Program Overview
Macmillan/McGraw Hill Science A Closer Look ©2011

The goal of ***Macmillan/McGraw-Hill Science A Closer Look ©2011*** is to provide all students with a solid foundation in science literacy. We want every student to develop their ability to observe, describe, compare, inquire and evaluate while ensuring that they will learn the 'big ideas' and essential core concepts of science. This program was developed to meet the requirements and expectations established in both the National Science Education Standards and in the Benchmarks for Science Literacy.

Macmillan/McGraw-Hill Science A Closer Look…

1. supports research-based instructional practices
2. provides all students access to standards–based science content
3. integrates content knowledge with broad based practices in the Nature of Science
4. incorporates hands-on learning through activities and inquiry investigations
5. infuses technological design and applications into the learning process

1. **Research Based Instructional Practices**

Macmillan/McGraw-Hill's *Science A Closer Look ©2011* started with a careful review of the most current educational research available. This review considered how students learn, investigated different models of successful elementary science instruction, and researched effective classroom practices that impact student learning. The result was the creation of this new elementary science program. ***Science A Closer Look*** provides a variety of engaging, hands-on experiences built around important 'big ideas' of science concepts. Each lesson is supported by a wealth of vibrant visuals designed to motivate students and to support the learning. Beautiful photographs and illustrations afford a splendid backdrop to the inquiry based lessons and provide a predictable, easy to navigate framework upon which science understandings can be built. Online technology resources enhance lesson instruction and provide relevance and application to the lesson objectives.

Macmillan/McGraw-Hill's *Science A Closer Look ©2011* helps students learn about their world by providing engaging experiences, coupled with interesting content in a structured and consistent instructional model. The design is based upon the 5-E Inquiry Instructional Model. This model incorporates the features of inquiry in a sequence of experiences designed to challenge the students' current science conceptions, yet provide them with time and opportunity for the assimilation of new learning. The five steps are described as:

1. 'ENGAGE' - identified as '***Look and Wonder'*** is the step that taps into the students' natural curiosity by posing intriguing questions to initiate the lesson.
2. 'EXPLORE' - identified as ***'Explore – Inquiry Activity'*** is a question based, hands-on experience/activity around which the lesson concept is developed.
3. 'EXPLAIN' - identified as ***'Read Together and Learn'*** (Grades 1-2) and ***'Read and Learn'*** (Grades 3-5) relates the students' experiences in the activity to the science concept being developed.
4. 'EVALUATE'- identified as '***Think, Talk, and Write,'*** is the lesson assessment which includes a variety of cognitive level questions to assess student learning.
5. 'EXTEND' - are curriculum links at the end of each lesson provided to help students utilize and apply their learning. Lesson extensions include: ***Reading in Science; Focus on Inquiry Skills; Be a Scientist Inquiry Investigations; Math in Science;*** and ***Writing in Science.***

2. **Standards-Based Content**

Macmillan/McGraw-Hill's *Science A Closer Look ©2011* was specifically developed to meet the expectations and requirements found in the National Science Education Standards. Every chapter reflects the broad science content standard, beginning with the 'Big Idea' question and where each lesson supports a particular aspect of that question. Each grade level contains two complete units on Life Science, Earth Science and Physical Science. Student materials are available in three distinct formats: student edition textbook, student edition on CD-ROM, and the 'virtual student edition' as an on-line eBook.

3. **Content Knowledge Models the Role of Scientists**
   Macmillan/McGraw-Hill's *Science A Closer Look ©2011* provides a variety of resources to help make relevant the learning and application of science knowledge and skills. Each grade level begins with an introduction to the real world practice of science. Scientists from the American Museum of Natural History are featured with their current research projects, modeling the steps of the inquiry process and applying them to their projects. From investigations on the way mosquitoes spread diseases like malaria to the study of how certain gases effect volcanic eruptions, real life scientists explain and model the processes and skills needed in their work. Throughout each unit, *Be a Scientist Inquiry Investigations* provide extended opportunities to explore questions that allow students to plan their own investigations.

4. **Activities and Inquiry Investigations**
   Macmillan/McGraw-Hill's *Science A Closer Look ©2011* provides six different types of hands-on, inquiry-based activities and investigations to specifically address the Inquiry standards of every state.
   1. **Explore Activity:** This initial inquiry activity begins every lesson, providing a hands-on experience around which the lesson concept is developed.
   2. **Quick Labs:** Quick, convenient activities designed to provide additional hands-on experiences within the lesson for enhancing conceptual development.
   3. **Focus on Inquiry Skills:** This skill-building activity provides students with an opportunity to learn and to further practice their abilities in the process of inquiry thinking.
   4. **Be a Scientist Inquiry Investigations:** These activities help students move from a structured inquiry environment into a more experimental one. They are designed in three parts, allowing students to progress through different levels of inquiry: 1.) Structured Inquiry, 2.) Guided Inquiry, and 3.) Open Inquiry while modeling the scientific process.
   5. **Learning Labs:** These are open-ended inquiry investigations designed to provide more in-depth, long term study projects. They are included in the Activity Lab Book and are located in the Activity Flipchart.
   6. **Everyday Science:** These are more exploratory in nature providing open inquiry investigations which are developed around children's everyday experiences. They connect the understanding of key science concepts to real world events. They are included in the Activity Lab Book and are located in the Activity Flipchart.

