

MDE Instructional Materials Evaluation for Alignment: Guidelines for Textbook

Subject: McGraw-Hill Education Middle School Science Series - **iScience**

Use the following Rubric to Rate each Criteria Indicator

**STRONG EVIDENCE (meets 80-100%) = 5;      MODERATE EVIDENCE (meets 50 – 79%) = 3;      NO EVIDENCE (meets less than 50%) = 0**

**Section**

**1: Alignment to Standards – This is a requirement for submission.**

CRITERIA	INDICATORS OF SUPERIOR QUALITY	RATING 5, 3, 0	COMMENTS WITH EXAMPLES
<p>(1) <b>ALIGNMENT AND ACCURACY</b> Materials adequately address the <i>Mississippi College- and Career-Readiness Standards (MS CCRS) for Science</i>. Explaining phenomenon and designing solutions drive student learning.</p> <p><input checked="" type="checkbox"/> YES      <input type="checkbox"/> NO</p>	<p>1a) The majority of the <i>MS CCRS for Science</i> performance objectives are incorporated, to the full depth of the standards.</p>		<p>The 3-course series contains many examples of the cross-cutting concepts, science and engineering practices, and discipline-specific core ideas outlined in the Next Generation Science Framework. Examples are listed below:</p> <p>Cross-cutting concepts</p> <ul style="list-style-type: none"> <li>Two pages at the beginning of each unit focus on cross cutting concepts such as modeling, patterns, and systems.</li> <li>Concepts such as modeling, interpreting cause and effect, determining patterns, and recognizing scale, proportion and quantity are practiced throughout the program in activities and assessments.</li> </ul> <p>Science and Engineering Practices</p> <ul style="list-style-type: none"> <li>The Nature of Science chapter at the beginning of each book describes the processes of science and allows for detailed analysis of these practices in the Case Study.</li> <li>Laboratory activities throughout the program emphasize science practices including asking questions, using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, gathering and communicating data, and critical thinking.</li> <li>STEM Activities for each unit provide opportunities for longer, project-based learning practices. Each activity requires applications of engineering, math, and science. These activities are available online.</li> </ul> <p>Discipline-Specific Core Ideas</p> <ul style="list-style-type: none"> <li>The concepts outlined in the Framework are covered in detail within each iScience book.</li> </ul> <p>The iScience 3-course series falls well within the recommended text complexity and expectations of the Mississippi College and Career Readiness Standards. Student Edition Lexile scores are listed below. These are validated scores compiled by Metametrics, the company that provides this type of assessment. The Lexile Framework for Reading matches reader ability and text difficulty, allowing individualized monitoring of progress. Lexile measures are based on two well-established predictors of how difficult a text is to comprehend: semantic difficulty (word frequency) and syntactic complexity (sentence length). Lexile measures allow educators to manage reading comprehension. Matching a reader’s Lexile measure to a text</p>

		<p>with the same Lexile measure leads to an expected 75 percent comprehension rate – not too difficult to be frustrating, but difficult enough to be challenging and to encourage reading progress.</p> <p>Crosscutting Concepts are themes that appear throughout all branches of science and engineering. These are not directly correlated but are found implicitly in the other correlations listed on the page. The cross-cutting concepts are found within the Problem Based Learning, the performance tasks, the webquests and stemquests, and many of the inquiry exercises. Patterns, models, energy flow and the other crosscutting concepts are experienced throughout.</p> <p>Upon adoption, correlations to the <i>MS CCRS for Science</i> can be provided upon request.</p>
	<p><b>1b) Observing and explaining phenomenon and designing solutions</b> provide the purpose and opportunity for students to engage in learning.</p>	<p>Throughout many activities, students are exploring phenomena either through a guided investigation or one that is more open ended. Students begin by asking questions then proposing a hypothesis or making a prediction. During the investigation, they collect data as they manipulate a variable. After completing the investigation, they draw conclusion and are asked to present their findings to the class. These steps are clearly indicated throughout the students' investigations.</p> <p>There are a number of the hands-on investigations that are “Design Your Own” and require students to develop testable questions and to design experiments using scientific inquiry. The program also has Stem Activities and Project Based Learning exercises that require the student to do the same.</p> <p>Lessons approach learning through Engage, Explore, Explain, Evaluate, and Extend. Engage sections stimulate student interest. Explore provides opportunities for inquiry and delivers hands-on experience when exploring each concept based on real-world problems. Explain builds opportunities to learn new vocabulary, hold collaborative conversations, and build arguments. Evaluate assesses student understanding with remediation options. Extend links big ideas to cross-curricular topics, other real-world examples, and STEM careers. Visuals are used to help students dissect the text and build literacy skills in both informational text and fiction. Graphic organizers are used throughout the Be A Scientist Notebook with integrated Foldables and Visual Kinesthetic Vocabulary by Dinah Zike.</p> <p>Real-world connections are made throughout the problem-solving inquiry activities that also draw on cross-curricular opportunities made through career connections and the application of engineering and design skills. There are a number of the hands-on investigations that are “Design Your Own” and require students to develop testable questions and to design experiments using scientific inquiry. The program also has Stem Activities and Project Based Learning exercises that require the student to do the same.</p> <p>iScience has a variety of materials for universal instruction including leveled materials, a lower level reader of the text and a reading coach. The optional adaptive program LearnSmart that targets each student and support their reading and the understanding of the program. The teacher’s edition has pedagogical practices and suggestions for struggling students, on level students, beyond level students and English Language Learners. The chapter resources contain a variety of support materials for all levels.</p>
	<p>1c) Science content is</p>	<p>McGraw-Hill Education and McGraw-Hill School Education, LLC, are committed to publishing</p>

