented with a discrepant phenomenon or problem to solve in Can You Explain It? or Can You Solve It? as the lesson is introduced, and they embark on three-dimensional Hands-On Labs and Explorations that thoroughly engage them in scientific thinking. Unique features like lesson-specific Thing Explainer comic strips from cartoonist Randall Munroe of xkcd webcomics present content in fun ways. To further support inquiry and engagement, HMH Science Dimensions: Biology employs the established Claims-Evidence-Reasoning (CER) Framework, which develops students' ability to construct explanations of scientific phenomena or discrepant events. Notebooking is a fully integrated practice in HMH Science Dimensions programs, and Evidence Notebook prompts throughout every lesson in the Student Editions guide the gathering and recording of evidence, information, and reasoning. At the close of each lesson, students reflect upon their findings from the Hands-On Lab, collaborative investigations and discussions, Explorations, Engineer It and Do the Math activities, and the self-chosen Take It Further task, and they revisit the Can You Explain It? or Can You Solve It? question. There, they evaluate evidence they gathered in their Evidence Notebooks and determine if the claim has been supported or challenged. They summarize the evidence, write about their reasoning, and describe the ways their understanding changed over the course of the lesson. The program takes STEM-based learning and engagement to new heights with its online HTML5-formatted interactive text, vibrant visual representations, Google Expeditions virtual reality field trips, and a dynamic collection of hands-on and virtual learning experiences. Robustly differentiated instruction, high-quality resources, and an interactive approach to teaching and learning make content accessible to students of various academic and language proficiency levels. HMH Science Dimensions: Biology is the program that has the power to help Florida's districts meet goals and make a successful transition to the NGSS's new ways of teaching and learning science.

Major Tool - Student Components Describe each of the components, including a format description.

Student Edition • Student Edition: Print edition: The HMH Science Dimensions: Biology print Student Edition is well-organized, visually appealing, and easily portable. This core text is a hardcover book with full-color pages. The reader-friendly layout includes manageable chunks of text, vibrant images that directly connect to the lesson content, and helpful headings. • Student Edition: Online Interactive Edition (HTML5): The full-color HMH Science Dimensions: Biology Student Edition is available as an HTML5-formatted textbook that invigorates learning. The online interactive textbook includes embedded videos, tech-enhanced inputs for responses, a natural-voice text reader, an interactive table of contents, and numerous embedded lesson-specific materials and multimedia features that can be launched directly from the lesson pages. Tools for note-taking, highlighting, annotating, and bookmarking are built into the online interactive textbook. Please visit <http://www.hmhco.com/shop/education-curriculum/science/science-dimensions> for more details. • Student Edition: HMH Player App (HTML5): HMH also offers the dynamic HMH Player App, which gives online and offline access to the HMH Science Dimensions: Biology Student Edition, materials and resources, and interactive components. The award-winning HMH Player App offers collaborative functionality and customization capabilities that transform teaching and learning. Functionality for real-time student-teacher chat, teacher feedback, and classroom collaboration are included. With the HMH Player App, teachers can also upload their own non-HMH open resources into the lessons. Work can be done offline without missing a beat. All student work done in HMH Player while offline syncs to the Dashboards once the device reconnects to the Internet. For more information, please see <https://hnhco.box.com/v/HMHPlayerOverview>. • Student Edition: HMH eTextbooks App (EPUB3): Offline-ready versions of the HMH Science Dimensions: Biology Student Edition are available in downloadable EPUB3 format from the HMH eTextbooks App. This digital version of the print textbook delivers increased portability and embedded interactive features for use on desktops, laptops, Chromebooks, and Apple and Android tablets. The Student Edition from the HMH eTextbooks App includes links to resources at point-of-use and digital note-taking, highlighting, and annotation tools. Additional information about the HMH eTextbooks App is at <http://www.hmhco.com/classroom/classroom-solutions/digital-and-mobile-learning/hmh-etextbooks>. • Student Edition: Downloadable PDF: A downloadable PDF of the print version of the HMH Science Dimensions: Biology Student Edition are available from HMH's online platform. It can be downloaded to any compatible device for offline use. • Student Edition: Common Cartridge (available Nov. 2017): HMH Science Dimensions: Biology is also available in the IMS Global Common Cartridge Standard. This offering combines the high-quality curriculum with the IMS interoperability standards to deliver digital content that can be accessed in an IMS-conformant Learning Management System (LMS). The content in Common Cartridge consists of digital components such as the online textbooks and resources. It is all packaged for maximum flexibility to allow for individualization that meets the needs of all students. Houghton Mifflin Harcourt's Common Cartridge delivers the quality, consistency, reliability, and flexibility that optimize students' digital learning experience. Information about Common Cartridge is available at <http://www.hmhco.com/classroom/classroom-solutions/digital-and-mobile-learning/common-cartridge>. Test Prep • Florida Biology 1 End-of-Course Assessment Review and Practice Student Book (PDF and print): This resource prepares students for the content and format of Florida's state test. Full-length practice assessments are also included.