5. **Technological Design /Applications to Solve Problems**
   Macmillan/McGraw-Hill's *Science A Closer Look ©2011* provides a complete unit of study on the engineering/design process. This unit called ***Technology A Closer Look*** provides activities, investigations and instruction on technology, its development, history and its impact on society. Students explore and investigate ways that technology can improve society and how the design process can improve existing products.

Reviewers Areas of Interest

1. **Assessment: Macmillan/McGraw-Hill's *Science A Closer Look* includes** a variety of assessment options for each lesson. Entry level assessments help teachers to determine student readiness. Formative assessments (Quick Check/Think, Talk and Write, e-Reviews) help teachers to monitor comprehension and check for understanding. The design of the lesson assessment allows for students to stop and think about their own learning. The use of Foldables (three-dimensional graphic organizers) gives students a tool to help them think and organize their learning in a way that makes sense to them. E-Reviews provide online assessment of the key lesson concept. Summative assessments help determine the extent of student learning and a variety of tools (both print and electronic) help teachers to utilize student results to plan for further instruction. Test creation through the *ExamView Assessment Suite CD-ROM* software, along with its management of on-line assessments, can allow teachers to easily monitor and generate reports on student progress.

   Formative assessment: *Representative examples can be found on the following pages in the Student Edition.*

   Grade K: Teacher Edition p. 67, 75, 81;
   Grade 1: *Quick Check* p. 97; *Think, Talk, and Write* p. 99; *e-Review* p. 107
   Grade 2: *Quick Check* p. 197; *Think, Talk, and Write* p. 199; *e-Review* p. 207
   Grade 3: *Quick Check* p. 281; *Think, Talk, and Write* p. 285; *e-Review* p. 299
   Grade 4: *Quick Check* p. 413; *Think, Talk, and Write* p. 417; *e-Review* p. 427
   Grade 5: *Quick Check* p. 627; *Think, Talk, and Write* p. 633; *e-Review* p. 647

   Summative Assessment: *Representative examples can be found on the following pages in the Teacher Edition.*

   Grade K: Teacher Edition p. 118-119;
   Grade 1: *Performance Assessment* p. 121; *Chapter Assessment* p. 122; *Assessment Book* p. 27
   Grade 2: *Performance Assessment* p. 213; *Chapter Assessment* p. 214; *Assessment Book* p. 66
   Grade 3: *Performance Assessment* p. 313; *Chapter Assessment* p. 312; *Assessment Book* p. 81
   Grade 4: *Performance Assessment* p. 441; *Chapter Assessment* p. 440; *Assessment Book* p.112
   Grade 5: *Performance Assessment* p. 689; *Chapter Assessment* p. 688; *Assessment Book* p.155

2. **Equity and Accessibility: Macmillan/McGraw-Hill's *Science A Closer Look*** includes pictures of all types of children and adults involved in the process and practice of science learning and application. Instructionally, accommodations are included to assist teachers in meetings the needs of all types of learners. English Language Learner support is found within the instruction of the Teacher's Edition and the supplemental resource, *English Language Learner Teacher's Guide*. Leveled ELL Support Strategies are included for each lesson contain Beginning, Intermediate, and Advanced suggestions. Two types of *Differentiated Instruction* notes provide the classroom teacher with guidance for addressing conceptual levels of difficulty in the chapter, and leveled activities to help students access the science content.

   Equity/ Freedom from Bias: *Representative examples can be found on the following pages in the Student Edition.*

   Grade K: Teacher Edition p. 156-157;
   Grade 1: *Activity* p. 360; *Lesson* p. 366; *Extensions* p. 386
   Grade 2: *Activity* p. 61; *Lesson* p. 67; *Extensions* p. 82
   Grade 3: *Activity* p. 151; *Lesson* p. 156; *Extensions* p. 172
   Grade 4: *Activity* p. 359; *Lesson* p. 397; *Extensions* p. 400
   Grade 5: *Activity* p. 301; *Lesson* p. 350; *Extensions* p. 322

Differentiated Instruction: *Representative examples can be found on the following pages in the Teacher Edition.*

Grade K: Teacher Edition: *ELL Support* p. 124I-J; *Differentiated Instruction* p.129;
Grade 1: *ELL Support* p. 358C-D; 362 *Differentiated Instruction Plan* p. 358; *Leveled Activities* p. 363; 369
Grade 2: *ELL Support* p. 52C-D; 56; *Differentiated Instruction Plan* p. 52; *Leveled Activities* p. 57; 64
Grade 3: *ELL Support* p. 148C-D; 154 ; *Differentiated Instruction Plan* p. 148; *Leveled Activities* p. 153; 155
Grade 4: *ELL Support* p. 356C-D; 363; *Differentiated Instruction Plan* p. 356; *Leveled Activities* p. 361; 371
Grade 5: *ELL Support* p. 298C-D; 306; *Differentiated Instruction Plan* p. 298; *Leveled Activities* p. 303; 304

3. **Program Coherence: Macmillan/McGraw-Hill's *Science A Closer Look*** is built around the research-based instructional approach of the 5-E Inquiry Learning Model. It provides a consistent and structured approach to facilitate student learning. Each chapter is built around a 'Big Idea' question and each lesson builds towards answering that question.