	<p><b>accurate</b>, reflecting the most current and widely accepted explanations and research.</p>	<p>pedagogically sound, high-quality, educational material that is fair, unbiased, and that recognizes the unique contributions of people of all races, cultures, and faiths. To ensure that our textbooks meet these high standards, all textbooks are authored by scholars and educators who are recognized experts in their areas of specialty. McGraw-Hill School Education, LLC also submits manuscripts to independent scholars and teachers for their review. To reach consensus on information with divergent interpretations, the recommendations of these educators and specialists are reviewed and discussed among the author and Academic Designers until final consensus is negotiated; changes are then incorporated into the manuscript to ensure that the materials are accurate and unbiased, present the materials in an age-appropriate and meaningful manner, and reflect the most current research in the subject area.</p>
<p><b>(2) THREE-DIMENSIONAL LEARNING</b> Students have multiple opportunities throughout each unit to develop an understanding and demonstrate application of the three dimensions.</p> <p><input checked="" type="checkbox"/> YES      <input type="checkbox"/> NO</p>	<p>1d) Engineering Design Processes are addressed especially in grades K-8.</p> <p>2a) Materials include and emphasize the science and engineering practices and crosscutting concepts that integrate into the disciplinary core ideas for the <i>MS CCRS for Science</i>.</p>	<p>Science and Engineering Practices:</p> <ul style="list-style-type: none"> <li>• The Nature of Science chapter at the beginning of each book describes the processes of science and allows for detailed analysis of these practices.</li> <li>• Laboratory activities throughout the program emphasize science practices including asking questions, using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, gathering and communicating data, and critical thinking.</li> <li>• STEM Activities for each unit provide opportunities for longer, project-based learning practices. Each activity requires applications of engineering, math, and science. These activities are available online.</li> <li>• The Project-Based Learning activities engage students in all of the Science and Engineering practices, as well as many of the cross-cutting concepts.</li> </ul> <p>Students are presented with multiple opportunities to explore and analyze real-world problems. The content of the program is written in the terms of understanding the world around us and the science behind it. With this in mind, students are presented with multiple opportunities to explore and analyze real-world problems and to look at science in authentic scenarios.</p> <p>A case study is presented at the end of the Nature of Science chapter at the beginning of the book. The students are challenged to apply science and engineering practices in a meaningful and consistent way. As they begin a unit of study, there is a review of one of the science and engineering practices or cross-cutting concepts. The teacher can assign a hands-on activity that involves that practice or concept, and the unit has an overarching STEM project that involves many of the practices and concepts around the DCIs in the unit and engages the student in authentic scenarios and requires them to create explanations.</p> <p>Each chapter begins with an essential question that addresses a phenomenon and a visual representation tied to that phenomenon in the world around them and thoughtful inquiry questions are raised to engage the student in consideration of the phenomenon. Each lesson then encourages the students to go deeper, in both inquiry and in researching the DCIs, to bring the nature of science to bear in the learning experiences they participate in and in reflecting on the Big Idea and the essential questions that surround the phenomenon.</p>

	<p>2b) There is <b>variability</b> in the tasks that students are asked to accomplish. The material requires students to apply and demonstrate their understanding in multiple ways.</p>	<p>Each chapter and lesson begins with Essential Questions that focus student learning and inquiry questions that involve critical thinking for students. Each lesson includes a Launch Lab for student discovery. In addition, Project-Based Learning Activities and the Science and Engineering Practices Handbook provide student engagement in the three dimensions of disciplinary core ideas, science and engineering practices, and cross-cutting concepts. The inquiry activities and labs are focused on phenomenon questions. The inclusion of real world relevance motivates students to explore the impact of earth science on the world.</p> <p>iScience includes a variety of assessment materials ranging from Page Keeley Science Probes for formative assessment, Self-Check Quizzes for student self-assessment in every lesson, prepare quizzes for each lesson, leveled chapter assessment, performance tasks and McGraw-Hill eAssessment, which is an online assessment generator the has question on all levels of DOK and Blooms along with Tech-Enhanced Questions. The program also has the option of LearnSmart, which is an adaptive review and learning program.</p> <p>In iScience, noted assessment expert and author Paige Keeley has written our prechapter formative assessment questions – also known as ‘probes’. These probes are designed to check students’ preconceptions, and misconceptions, prior to the chapter launch. Ongoing formative assessments are built within each lesson as well as through the ‘interactives’ or response prompts in the student text. These prompts provide opportunities for students to respond to the text and include such activities as recall, describe, determine, calculate, and observe. Students think about and reflect on their learning as they move through the lesson. The different types of lesson graphic organizers add even another dimension of assessment – providing teachers with insight into student thinking as they work to complete these visual ‘recollection’ pages.</p> <p>Further formative assessment guidance is provided in the Teacher Edition with the scaffolded guided questions giving teachers a window into student understanding as the lesson progresses. The eAssessment tool may be used as well to create any type of assessment. Teachers can create their own tests for formative, continuing, and summative assessments with this tool.</p>
<p><b>(3) DISCIPLINARY LITERACY</b> Materials have students engage with authentic sources and incorporate reading, writing, and communication skills to develop scientific literacy.</p> <p><input checked="" type="checkbox"/> YES      <input type="checkbox"/> NO</p>	<p>3a) Materials provide a coherent sequence of authentic science sources that build scientific vocabulary and knowledge over the course of study. Vocabulary is addressed as needed in the materials but not taught in isolation</p>	<p>Students build on previous knowledge and skills to gain understanding of more complex processes and concepts. Lessons built around Big Ideas and Essential Questions include real-world connections, and alternative teaching strategies are provided so that science is accessible to all students. In addition, the teaching strategies presented in the Teacher Edition support the overarching principles of science inquiry, scientific discussion and debate, formative and summative assessment of student understanding, and connection to other areas of learning.</p> <p>Conceptual understanding in iScience is developed through a scaffolded approach starting with the Big Idea for each chapter. Each lesson begins with Essential Questions, and each learning object is then built on this framework. Conceptual understanding is further enhanced with graphic organizers, lab activities, inquiry and STEM activities, and rigorous assessments. Standards are interwoven throughout the lessons and are prominent. Vocabulary is developed</p>