Major Tool - Teacher Components Describe each of the components, including a format description.

Teacher Edition • Teacher Edition: Print edition: The HMH Science Dimensions: Biology print Teacher Edition is well-organized, easily portable, and teacher-friendly. This hardcover text provides high-quality instructional support, robust differentiation, strategies and activities for all levels and styles of learners, and structured support for labs. • Teacher Edition: Online Interactive Edition (HTML5): The full-color HMH Science Dimensions: Biology Teacher Edition is available as an HTML5-formatted textbook that invigorates teaching. The online interactive textbook includes embedded videos, an interactive table of contents, and numerous embedded lesson-specific materials and multimedia features that can be launched directly from the lesson pages. Tools for note-taking, highlighting, annotating, and bookmarking are built into the online interactive textbooks. Please visit <http://www.hmhco.com/shop/education-curriculum/science/science-dimensions> for more details. • Teacher Edition: HMH Player App (HTML5): HMH also offers the dynamic HMH Player App, which gives online and offline access to the HMH Science Dimensions: Biology Teacher Edition, Student Edition, materials and resources, lesson planning tools, presentation tools, and interactive components. The award-winning HMH Player App offers

collaborative functionality and customization capabilities that transform teaching and learning. Functionality for real-time student-teacher chat, teacher feedback, and classroom collaboration are included. With the HMH Player App, teachers can also upload their own non-HMH open resources into the lessons. Work can be done offline without missing a beat. All teacher and student work done in HMH Player while offline syncs to the Dashboards once the device reconnects to the Internet. For more information, please see <https://hnhco.box.com/v/HMHPlayerOverview>. • Teacher Edition: Downloadable PDF: A downloadable PDF of the print version of the HMH Science Dimensions: Biology Teacher Edition is available from HMH's online platform. It can be downloaded to any compatible device for offline use. • Teacher Edition: Common Cartridge (available Nov. 2017): HMH Science Dimensions: Biology is also available in the IMS Global Common Cartridge Standard. This offering combines the high-quality curriculum with the IMS interoperability standards to deliver digital content that can be accessed in an IMS-conformant Learning Management System (LMS). The content in Common Cartridge consists of digital components such as the online textbooks and resources. It is all packaged for maximum flexibility to allow for individualization that meets the needs of all students. Houghton Mifflin Harcourt's Common Cartridge delivers the quality, consistency, reliability, and flexibility that optimize students' digital learning experience. Information about Common Cartridge is available at <http://www.hnhco.com/classroom/classroom-solutions/digital-and-mobile-learning/common-cartridge>. Test Prep • Florida Biology 1 End-of-Course Assessment Review and Practice Teacher's Guide (PDF and print): This resource offers professional guidance and answer keys that correspond to the students' resource. 4. IDENTIFY AND DESCRIBE THE ANCILLARY MATERIALS. Briefly describe the ancillary materials and their relationship to the major tool.

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Ancillary Materials - Student Components Describe each of the components, including a format description.

