

2018 Instructional Material Summer Review Institute
Grade K-12: Science Instructional Material
Review Team Appraisal of Title – K-12 Science Education

This information is provided for local school boards and governing authorities of charter schools to consider in their selection process to meet the needs of their student population.

Text Title:	<u>Science Bits: NGSS Earth and Space Science</u>	Publisher:	<u>Learning Bits, Inc.</u>
Course:	<u>Science</u>	Grade Level:	<u>6-8</u>
SE ISBN:	<u>9781947342279</u>	TE ISBN:	<u>0020</u>
SW ISBN:	<u>9781947342316</u>		

SECTION 1 – NM Content Standards, Benchmarks and Performance Standards

Reviewer # and Section 1 Total: #22 TOTAL 91% #23 TOTAL 98.3% #24 TOTAL 88.1%
 Average Score: 92.5%

Review Team Assessment of material’s compliance with Section 1:
 The program is aligned to the NGSS. There was evidence of spiraling concepts and connections of DCIs, but lacks the rigor expected in the aspects of argumentative writing, connected to the CCSS for ELA. *Science Bits* curriculum is dynamic and engaging. The images in the high quality videos support complex concepts to help all students develop the macro to micro system structure within the CCC’s and SEP’s. The sequencing of materials is well done, and the materials are generally student centered and student driven. The curriculum as a whole is very easy to navigate between the Chapters and the 5 E’s (Engage, Explore, Elaborate, Explain, and Evaluate) of each lesson. *The School Water use Group Project*, gives students the opportunity to collaborate, and synthesize content individually and collectively in a PBL format. Students then present their findings and solutions to real world problems.

SECTION 2 Publisher’s Criteria

Reviewer # and Section 2 Total: #22 TOTAL 96.2% #23 TOTAL 100% #24 TOTAL 89%
 Average Score: 95.1%

Review Team Assessment of material’s compliance with Section 2:
 The content is accessible to different levels of learners and learning styles, however, it lacks “Equity,” to support diverse cultures. Both formative/informal and summative/assessment opportunities are present. The materials reviewed are user friendly for any level teacher, with any number of years of experience. While the *Science Bits* program utilizes excellent academic content vocabulary, it lacks the EL components needed for students who are not monolingual English Speakers, and generalized EL speakers as being, “Spanish speakers.”

Reviewer Comments

Reviewer #: 22 Reviewer Background: Level III 6th gr Earth Science teacher with 7 years teaching experience, BS in Biology, MA Elementary Education
 Comments: The curriculum was engaging and well-organized, but I think I would have to fill in the gaps in some places where it needed to go more in depth.

Reviewer #: 23 Reviewer Background: level III 7th gr Life Science teacher with 10 years teaching experience in the US, Bachelor in Elementary Education, major in General Science, minor in Social Studies, MA Special Education Pre-K-12. TESOL Endorsed.
 Comments: The curriculum in the texts were easy to understand especially for the students. It showed the 5 Es’ which are very essential to the students’ learning. The site is user friendly, with many hands on activities and videos which are very interesting, and aligned to the NGSS. Assessment tools are also available for teacher use.

Reviewer #: 24 Reviewer Background: Level II, K-8, Sixth Grade Science teacher (Level III pending/ Middle Level 5-9 license pending with a Science endorsement) with eight years teaching experience. Endorsements in Agriculture and Psychology. Earned a Highly Effective rating for 2016-17. GLAD trained, level 1. Part of the LANL ISEC Leader Cadre. MA in Curriculum and Instruction from NMSU. Participated in EoC writing, and participated in Materials Review previously.
Comments: The curriculum was well done, but lacks depth in the areas of differentiated learning, specifically for struggling students and those who are EL. EL does not refer to, "Spanish Speakers," only.

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Text Title:	<u>Science Bits: NGSS Life Science</u>	Publisher:	<u>Learning Bits, Inc.</u>
Course:	<u>Science</u>	Grade Level:	<u>6-8</u>
SE ISBN:	<u>9781947342231</u>	TE ISBN:	<u>9781947342248</u>
SW ISBN:	<u>9781947342309</u>		

SECTION 1 – NM Content Standards, Benchmarks and Performance Standards

Reviewer # and Section 1 Total: #19 TOTAL 97% #20 TOTAL 93.7% #21 TOTAL 97%
Average Score: 95.9%

Review Team Assessment of material’s compliance with Section 1:

The curriculum has some great resources and features built in such as videos, simulations, graphics, and learning progressions. Content is provided in a student friendly format, making information easily accessible. Illustrations, virtual models, and experiments have high levels of rigor and are aligned to the standards. The structure for the Science Bits curriculum is based on the 5E Instructional Model and embeds all of the elements associated with the 5E learning process. We would definitely recommend the curriculum because it does meet standards, however it is not a well -balanced curriculum incorporating speaking, writing, hands on investigations, and collaborations in groups. It is a digital curriculum and requires all students to have access to computers every day. If you were to use this within a regular classroom with instructor we would recommend supplementing to meet the needs of all the students in the classroom. We would like to see more hands-on labs and learning activities to address lower performing students and ELL students, more opportunities for the three dimensionality of NGSS within student groups for problem solving, which provides the opportunity for the students to demonstrate scientific thinking practices such as speaking, research, and student led inquiry to research phenomenon and solve problems. This curriculum would be best for students working independently.