	of deeper scientific learning.		<p>with lesson lists, comprehensive definitions, and highlighting. Vocabulary development is also enhanced with review vocabulary, word origins, word pronunciations, science usage versus common usage, and academic vocabulary. In addition, an on-line multilingual glossary is available in 13 languages.</p> <p>Teacher guidance for providing instructional materials in iScience is provided on each page of the Teacher Edition, both print and on-line. Guiding questions on each page are labeled with Approaching Level, On Level, Below level, and English Language Learner icons to help teachers scaffold their instruction. In addition, each page contains a Differentiated Instruction guide that provides additional strategies for all levels of learners. State standards are also provided at point-of-use to enable teachers to provide additional support. Student materials include a variety of labs, worksheets, and reading supplements that may be leveled appropriately.</p>
	3b) Materials address the necessity of using <b>scientific evidence</b> to support scientific ideas.		All of the activities, Applying Practices, Webquests, STEMquests, Inquiry Activities, contain detailed teacher plans giving the teachers the freedom to give a high level of support or a minimal level of support. The teacher then controls the amount of support and can help students become more independent and can then draw their own conclusions and learn to cite evidence and make strong arguments to support the solutions to their problems.
<b>CRITERIA</b>	<b>INDICATORS OF SUPERIOR QUALITY</b>	<b>RATING 5, 3, 0</b>	<b>COMMENTS WITH EXAMPLES</b>
	3c) Students are offered connections with authentic sources that represent the language and style that is used and produced by scientists. Examples could include journal excerpts, authentic data, photographs, sections of lab reports, and media releases of current science research. Frequency of engagement with authentic sources should increase in		<p>Students are presented with multiple opportunities to explore and analyze real-world problems.</p> <p>The content of the program is written in the terms of understanding the world around us and the science behind it. With this in mind, students are presented with multiple opportunities to explore and analyze real-world problems and to look at science in authentic scenarios. A case study is presented at the end of the Nature of Science chapter at the beginning of the book. And then students are challenged to apply science and engineering practices in a meaningful and consistent way.</p> <p>As they begin a unit of study there is a review of one of the science and engineering practices or cross cutting concepts. The teacher then can assign a hands-on activity that involves that practice or concept and the unit has an overarching STEM Project that involves many of the practices and concepts around the DCIs in the unit and engages the student in authentic scenarios and requires them to create explanations.</p> <p>Each chapter begins with an essential question that addresses a phenomenon and a visual representation of tied to that phenomenon in the world around them and thoughtful inquiry questions are raised to engage the student in consideration of the phenomenon. When progressing forward, multiple types of activities are integrated to provide context to explore ideas, allow students to engage in both consideration and application of the practices both in theoretical and authentic and meaningful applications. Teacher and student can</p>

	<p>higher grade levels and courses.</p>	<p>choose from a variety of activities including:</p> <ul style="list-style-type: none"> <li>• Launch Labs – Quick thought provoking investigations centered around exploring phenomena.</li> <li>• Mini-Labs and Full Chapter Labs that apply</li> <li>• Skill labs that focus on a specific practice or concept within the context of a DCI.</li> <li>• Webquests – Authentic and Meaningful Case Studies where students create explanations.</li> <li>• Real World Features that explore scientific phenomenon, the current work of scientists, and historical discoveries. These features have an extend feature to allow students to explore the content further.</li> <li>• Project Based Learning Activities that engage students in the crux of NGSS and the intent of meaningful scenarios.</li> </ul> <p>All of these labs and activities prepare students to address the assessment anchors. The combination of problem-based learning activities, STEM projects, webquests, and inquiry activities provide students with multiple opportunities to experience relevant phenomena in both representation format and in firsthand experience. The problems are connected to their world. They have to make choices, analyze data and draw conclusions as they move toward a solution and construct an explanation or argument using evidence.</p>
	<p>3d) Students have the opportunity to regularly engage in <b>speaking and writing</b> about scientific phenomena and engineering solutions.</p>	<p>Completion of laboratory or field work greatly enhances the student’s understanding and experience while using the iScience program. Therefore, multiple and varied laboratory activities are integrated within each chapter of the program and relate directly to the content being studied. This, in addition to the other integrated activities (both physical and virtual), give students the opportunities to explore ideas with fellow students and teachers in a meaningful context.</p> <p>There are a number of the hands-on investigations that are “Design Your Own” and require students to develop testable questions and to design experiments using scientific inquiry. These activities, along with the Stem Activities and Project-Based Learning activities, give students ample opportunity to express themselves, consider other ideas, revise their thinking and represent their thinking verbally and in writing. There is a strong emphasis on 21st century skills throughout and in the option to involve technology. Students present their findings and explanations in a variety of media and scenarios that emulate what a scientist or engineer would be required to do.</p> <p>When students are able to express their ideas and the listen or read the ideas of others it helps them evaluate the merit of their arguments and rationale. This expression in oral, written and visual format is a part of every activity that students participate in to encourage reflection, critical analysis, and collaborative conversation and work allows students to move to a deeper level of appreciation and understanding of the phenomenon, the 3 dimensions.</p> <p>iScience has the broad range of assessment opportunities that give both the student and the teacher a variety difference way to demonstrate their understanding of DCI’s, Practices and Crosscutting Concepts. Teachers have the options of: eAssessment with a variety of questions types of questions, as well as, multiple inquiry activities that can be used as performance</p>