Handbooks • Handbooks (PDFs): The NGSS Cross-Cutting Concepts Handbook, NGSS Handbook Science and Engineering Practices Handbook, Math Handbook, and English Language Arts Handbook help students sharpen the content-area skills that facilitate successful learning. Google Expeditions • Google Expeditions (VR/HTML and Javascript coding): In partnership with Google, HMH brings you Google Expeditions virtual reality field trips that immerse students in captivating 3D, 360-degree panoramic explorations. With Google Expeditions virtual reality field trips and connected curricular resources, students are taken to various places in the real world through a simple Google Cardboard viewer and a mobile phone. Students actively engage in immersive virtual journeys to locations like Big Cypress National Preserve, Kennedy Space Center, the Florida Everglades, the Saturn V Rocket at NASA, and the Orange Blossom Cannonball Train. Teachers guide students through each inquiry-based virtual reality field trip by using a tablet, the Google Expeditions App, and the HMH Science Dimensions-Google Expeditions Teacher's Guide with HMH Science Dimensions: Biology-specific lesson resources. The Google Expeditions App is available for iPhones and Android-powered phones. Science Videos and Simulations • You Solve It (HTML5): You Solve It presents simulation-based learning experiences that include thought-provoking visuals and interactive questions. You Solve It starts off with an overview that provides the context and some basic instructions for using the open-ended simulation. While watching the simulation, students have complete control of the experience. They execute their own choices for gathering evidence and reaching a solution. At any time, students can visit the Support page for background information, tips, and a rubric. • Embedded videos (mp4): Videos that offer examples of concepts and/or contribute evidence to questions are embedded in the interactive Student Edition. Glossaries and Science Tools • Multi-lingual Glossary (PDF): This downloadable glossary presents key terms and definitions in English, Spanish, Chinese, Vietnamese, Khmer, Laotian, Arabic, Haitian Creole, Russian, and Portuguese. • Interactive Glossary (HTML5): The Interactive Glossary presents vocabulary and definitions along with audio and videos or other visuals. The Interactive Glossary includes terms and definitions in English and Spanish. • Science Tools: Accessible from the programs' online platform, the Science Tools include a Graphing Tool, Graph Paper, Scientific Calculator, Periodic Table Career-Focused Digital Materials • On the Job STEM videos: On the Job STEM videos, produced in partnership with CliffsNotes, bring the reality of STEM-based careers and professional tasks into the classroom. Each 4- to 5-minute episode (29 episodes in all) of On the Job follows real professionals in growing fields of science, technology, engineering, and math at some of the most exciting companies in the country. Aspiring artists can check out a day in the life of a graphic designer at Google. Sports fanatics can team up with a sports statistician at ESPN. Stargazers can explore how a NASA planetary scientist is helping plan a trip to Mars. The On the Job videos help students make connections to the content, spark interest in science studies, and encourage students to pursue STEM-based careers. Family Resources • Videos for Families (mp4): The Videos for Families offer easy-to-understand background information and explanations of the Next Generation Science Standards and related content.

Ancillary Materials - Teacher Components Describe each of the components, including a format description.