SECTION 2 Publisher’s Criteria

Reviewer # and Section 2 Total: #19 TOTAL 100% #20 TOTAL 96.2% #21 TOTAL 100%
Average Score: 98.7%

Review Team Assessment of material’s compliance with Section 2:

Materials and procedures were visible for the labs, but specific safety guidelines were not visible in the citations provided. There were some hands-on experiments as cited in section 2 but were not easily accessed through the links provided in the citations.

Reviewer Comments

Reviewer #: 19

Reviewer Background: *2018 Course Map team for New Stem Ready standards and NGSS adoption, Teacher Liaison 17-18, Secretary Teacher Advisor 18-19, National Geographic certified, Exemplary in Science

Comments: The curriculum has some great resources and features built in such as the videos, simulations, graphics, and learning progressions. I would like to have seen more speaking, group projects, hands-on opportunities, and more student led inquiry opportunities for them to investigate in their schools and community, rather than pre-selected labs and topics. Overall it is a curriculum I would recommend with supplemental speaking, writing, and inquiry activities for students.

Reviewer #: 20

Reviewer Background: 22 years of teaching experience, Science Literacy Coach (4 years), LANLF Teacher Leader Cadre, MSS Facilitator for NMPED.

Comments: The curriculum is well designed and aligned with NGSS. Content is provided in a student friendly format, making information easily accessible. Illustrations, virtual models and experiments are well thought out and impressive. Introduction of more hands on lab experiences for students would really enhance the curriculum.

Reviewer #: 21

Reviewer Background: Master's in Curriculum, Instruction, and Assessment, 21 years Middle School Math/Science experience in the classroom, Teacher Leader for Math Dept., NMLead Project, Admin certification, Golden Apple nominee, Educators Rising leader, MC2 collaborator

Comments: Definitely a constructivist model approach. A plethora of teacher and student resources that support the use of technology in the classroom. The structure for the Science Bits curriculum is based on the 5E instructional model and embeds all of the elements associated with the 5E learning process. Most of the engagement is through simulations and virtual labs followed by a discussion activity accessing students' prior knowledge. Many of the inquiry-based activity challenges found within the Explore include virtual experiments, interactive explorations, Predict-Observe- and Explain video activities that can be performed independently, as whole class or in small groups. PBL tasks accompany each unit and are relevant and I think would appeal to students' interest. The topics for the majority of activities are pre-selected. It would be nice to offer more student choice, however the pre-selected topics would be of great support to a teacher that may not be as comfortable or experienced in teaching Science. As a whole, the curriculum is well designed and definitely aligns with the NGSS.

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Text Title:	<u>Science Bits: NGSS Physical Science</u>	Publisher:	<u>Learning Bits, Inc.</u>
Course:	<u>Science</u>	Grade Level:	<u>6-8</u>
SE ISBN:	<u>9781947342255</u>	TE ISBN:	<u>9781947342262</u>
SW ISBN:	<u>9781947342286</u>		

SECTION 1 – NM Content Standards, Benchmarks and Performance Standards

Reviewer # and Section 1 Total: #16 TOTAL 95.9% #17 TOTAL 93.4% #18 TOTAL 94.6%
Average Score: 94.63%

Review Team Assessment of material’s compliance with Section 1:

- The compliance of the assessment materials is completely in line with the NGSS and 6 NM Specific Standards. Easy to follow and understand for both students and teachers.
- The curriculum includes differentiated instruction for all types of learning styles, rigorous activities/experimentations, and performance tasks that students need to perform.
- The curriculum is very user friendly for teachers and students
- The assessments are diverse and provide ample opportunity to allow for teachers and students the opportunity to show mastery and progress.
- Grade and assignment tracking is fantastic. The grade book is easy to use.
- The assessments are set up to mirror the state and national assessments
- The science vocabulary terms are strongly emphasized and used continually throughout the text
- The content is very rich that showing progression of knowledge and scaffolding of concepts.

SECTION 2 Publisher’s Criteria

Reviewer # and Section 2 Total: #16 TOTAL 96.30% #17 TOTAL 100% 3. #18 TOTAL 96.30%
Average Score: 97.53%

Review Team Assessment of material’s compliance with Section 2:

- The curriculum achieves and often exceeds what is expected.
- Provides authentic learning for students in multiple ways.
- Students are provided with experience to speak and write their learning in every lesson they take.
- Materials are grade-appropriate, easily accessible and have scientifically accurate learning goals.
- The curriculum incorporates integration from multiple areas like reading, writing, art and math.
- Materials provide a variety of cultural perspective to account for various background.
- The curriculum is easy to follow and integrates technology to support students’ learning.
- All units are available in English and Spanish.
- Teachers are provided with additional instructional resources to update their instructions to meet the needs of ELL.
- Guidelines are provided for teachers throughout the teachers’ guide.
- Real-life examples and phenomenon are provided to enrich students’ learning.

Reviewer Comments

Reviewer #: 16 Reviewer Background: 19 years as an educator. Taught Science at multiple grade levels.
Comments: The curriculum is very detailed and user friendly. The content and activities are engaging and provide multiple opportunities for teacher and student success.

Reviewer #: 17 Reviewer Background: 16 years of teaching experience as a Science teacher

Comments: The curriculum provides multiple opportunities for teacher to differentiate, extend and enrich instructions. It also help students learn in multiple ways through videos, animations, experimentations and research.

Reviewer #: 18 Reviewer Background: 15 years of teaching science from 7-12

Comments: I found this material some of the best instructional engagement I have ever seen. Technology can be confusing, however, this product is user friendly. As I was reviewing I couldn't help but think of the different ability levels and how this could engage all students. It is perfect for individual, group and pairs. It meets all of the NGSS standards and can greatly enhance student achievement.