		tasks, Applying Practices Activities, LearnSmart Adaptive Learning System, Self-Check Quizzes, WebQuests, and others.
<p><b>(4) LEARNING PROGRESSIONS</b> Materials are coherent and provide natural connections from the disciplinary core ideas to other performance expectations including science and engineering practices, crosscutting concepts, engineering design processes, and compliments the major mathematics concepts from the <i>MS CCRS for Math</i>.</p> <p><input type="checkbox"/> YES                      <input type="checkbox"/> NO</p>	<p>4a) The overall organization of the materials and the development of content skills and practices are <b>coherent</b> and support student mastery of the standards. The <b>progression of learning</b> is organized in a deliberate fashion to promote student understanding.</p>	<p>The 3-course series contains many examples of the cross-cutting concepts, science and engineering practices, and discipline-specific core ideas outlined in the Next Generation Science Framework. Examples are listed below:</p> <p>Cross-cutting concepts</p> <ul style="list-style-type: none"> <li>• Two pages at the beginning of each unit focus on cross cutting concepts such as modeling, patterns, and systems.</li> <li>• Concepts such as modeling, interpreting cause and effect, determining patterns, and recognizing scale, proportion and quantity are practiced throughout the program in activities and assessments.</li> </ul> <p>Science and Engineering Practices</p> <ul style="list-style-type: none"> <li>• The Nature of Science chapter at the beginning of each book describes the processes of science and allows for detailed analysis of these practices in the Case Study.</li> <li>• Laboratory activities throughout the program emphasize science practices including asking questions, using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, gathering and communicating data, and critical thinking.</li> <li>• STEM Activities for each unit provide opportunities for longer, project-based learning practices. Each activity requires applications of engineering, math, and science. These activities are available online.</li> </ul> <p>Discipline-Specific Core Ideas</p> <ul style="list-style-type: none"> <li>• The concepts outlined in the Framework are covered in detail within each iScience book.</li> </ul> <p>The iScience 3-course series falls well within the recommended text complexity and expectations of the Mississippi College and Career Readiness Standards. Student Edition Lexile scores are listed below. These are validated scores compiled by Metametrics, the company that provides this type of assessment. The Lexile Framework for Reading matches reader ability and text difficulty, allowing individualized monitoring of progress. Lexile measures are based on two well-established predictors of how difficult a text is to comprehend: semantic difficulty (word frequency) and syntactic complexity (sentence length). Lexile measures allow educators to manage reading comprehension. Matching a reader’s Lexile measure to a text with the same Lexile measure leads to an expected 75 percent comprehension rate – not too difficult to be frustrating, but difficult enough to be challenging and to encourage reading progress.</p> <p>Crosscutting Concepts are themes that appear throughout all branches of science and engineering. These are not directly correlated but are found implicitly in the other correlations listed on the page. The cross-cutting concepts are found within the Problem Based Learning,</p>

		<p>the performance tasks, the webquests and stemquests, and many of the inquiry exercises. Patterns, models, energy flow and the other crosscutting concepts are experienced throughout.</p>
	<p>4b) Materials are presented in an engaging context that are related to real world experiences and situations.</p>	<p>iScience was designed to create a highly interactive environment for learning middle school science to help motivate and engage students in three-dimensional learning. Designed for today's tech savvy middle school students, iScience offers a balance of hands-on investigations, rigorous science content and engaging, real-world applications making iScience fun, exciting and stimulating.</p> <p>INSPIRE students with meaningful, relevant learning experiences      INQUIRE into the key concepts of science through our 5E lesson structure      INTERACT with exciting digital tools that encourage students to practice science      INVENT new solutions and build 21st century skills through new engineering/design activities</p> <p>Each chapter and lesson begins with Essential Questions that focus student learning and inquiry questions that involve critical thinking for students. Each lesson includes a Launch Lab for student discovery. In addition, Project-Based Learning Activities and the Science and Engineering Practices Handbook provide student engagement in the three dimensions of disciplinary core ideas, science and engineering practices, and cross-cutting concepts. The inquiry activities and labs are focused on phenomenon questions. The inclusion of real world relevance motivates students to explore the impact of earth science on the world.</p> <p>iScience includes a variety of assessment materials ranging from Page Keeley Science Probes for formative assessment, Self-Check Quizzes for student self-assessment in every lesson, prepare quizzes for each lesson, leveled chapter assessment, performance tasks and McGraw-Hill eAssessment, which is an online assessment generator the has question on all levels of DOK and Blooms along with Tech-Enhanced Questions. The program also has the option of LearnSmart, which is an adaptive review and learning program.</p> <p>In iScience, noted assessment expert and author Paige Keeley has written our prechapter formative assessment questions – also known as ‘probes’. These probes are designed to check students’ preconceptions prior to the chapter launch. Ongoing formative assessments are built within each lesson as well as through the ‘interactives’ or response prompts in the student text. These prompts provide opportunities for students to respond to the text and include such activities as recall, describe, determine, calculate, and observe. Students think about and reflect on their learning as they move through the lesson. The different types of lesson graphic organizers add even another dimension of assessment – providing teachers with insight into student thinking as they work to complete these visual ‘recollection’ pages.</p> <p>Further formative assessment guidance is provided in the Teacher Edition with the scaffolded guided questions giving teachers a window into student understanding as the lesson progresses.</p> <p>The eAssessment tool may be used as well to create any type of assessment. Teachers can</p>



			create their own tests for formative, continuing, and summative assessments with this tool.
	4c) Students apply mathematical thinking when applicable. The math skills are appropriate for the grade level of the students.		<p>iScience makes connections in many ways. Units begin with a Graphic Novel activity. These take advantage of a very popular and current literature genre. At the end of the activity, students have a STEM activity that incorporates technology, engineering and mathematics. Guided and leveled questions ensure teachers maximize student participation and understanding.</p> <p>Supplementary chapter resources consistently provide support for math and language arts connections. Other supplemental assessment opportunities include, but are not limited to: Content Vocabulary Practice, Levelled Content Practice, Language Arts Support, Math Skill Support, School to Home, Levelled Concept Builders, Enrichment Activities, Challenge Activities, Launch labs, Mini Labs, Skill Labs, Levelled Chapter labs, Levelled Quizzes, Levelled Chapter tests.</p> <p>The curriculum provides opportunities for students to work together to investigate real-world scientific and technological problems, allowing them to use their creativity and to collaborate, think critically, communicate, and think globally to solve problems that require the use of engineering design, mathematics, science, and technology. Also, at the end of each lab, students are asked to communicate their results to the class.</p>
<b>TOTAL SCORE (PART 1)</b>			