Teacher Editions of Handbooks • Teachers' versions of handbooks (PDFs): The teachers' versions of the NGSS Cross-Cutting Concepts Handbook, NGSS Handbook Science and Engineering Practices Handbook, Math Handbook, and English Language Arts Handbook include professional guidance and answer keys. • Lab and Safety Handbook (PDF): The Lab and Safety Handbook provide meaningful guidance that helps students get the most from their lab experiences in effective and safe ways. Google Expeditions Teacher's Guides • Google Expeditions (VR/HTML and Javascript coding): Teachers guide these virtual reality field trips by using the HMH Science Dimensions-Google Expeditions Teacher's Guide. The ready-made questions and corresponding activities guide students to think analytically and critically about what they have experienced and make connections to concepts presented in the HMH Science Dimensions: Biology lessons. Professional Development Videos • Professional Development Videos (HTML5/mp4): The Professional Development Videos help teachers transition to the Next Generation Science Standards with accurate and up-to-date support directly from HMH Science Dimensions authors. The Foundation videos explain the NGSS and the background related to their development. The Foundation videos are useful for educators and families. Engineering videos support teachers as they incorporate the engineering design process into their classrooms. The Challenging Content videos give teachers specific strategies for addressing certain areas of NGSS-based content that tend to be difficult for students. Standards Resources • Trace Tool (HTML5): The online teacher resources include the powerful online Trace Tool, which gives teachers a user-friendly view of the Next Generation Science Standards, their correlations to the lessons and resources, and they ways they connect and spiral across the grade levels. The full-text standards and Performance Expectations appear, along with the DCI, SEP, and CCC categories. A grade-level overview for the scope of the NGSS standards address for the entire school year is also available from the Trace Tool. • Common Core State Standards for ELA and Math Correlations (PDF and print/in texts): This resource shows the alignment of HMH Science Dimensions: Biology and the CCSS for English Language Arts and Math. The full-text standards are listed with the page citations in the Student Edition and Teacher Edition and applicable resources. Family Resources • Videos for Families (mp4): The Videos for

Families offer easy-to-understand background information and explanations of the Next Generation Science Standards and related content. Other Downloadable Digital Resources • Downloadable PDFs: Some of the other downloadable digital materials include PDF-formatted versions of the HMH Science Dimensions: Biology print Student Edition and Teacher Edition, Unit Project Worksheets, Unit Performance Task Worksheets, English Language Development Strategies sheets, Assessment Guides, and Hands-On Lab Worksheets. Assessments • Online assessment system (HTML5): HMH Science Dimensions: Biology includes an online system that offers assessment options and a test-item bank for lesson, unit, and module levels. Assessments include tech-enhanced items similar to those in computerized high-stakes tests. Teachers can schedule and administer assessments easily from the program's platform. Automatic scoring functionality is available for some items. The assessment system allows teachers to generate various reports at the individual student and class levels. • Assessment Guide (PDF and print): The Assessment Guide includes copymasters and answer keys for the Unit Pretests, Lesson Quizzes, Unit Tests, Performance-Based Assessments, Mid-Year Benchmark Assessment, and End-of-Year Benchmark Assessment

5. IDENTIFY WHICH INDUSTRY STANDARD PROTOCOLS ARE UTILIZED FOR INTEROPERABILITY?

HMH's educational technology supports the standards set forth by the IMS Global Learning Consortium.

6. HOW MUCH INSTRUCTIONAL TIME IS NEEDED FOR THE SUCCESSFUL IMPLEMENTATION OF THIS PROGRAM? Identify and explain the suggested instructional time for this submission. If a series, state the suggested time for each level. The goal is to determine whether the amount of content is suitable to the length of the course for which it is submitted.

This program is intended for use throughout one school year, in either a traditional daily schedule or a block schedule.

7. WHAT PROFESSIONAL DEVELOPMENT IS AVAILABLE? Describe the ongoing learning opportunities available to teachers and other education personnel that will be delivered through their schools and districts as well as the training/in-service available directly from the publisher for successful implementation of the program. Also provide details of the type of training/in-service available and how it may be obtained. (The information provided here will be used in the instructional materials catalog in the case of adoption of the program.)