Organization: *Representative examples can be found on the following pages in the Teacher Edition.*

Grade K: Teacher Edition: *Circle Time* p. 26; *Read and Learn Together* p. 28-29; *Centers* p. 31
Grade 1: *Big Idea* p. 84; *Engage/Explore* p. 94-95; *Explain* p. 96-99; *Evaluate* p. 99; *Extend* p. 100-101
Grade 2: *Big Idea* p. 184; *Engage/Explore* p. 186-187; *Explain* p. 188-191; *Evaluate* p.191; *Extend* p. 192-193
Grade 3: *Big Idea* p. 276; *Engage/Explore* p. 278-279; *Explain* p. 280-285; *Evaluate* p.285; *Extend* p. 286-287
Grade 4: *Big Idea* p. 408; *Engage/Explore* p. 410-411; *Explain* p. 412-417; *Evaluate* p.417; *Extend* p. 418-419
Grade 5: *Big Idea* p. 622; *Engage/Explore* p. 624-625; *Explain* p. 626-633; *Evaluate* p.633; *Extend* p. 634-635

4. **Facilitating Instruction**: **Macmillan/McGraw-Hill's *Science A Closer Look*** includes materials to help all teachers feel successful in teaching science. Each chapter begins with 'Planning Chart' that clearly identifies the learning objectives; reading skills and activities. It helps teachers to map out their planning and identifies all of the resources available to support the lessons. Each lesson helps teachers to organize their instruction by highlighting the most important parts of the lesson in the Fast Track box. Each lesson resource is identified at point of use for teachers to choose. Science background notes provide 'on the fly' notes for the lesson content. To help teachers feel more comfortable about the content, Macmillan/McGraw-Hill provides three unique resources: 1.) the *Yellow Pages* at the back of the Teacher Edition provides specific lesson content information to help build teacher confidence and assist them in addressing student questions; 2.) our exclusive partnership with the National Science Digital Library provides free online professional development and lesson resources; and 3.) our *Classroom Presentation Toolkit CD-ROM* provides specific PowerPoint slides for each lesson and includes detailed instruction notes for the teacher to present.

Teaching Support: *Representative examples can be found on the following pages in the Teacher Edition.*

Grade K: Teacher Edition *Chapter Planner* p.124G-H; *Science Facts* p.128; *Science Handbook* p. TR3
Grade 1: *Chapter Planner* p. 358A-B; *Lesson Planner* p. 360A-B; *Science Background* p. 362; *Yellow Pages* p. TR56
Grade 2: *Chapter Planner* p. 358A-B; *Lesson Planner* p. 360A-B; *Science Background* p. 362; *Yellow Pages* p. TR56
Grade 3: *Chapter Planner* p. 104A-B; *Lesson Planner* p. 106A-B; *Science Background* p. 108; *Yellow Pages* p. TR40
Grade 4: *Chapter Planner* p. 408A-B; *Lesson Planner* p. 410A-B; *Science Background* p. 412 ; *Yellow Pages* p. TR40
Grade 5: *Chapter Planner* p. 360A-B; *Lesson Planner* p. 362A-B; *Science Background* p. 364; *Yellow Pages* p. TR40

5. **Authentic, Real World Learning: Macmillan/McGraw-Hill's *Science A Closer Look*** promotes real world, authentic learning experiences that help students understand the work of scientists. Beginning with the *Be a Scientist* section, real world scientists and current world problems are highlighted. Each lesson section beings with a question to

help students focus on the most important information in the selection. Students record their learning experiences in a variety of ways; including charts, tables, graphs and with the Foldables. Every lesson includes a variety of inquiry experiences – question initiated hands-on Explore activities; question prompted reading selections; Be a Scientist Inquiry Investigations move students through various levels of inquiry.

Student Instructional Materials *Representative examples can be found on the following pages in the Student Edition (unless otherwise noted).*

Grade K: Teacher Edition *Unit Project* p.24F; *Dramatic Play* p.39
Grade 1: *Reading in Science* p. 116; 148; *Focus on Skills(TE)* p. 93A; 131A; *Inquiry Investigations(TE)* p.107A; *Careers* p. 156
Grade 2: *Reading in Science* p. 374; 426; *Focus on Skills(TE)* p. 365A; 403A; *Inquiry Investigations(TE)* p. 389A; *Careers* p.434
Grade 3: *Reading in Science* p. 130; 181; *Focus on Skills* p. 78; 158; *Inquiry Investigations* p. 144; *Careers* p. 184
Grade 4: *Reading in Science* p. 222; 302; *Focus on Skills* p. 210; 260; *Inquiry Investigations* p. 244; *Careers* p. 306
Grade 5: *Reading in Science* p. 352; 414; *Focus on Skills* p. 312; 376; *Inquiry Investigations* p. 322; *Careers* p. 356