## Section 2: Instructional Support, Usability, and Assessment

CRITERIA	INDICATORS OF SUPERIOR QUALITY	RATING 5, 3, 0	COMMENTS WITH EXAMPLES
(5) <b>SCAFFOLDING AND SUPPORT</b> Materials provide teachers with guidance to build their own knowledge and to give all students extensive opportunities and support to explore key concepts using	5a) There are separate <b>teacher support</b> materials to assist teachers: <ul style="list-style-type: none"> <li>Organize and sequence effective</li> </ul>		Teacher guidance for providing instructional materials in iScience is provided on each page of the Teacher Edition, both print and on-line. Guiding questions on each page are labeled with Approaching Level, On Level, Below Level, and English Language Learner icons to help teachers scaffold their instruction. In addition, each page contains a Differentiated Instruction guide that provides additional strategies for all levels of learners. State standards are also provided at point-of-use to enable teachers to provide additional support. Student materials include a variety of labs, worksheets, and reading supplements that may be leveled appropriately.

<p>multiple, varied experience to build scientific thinking.</p> <p><input checked="" type="checkbox"/> YES      <input type="checkbox"/> NO</p>	<p>learning experiences for students;</p> <ul style="list-style-type: none"> <li>• Utilize instructional materials to develop a variety of effective teaching strategies for student learning;</li> <li>• Utilize teacher's use of science and engineering practices, inquiry, and cross-cutting concepts within the disciplinary core ideas; and</li> <li>• Incorporate reading, writing, and mathematical practices into lessons where appropriate.</li> </ul> <p>These instructional support documents support the work teachers do by</p>	<p>Within the lesson, iScience uses the 5E instructional model. The 5E Lesson model in iScience provides not only specific suggestions for each step, but also specific resource suggestions. These resource suggestions can then be utilized within the classroom, or easily delivered to students through our ConnectedED platform.</p>
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	providing: <ul style="list-style-type: none"> <li>• Pertinent content background information;</li> <li>• Examples of student misconceptions;</li> <li>• Resources to assist and enhance instruction (electronic, web-based, software, etc.)</li> <li>• Materials and equipment needed along with maintenance and safe use.</li> <li>• Technical support for the use of multi-media, equipment and technology resources.</li> </ul>		
	5b) Appropriate suggestions and materials are provided for differentiated instruction supporting varying student needs		The teacher edition provides many resources to support teachers. Examples include differentiated instruction activities, identifying misconceptions, Page Keeley Science Probes, guiding questions, and Real-World Science activities. Differentiated instruction activities for approaching level, on level, beyond level and ELL students provide additional open-ended practice for students. There are also additional activity ideas provided in the Teacher's Edition that teachers can choose to assign or modify for additional inquiry practice. The Fast File Unit Resources contain a variety of resources that are useful for differentiation such as leveled labs and assessments, as well as, activities that range from remediation for struggling students to

	<p>at the unit and lesson level (e.g., alternative teaching approaches, pacing, instructional delivery options, suggestions for addressing comment student difficulties to meet standards, etc.).</p>	<p>challenges for advanced learners.</p> <p>iScience has a variety of materials for universal instruction including leveled materials, a lower level reader of the text and a reading coach. The optional adaptive program LearnSmart that targets each student and support their reading and the understanding of the program. The teacher’s edition has pedagogical practices and suggestions for struggling students, on level students, beyond level students and English Language Learners. The chapter resources contain a variety of support materials for all levels. Guiding questions on each page are labeled with Approaching Level, On Level, Below Level, and English Language Learner icons to help teachers scaffold their instruction. In addition, each page contains a differentiated instruction guide that provides additional strategies for all levels of learners.</p> <p>iScience meets the needs of all learners. Some, but not all, of the ways we accomplish this is through:</p> <ul style="list-style-type: none"> <li>● Word for word read of the narrative in English</li> <li>● Spanish summaries</li> <li>● Academic vocabulary support</li> <li>● Language arts support</li> <li>● Concepts in Motion tutorials</li> <li>● Personal tutors</li> <li>● LearnSmart: Exclusive adaptive and prescriptive study tool.</li> <li>● Spanish worksheets. In the eBook a student can click on the bolded vocabulary words and the definition is available in English and Spanish.</li> </ul> <p>Explore Activities, MiniLabs, Skill Practice Labs, and Inquiry Labs are an integral part of the iScience program that are used to facilitate learning through hands-on activities and laboratory lessons which require student understanding and use of correct and safe procedures and skills to further their knowledge of concepts. Throughout the lessons are interactive questions and graphic organizers that require student interaction with the text to extend direct concept lessons. Conceptual understanding is further enhanced with graphic organizers, lab activities, inquiry and STEM activities, and rigorous assessments. Standards are interwoven throughout the lessons and are prominent.</p> <p>A range of laboratory activities for each chapter provides hands-on experience. Graphic organizers and foldables enable students to organize information. And interactive prompts such as Connect, Explain, Summarize, and Analyze require students to communicate their data.</p> <p>iScience has a complete Spanish text, Spanish Resources, Spanish online materials, and a multi-lingual glossary in 13 different languages.</p>
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		<p>iScience has a variety of materials for universal instruction including leveled materials, a lower level reader of the text and a reading coach. The optional adaptive program LearnSmart that targets each student and support their reading and the understanding of the program. The teacher's edition has pedagogical practices and suggestions for struggling students, on level students, beyond level students and English Language Learners. The chapter resources contain a variety of support materials for all levels.</p>
	<p>5c) Instructional materials are accessible to students including</p> <ul style="list-style-type: none"> <li>• Varied learning ability/disabilities;</li> <li>• Special needs (e.g., auditory, visual, physical, speech, emotional);</li> <li>• English language proficiency;</li> <li>• Cultural differences;</li> <li>• Different learning styles; and</li> <li>• Gender.</li> </ul>	<p>At McGraw-Hill Education, we have a commitment to providing academically and educationally sound content. As part of MHE's commitment to continuous improvement and producing the highest-quality materials that are academically and educationally sound, we regularly employ standardized processes before, during, and after product development to maintain academic integrity.</p> <p>McGraw-Hill Education programs are systematically developed over the course of years, using specific protocols to align to the requested national, state and local curriculum standards and learning objectives, including those relevant to diversity, equity, and inclusion, processes to validate and differentiate the pedagogy based on research, as well as processes to engage a range of expert authors, consultants, content reviewers, teacher reviewers, and curriculum advisers.</p> <p>In addition, the development and maintenance process includes opportunities to validate and update content based on academic scholarship across disciplines throughout the life cycle of our products. We take our responsibility to engage with you as partners seriously. As such, the McGraw-Hill Education model and processes demonstrate our commitment to responsive partnerships, and our academic integrity principles guide us to engage in honest, transparent, and purpose-driven discussions with you about learning.</p> <p>We at McGraw-Hill Education are committed to developing products that can be accessed and used by any and all learners, including those with disabilities, and have created a culture that considers those with differing learning and access needs from the outset. This effort includes a comprehensive strategy that combines planning, research, training, and product development activities with both McGraw-Hill employees and third-party content partners. We continue to strive to meet the WCAG 2.0 accessibility guidelines at level AA, as well as the Section 508 Amendment to the Rehabilitation Act of 1973. For more information about McGraw-Hill's steps toward making all materials accessible for students, please see: <a href="https://www.mheducation.com/about/accessibility.html">https://www.mheducation.com/about/accessibility.html</a></p> <p>At McGraw-Hill Education, we strive to provide accurate, credible, and relevant</p>