Supporting Initial Program Implementation To ensure teachers have the knowledge to begin implementing their new HMH program, professional learning is provided with purchase. We understand that schools and districts need choices regarding delivery options; as a result, we offer a variety of delivery methods for this initial program learning. Clients may choose from courses listed below. Getting Started with Science Dimensions Participants engage in a variety of hands-on experiences to learn about Science Dimensions organization, design, and resources, through direct instruction, guided practice, and cooperative exploration, participants will experience the program's resources both from a student and teacher perspective. The goal is to build deeper understanding and confidence to begin implementing Science Dimensions in their respective learning environments. Learning Outcomes: • Enrich daily instruction by applying knowledge of Science Dimensions program organization and pedagogy • Support differentiation, assessment, and effective whole and small group instruction using HMH program resources and instructional tools • Enhance instructional delivery and student learning using HMH technology Audience: Teachers, Coaches, Administrators Delivery: In-person Time: Full-day, Half-day or Webinar Getting Started with Science Dimensions Train the Trainer As an alternative to Getting Started, leaders and educators can choose to build capacity internally. Our specialized team of consultants helps school and district trainers deliver initial program training at their respective sites. Learning Outcomes: • Enrich daily instruction by applying knowledge of Science Dimensions program organization and pedagogy • Support differentiation, assessment, and effective whole and small group instruction using HMH program resources and instructional tools • Enhance instructional delivery and student learning using HMH technology Audience: Teachers, Coaches, Administrators Delivery: In-person Time: Full-day Getting Started Leadership Webinar Designed specifically for district and school leaders and instructional coaches, the Getting Started Leadership Webinar provides an overview of the Science Dimensions program organization, lesson design, and support resources. The goal is to build deeper understanding of the program's alignment to standards as well as identify key teacher and student behaviors to observe in their learning environments. Learning Outcomes • Recognize program alignment to national standards • Understand program organization and resources that support differentiation, assessment, and effective whole and small group instruction • Identify teacher and student behaviors that positively impact student achievement when observing Science Dimensions classroom implementation and delivery Audience: Teachers, Coaches, Administrators Delivery: Webinar Time: 1 hour

8. WHAT HARDWARE/EQUIPMENT IS REQUIRED? Briefly list and describe the hardware/equipment needed to implement the submission in the classroom. REMEMBER: Florida law does not allow hardware/equipment to be included on the bid! However, schools and districts must be made aware of the hardware/equipment needed to fully implement this program.

Districts that choose to use the program's technology-based textbooks and components can use any of the following hardware/equipment: Operating systems: Chromebooks Windows 7, 8.1 desktop/tablet, 10 Mac 10.9, 10.10, 10.11 iOS 8 and 9.7"+ screen Android 4.4 and 5.7"+ screen Minimum RAM: 512 MB Hard drive space needed: Core program: less than 1 GB

9. WHAT LICENSING POLICIES AND/OR AGREEMENTS APPLY? If software is being submitted, please attach a copy of the company's licensing policies and/or agreements.

See Attached

10. WHAT STATES HAVE ADOPTED THE SUBMISSION? List some of the states in which this submission is currently adopted.

This program is brand new and has not been adopted in other states as of this time.

11. WHAT OPEN EDUCATIONAL RESOURCES RELATED TO THIS BID DO YOU MAKE AVAILABLE(S)? List and describe each of the components, including a format description. (Open Educational Resources (OER) are high-quality, openly licensed, online educational materials that offer an extraordinary opportunity for people everywhere to share, use, and reuse knowledge.)

Open Educational Resources are not included in the HMH Science Dimensions: Biology program.

12. ALTHOUGH NOT CALLED FOR IN THE STATE ADOPTION, DO YOU HAVE ADVANCED PLACEMENT (AP) OR ACCELERATED PROGRAM INSTRUCTIONAL MATERIALS AVAILABLE FOR THE COURSE(S) BID FOR ADOPTION?

HMH does not offer an Advanced Placement or Accelerated version of HMH Science Dimensions: Biology.

13. WHAT, IF ANY, FOREIGN LANGUAGE TRANSLATIONS DO YOU HAVE AVAILABLE?

The HMH Science Dimensions: Biology program will be available in Spanish in early 2018. The Florida Biology 1 End-of-Course Assessment Review and Practice Student Book and Teacher's Guide will be available in Spanish. The English-language program includes a multi-language glossary that presents key terms and definitions in English, Spanish, Chinese, Vietnamese, Khmer, Laotian, Arabic, Haitian Creole, Russian, and Portuguese. Also included is an English-Spanish interactive glossary that delivers vocabulary and definitions with visuals or video and English and Spanish audio text readers.