			<p>services, programs, and support, and we have the honor and privilege of providing instructional materials that empower great teaching.</p> <p>Thank you for your dedication to the success of learners. We appreciate your engagement directly with our team, and please reach out to our MHE team as your governance process allows, should you believe additional context will be helpful.</p>
CRITERIA	INDICATORS OF SUPERIOR QUALITY	RATING 5, 3, 0	COMMENTS WITH EXAMPLES
<p>(6) <b>USABILITY</b> Materials are easy to use, promote safety in the science classroom, and are viable for implementation given the length of a school year. The information is organized logically and presented clearly using multiple methods</p> <p><input type="checkbox"/> YES      <input type="checkbox"/> NO</p>	<p>6a) The text provides clearly stated objectives for each lesson. It uses text features (e.g., titles, headings, subheadings, review questions, goals, objectives, space, print, grade appropriate type size, color) to enhance readability.</p>		<p>Text features such as Connect It, Apply It, and Summarize It help students make connections between the content presented and their understanding of it by responding to targeted prompts. These features also provide a format for summing up learning prior to the lesson review. In addition, lesson assessments check understanding at the close of each lesson. On-line assessments provide further support in the form of lesson quizzes.</p>
	<p>6b) Materials help students build an understanding of standard operating procedures in a science laboratory and include <b>safety guidelines</b>, procedures, and equipment. Science classroom and laboratory safety</p>		<p>Safety issues are clearly indicated in the student materials and provide simple and easy-to-understand practices/steps the students can follow to make sure no one is injured during activities and labs.</p> <p>Explore Activities, MiniLabs, Skill Practice Labs, and Inquiry Labs are an integral part of the iScience program that are used to facilitate learning through hands-on activities and laboratory lessons which require student understanding and use of correct and safety procedures and skills to further their knowledge of concepts. Throughout the lessons are interactive questions and graphic organizers that require student interaction with the text to extend direct concept lessons. Conceptual understanding is further enhanced with graphic organizers, lab activities, inquiry and STEM activities, and rigorous assessments. Standards are interwoven throughout the lessons and are prominent.</p> <p>A range of laboratory activities for each chapter provides hands-on experience. Graphic organizers and foldables enable students to organize information. And interactive prompts</p>

	guidelines are embedded in the materials.	such as Connect, Explain, Summarize, and Analyze require students to communicate their data.
	6c) The total amount of content is <b>viable</b> for a school year.	Yes, the total amount of content is viable for a school year. On average, units last approximately 5-6 weeks. There is great flexibility within the iScience program to teach in tradition or block, regular pacing, or “Fast Track” pacing to allow time for other lessons.
	6d) The text incorporates a glossary, footnotes, recordings, pictures, and/or other features that aid students and teachers in using the book effectively.	iScience incorporates a user-friendly table of contents, glossary, and index, images, etc which aid in effective use of the materials.
	6e) The text and supplemental materials employs a variety of reading levels and is <b>grade/level appropriate</b> .	The iScience 3-course series falls well within the recommended text complexity and expectations of the Mississippi College and Career Readiness Standards. Student Edition Lexile scores are listed below. These are validated scores compiled by Metametrics, the company that provides this type of assessment. The Lexile Framework for Reading matches reader ability and text difficulty, allowing individualized monitoring of progress. Lexile measures are based on two well-established predictors of how difficult a text is to comprehend: semantic difficulty (word frequency) and syntactic complexity (sentence length). Lexile measures allow educators to manage reading comprehension. Matching a reader’s Lexile measure to a text with the same Lexile measure leads to an expected 75 percent comprehension rate – not too difficult to be frustrating, but difficult enough to be challenging and to encourage reading progress.
	6f) The text and supplemental materials provides ample materials that reinforce student learning through practice.	<p>iScience makes connections in many ways. Units begin with a Graphic Novel activity. These take advantage of a very popular and current literature genre. At the end of the activity, students have a STEM activity that incorporates technology, engineering and mathematics. Guided and leveled questions ensure teachers maximize student participation and understanding.</p> <p>Supplementary chapter resources consistently provide support for math and language arts connections. Other supplemental assessment opportunities include, but are not limited to: Content Vocabulary Practice, Levelled Content Practice, Language Arts Support, Math Skill Support, School to Home, Levelled Concept Builders, Enrichment Activities, Challenge Activities, Launch labs, Mini Labs, Skill Labs, Levelled Chapter labs, Levelled Quizzes, Levelled Chapter tests.</p> <p>The curriculum provides opportunities for students to work together to investigate real-world scientific and technological problems, allowing them to use their creativity and to collaborate, think critically, communicate, and think globally to solve problems that require the use of</p>

			engineering design, mathematics, science, and technology. Also, at the end of each lab, students are asked to communicate their results to the class.
	6g) All supplemental materials are aligned to the text content with a clear match to content.		McGraw-Hill Education is committed to publishing pedagogically sound, high-quality, educational material that is fair, unbiased, and that recognizes the unique contributions of people of all races, cultures, and faiths. To ensure that our textbooks meet these high standards, all textbooks are authored by scholars and educators who are recognized experts in their areas of specialty. McGraw-Hill School Education also submits manuscripts to independent scholars and teachers for their review. To reach consensus on information with divergent interpretations, the recommendations of these educators and specialists are reviewed and discussed among the author and Academic Designers until final consensus is negotiated; changes are then incorporated into the manuscript to ensure that the materials are accurate and unbiased, present the materials in an age-appropriate and meaningful manner, and reflect the most current research in the subject area.
	6h) Supplemental materials provide a variety of resources for student learning activities (e.g., incorporating science journals/writing, cooperative group work, graphic organizers, etc.).		<p>All of the activities, Applying Practices, WebQuests, STEM quests and inquiry activities, contain detailed teacher plans giving the teachers the freedom to give a high level of support or a minimal level of support. The teacher then controls the amount of support and can help students become more independent and can then draw their own conclusions and learn to cite evidence and make strong arguments to support the solutions to their problems.</p> <p>Conceptual understanding in iScience is developed through a scaffolded approach starting with the Big Idea for each chapter. Each lesson begins with Essential Questions, and each learning object is then built on this framework. Conceptual understanding is further enhanced with graphic organizers, lab activities, inquiry and STEM activities, and rigorous assessments. Standards are interwoven throughout the lessons and are prominent. Vocabulary is developed with lesson lists, comprehensive definitions, and highlighting. Vocabulary development is also enhanced with review vocabulary, word origins, word pronunciations, science usage versus common usage, and academic vocabulary. In addition, an on-line multilingual glossary is available in 13 languages.</p> <p>Text features such as Connect It, Apply It, and Summarize It help students make connections between the content presented and their understanding of it by responding to targeted prompts. These features also provide a format for summing up learning prior to the lesson review. In addition, lesson assessments check understanding at the close of each lesson. On-line assessments provide further support in the form of lesson quizzes.</p>
<b>CRITERIA</b>	<b>INDICATORS OF SUPERIOR QUALITY</b>	<b>RATING</b> <b>5, 3,</b> <b>0</b>	<b>COMMENTS WITH EXAMPLES</b>



<p><b>(7) ASSESSMENT</b> Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed standards.</p> <p><input type="checkbox"/> YES                      <input type="checkbox"/> NO</p>	<p><b>7a) Multiple types of formative and summative assessments (performance-based tasks, questions, research, investigations, and projects) are embedded into the content materials and assess the learning targets.</b></p>	<p>iScience includes a variety of assessment materials ranging from Page Keeley Science Probes for formative assessment, Self-Check Quizzes for student self-assessment in every lesson, prepare quizzes for each lesson, leveled chapter assessment, performance tasks, and McGraw Hill eAssessment which is an online assessment generator the has question on all levels of DOK and Blooms along with Tech Enhanced Questions. The program also has the option of LearnSmart which is an adaptive review and learning program.</p> <p>In iScience, noted assessment expert and author Paige Keeley has written our pre-chapter formative assessment questions – also known as ‘probes’. These probes are designed to check students’ preconceptions prior to the chapter launch. Ongoing formative assessments are built within each lesson as well as through the ‘interactives’ or response prompts in the student text. These prompts provide specific opportunities for students to respond to the text and include such activities as recall, describe, determine, calculate, and observe. Students think about and reflect on their learning as they move through the lesson. The different types of lesson graphic organizers add even another dimension of assessment – providing teachers with insight into student thinking as they work to complete these visual ‘recollection’ pages.</p> <p>Further formative assessment guidance is provided in the Teacher Edition with the scaffolded guided questions giving teachers a window into student understanding as the lesson progresses.</p> <p>The eAssessment tool may be used as well to create any type of assessment. Teachers can create their own tests for formative, continuing, and summative assessments with this tool.</p> <p>The LearnSmart Learning system allows students to do self-assessment in a strong learning environment that also uses the research and algorithmic basis to make it unique for each student.</p> <p>Summative assessments provide real time data to help analyze student understanding and guide instructional decision making. iScience includes a variety of summative assessment options beginning with the lesson review. The lesson review requires students to apply their knowledge of the science content to the lesson’s Essential Question and includes rigorous higher order thinking questions. The end of chapter review includes specific test taking strategy practice by building student skills, while the assessment section includes questions that vary in their level of complexity – moving students to more rigorous, challenging thinking. Mastering the standards sample test-type problems and gives students practice prior to the state assessment thereby building student confidence.</p> <p>Teacher guidance for providing instructional materials in iScience is provided on each page of the Teacher Edition, both print and on-line. Guiding questions on each page are labeled with Approaching Level, On Level, Below Level, and English Language Learner icons to help teachers scaffold their instruction. In addition, each page contains a differentiated instruction guide that provides additional strategies for all levels of learners. State standards are also provided at point-of-use to enable teachers to provide additional support. Student materials include a variety of labs, worksheets, and reading supplements that may be leveled</p>
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		<p>appropriately.</p> <p>All of the chapter resources are available digitally and are downloadable and printable. This gives the teacher flexibility on how the materials are used in his or her classroom and can meet the needs of a low tech or high tech classroom. All of the support materials found in the Fast Files that includes study guides, vocabulary support, key concepts guides, labs sheets, enrichment and reinforcement materials, prepared assessments, and Spanish support materials come in Word doc format with allows the teacher to edit all of these materials.</p>
	<p>7b) The assessment materials include embedded assessments that reflect a variety of knowledge levels.</p>	<p>iScience includes a variety of assessment materials ranging from Page Keeley Science Probes for formative assessment, Self-Check Quizzes for student self-assessment in every lesson, prepare quizzes for each lesson, leveled chapter assessment, performance tasks and McGraw Hill eAssessment which is an online assessment generator the has question on all levels of DOK and Blooms along with Tech Enhanced Questions. The program also has the option of LearnSmart which is an adaptive review and learning program.</p> <p>In iScience, noted assessment expert and author Paige Keeley has written our prechapter formative assessment questions – also known as ‘probes’. These probes are designed to check students’ preconceptions prior to the chapter launch. Ongoing formative assessments are built within each lesson as well as through the ‘interactives’ or response prompts in the student text. These prompts provide specific opportunities for students to respond to the text and include such activities as recall, describe, determine, calculate, and observe. Students think about and reflect on their learning as they move through the lesson. The different types of lesson graphic organizers add even another dimension of assessment – providing teachers with insight into student thinking as they work to complete these visual ‘recollection’ pages.</p> <p>Further formative assessment guidance is provided in the Teacher Edition with the scaffolded guided questions giving teachers a window into student understanding as the lesson progresses.</p> <p>The eAssessment tool may be used as well to create any type of assessment. Teachers can create their own tests for formative, continuing, and summative assessments with this tool.</p>
	<p>7c) The assessment materials provide evaluation measures that supports differentiated learning activities.</p>	<p>iScience has the broad range of assessment opportunities that give both the student and the teacher a variety difference way to demonstrate their understanding of DCI’s, practices and cross-cutting Concepts. Teachers have the options of:</p> <ul style="list-style-type: none"> <li>• eAssessment with a variety of questions types</li> <li>• Multiple Inquiry Activities that can be used a performance tasks</li> <li>• Performance tasks</li> <li>• Applying Practices Activities</li> <li>• LearnSmart Adaptive Learning System</li> <li>• Self-Check Quizzes</li> </ul>

- WebQuests
- And others.

#### Unbiased assessments

e-Assessment provides teachers with a range of assessment options to assess student proficiency. These methods range from true false, open ended response, and essay. Diversity of question type is a strength, providing instructors with the ability to assign questions that test knowledge of a sequence of events (Example: Mitosis) where students are being assessed on an order of events. Multiple Response Questions (Example: “Check all that apply” or “Choose all answers that don’t belong”) are also available. Additionally, Technology Enhanced Questions are available in the McGraw Hill’s E-Assessment program. Technology Enhanced Questions give students the opportunity to manipulate items on the screen (Example1: Labelling the parts of an animal cell by dragging the term to the appropriate location) (Example2: Manipulating a graph in order to make it accurately represent the data in a chart).

Comprehensive assessment in iScience materials is a constant cycle of understanding student anticipation, using that information to inform instruction, and assessing for understanding.

Diagnostic assessments allow teachers to learn what students already know to establish a baseline from which to inform instruction. For example, each chapter opens with a Big Idea, which provides a framework for the chapter’s content. Each Key Concept and Essential Question relates the Big Idea. Teachers can then use the anticipation guide called “What do you think?” to learn what students already know about the content.

Formative assessments allow teachers to inform their teaching throughout the instruction cycle. Teachers may use Page Keeley Assessment Probes, as well as Key Concept Checks, Reading Checks, and Visual Checks to “check in” with students throughout the chapter.

Summative assessments then allow teachers to check understanding. Lesson and end-of-chapter tests, available in print and digital formats, let teachers know if students understand the Big Ideas and Key Concepts.

#### Digital assessments

The eAssessment tool may be used to create any type of assessment. Teachers can create their own tests for formative, continuing, and summative assessments with this tool.

iScience addresses all of the Literacy Standards in Reading and Writing. These standards speak to the core science skills reinforced throughout the program. Students are continually encouraged to analyze, critique, and communicate. For example, our Science Notebook provides consistent opportunities to cite specific textual evidence to support analysis, determine central ideas, provide summaries, and analyze the relationships among concepts etc. The Launch Labs, MiniLabs and Labs throughout the program require students to follow

		<p>multistep procedures, take measurements, and more. In numerous activities throughout the program, students translate information into a tables and graphs and also interpret graphs and tables.</p> <p>Special features in each chapter of iScience provide opportunities for students to read about real-world science and align to the Mississippi College and Career Readiness Standards.</p> <p>The eAssessment tool may be used as well to create any type of assessment. Teachers can create their own tests for formative, continuing, and summative assessments with this tool. Teachers can easily make tests from our vast test banks, and quickly customize them to suit your needs by adding or editing questions or tests. There are also additional activity ideas provided in the TE that teachers can choose to assign or modify for additional inquiry practice.</p> <p>Blueprints for Success: Science Classrooms that Work This is a must-have desk reference for setting up and managing a successful science classroom.</p> <p>It includes key professional development topics such as:</p> <ul style="list-style-type: none"> <li>● Differentiating Instruction</li> <li>● ELL Support</li> <li>● Lab Management and Safety</li> <li>● Mathematics Support</li> <li>● Language Arts and Literacy</li> <li>● School-to-Home Connections</li> <li>● Performance Assessment</li> </ul>
	<p>7d) Scoring guidelines and rubrics align to performance expectations, and incorporate criteria that are specific, observable, and measurable.</p>	<p>Rubrics are provided for WebQuests, project based learning exercises, performance tasks, essays, and thought based questions. These can be used to inform instruction as well as provide feedback to students.</p>
<p><b>TOTAL SCORE (PART 2)</b></p>		

<b>TOTAL SCORE (PART 1 and 2)</b>			
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