SCIENCE ABE PACING GUIDES <<COMMON CORE BASICS, MCGRAW-HILL EDUCATION >>

TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 1 (pages 14-51) **TOPIC:** HUMAN BODY AND HEALTH **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 20-44, 59-66, 89-92, 135-158, 175-178* *Achieving TABE Success in Reading, Level D Reader, pages 5-18, 24-33, 64-80* *Reading Basics, Intermediate 2 Workbook, pages 14-19, 29-35, 45, 69, 93, 109-115, 141, 148, 150-155, 165* *Reading Basics, Intermediate 2 Reader, pages 1-9, 19-25, 78-84, 103-110* *Words to Learn By- Building Academic Vocabulary, Lessons 1, 5, 9, 17, 19* *Words to Learn By- Expanding Academic Vocabulary, Lessons 1, 3, 5, 7, 8, 11, 12, 15, 17-20* *Words to Learn By- Advancing Academic Vocabulary, Lessons 1, 2, 5, 6, 8, 9, 12, 13, 15, 16, 19* *Workplace Skills, Reading for Information, Lessons 1-9, 14-16, 24* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Unit 2; Lessons 1.1, 3.1, 4.1, 4.4-4.7* *Workforce Connects, Reading for Information, Units 3, 4; Lessons 5.5-5.6, 6.1, 7.2*	**WEEK 1** **CHAPTER TITLE:** 1- HUMAN BODY AND HEALTH **LESSON(S) TITLE:** *1.1- Skeletal and Muscular Systems; 1.2- Digestive, Respiratory, Excretory, and Circulatory Systems; 1.3- Nervous, Endocrine, and Reproductive Systems; 1.4- Health and Disease* **TEXT LESSON OBJECTIVES:** 1.1-Identify main parts of the human skeletal system; Classify different types of joints; Explain how the skeletal and muscular systems work together for movement 1.2-Recognize the organs and processes of the digestive, excretory, circulatory, and respiratory systems; Explain how these systems work together to provide the body's cells with energy and remove cellular wastes 1.3-Recognize the organs and processes of the nervous and endocrine systems; differentiate between male and female reproductive organs; sequence the events in the development of a fetus from a fertilized egg; Identify conclusions and supporting details 1.4-Identify common disease and their causes; Discuss the types of nutrients used by the body; Relate different types of drugs to their effects on the body **BEFORE, DURING & AFTER READING STRATEGIES:** **Word Study-** Display the vocabulary words and definitions and ask riddles using the words ("I squeeze and relax, pumping blood around your body. What am I?"- IRB 199 **Understand Text Organization-** Ask students to describe a recent writing task and how they collected and organized text to make it sensible or affective- IRB 199 **Set a Purpose for Reading**- Use a KWL chart labeled "Skeletal System", with columns headed "What I Know, What I Want to Know, What I Learned" to make sense of the text- page 16, IRB 199 **Use Word Parts-** suffix *–ory* (meaning having to do with) as in *excretory* and *respiratory* (IRB 201); prefix *in-* (meaning not) changes *voluntary* to *involuntary* (IRB 200); Latin word *cerebrum* (little brain) is the basis for *cerebellum* (IRB 204) **Words as Context Clues**- locate context clue words in the text, pointing out the location and movement indicators (in, down, into, there, across, carries, passes, leave)- IRB 201 **Multiple-Meaning Words**- use context of sentence to determine the meaning of *labor* –IRB 203 **Prior Knowledge-** identify the words that might be heard or read in a doctor's office- IRB 205 **Clarify Meaning**- with organization of charts (headings or rows and columns)- page 37, IRB 205 **ADDITIONAL STRATEGIES:** **Determine Meaning-** Ask students to explain relationship between voluntary and involuntary muscles and nervous system response- page 20, IRB 200 **Integrate Text and Visuals-** use title and labels of diagrams to understand content of accompanying text- page 25 **Cite Textual Evidence**- for sequence of actions using cue words and phrases – page 34 **Evaluate Conclusions**-"*jump to a conclusion"* means to judge without having all the facts- IRB 205 **HOME LEARNING:** **Compare and Contrast Multimedia Sources-** aimed at children (educational effectiveness)- pg. 40 **Workplace Connection-**investigate the use of computer technology in science research- page 39 **Write to Learn** activities: pages 21, 27, 33, 39 **Application of Science Practices**: pages 50-51	**BELL RINGER:** 1.1- students imagine running and the job of the bones in their legs to the job of the muscles, how alike and different- IRB 199 1.2- ask students to name one organ from each of the digestive, respiratory, excretory, and circulatory systems- IRB 201 1.3- students brainstorm a list of the various ways that messages can be delivered throughout an office building, person to person, and automatically in response to physical conditions- IRB 203 1.4- students describe health-related stories recently seen in the media, and those relevant to their lives- IRB 205 **VOCABULARY:** 1.1-organization, voluntary, cardiac muscle, ligaments, marrow, skeletal muscle, smooth muscle 1.2-excretory system, plasma, platelet, respiratory system 1.3-labor, fetus, hormones, menstrual cycle, sequence 1.4-drug, well-balanced diet, calorie, immunity, prescription, symptom, antibiotic, over-the-counter, acquire **STUDENT PRODUCT/PROJECT:** **21st Century Skill-Communication and Innovation-** prior to assignment, discuss the values of precision in writing, stating what's most important and use of visuals to further clarify text- page 17, IRB 200; **Communication and Collaboration-** students share specific examples of experiences with collaboration in the workplace- page 33; F**lexibility and Adaptability-** investigate the various nutritional models promoted by the USDA (MyPlate.gov)- page 41 **Determine Central Ideas-** in groups, scan an article from local newspaper identifying the central or main idea- IRB203 **Write to Learn-** pages 21, 27, 33, 39 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** in small groups students explain the diagram of the arm on page 20 using their own words (IRB 200); practice pronunciation of words and phrases from the lesson (IRB 202); suffix –ion (refers to the act, result or state of something) on the terms *fertilization, nutrition*, and *contraction* (IRB204) **Extension Activity:** Construct a model to show how a knee flexes to allow movement (IRB 200); research additional details about a body system, including cause and effect of diseases associated with the system (IRB 202); research and draw conclusions about hormones (IRB 204); collect and display nutritional labels from variety of snack-food packages (IRB 206) **EXIT SLIP:** **Think About Science**: pages 16, 21, 24, 27, 33, 39, 41, 43
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1, CCRA.R.2, CCRA.R.4, CCRA.R.5, CCRA.R.7, CCRA.R.9, CCRA.R.10	**TABE CORRELATION TO TEXT:** Interpret Graphic Information Words in Context Recall Information- Details Construct Meaning- Main Idea, Compare / Contrast, Drawing Conclusion, Supporting Evidence	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 2 (pages 52-85) **TOPIC:** LIFE FUNCTIONS AND ENERGY INTAKE **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 20-44, 67-74, 89-92, 143-150, 233-236* *Achieving TABE Success in Reading, Level D Reader, pages 5-18, 34-39, 73-76, 94-98* *Reading Basics, Intermediate 2 Workbook, pages 29, 69, 78-83, 93, 150-155, 165, 173* *Reading Basics, Intermediate 2 Reader, pages 42-49, 103-110* *Words to Learn By- Building Academic Vocabulary, Lessons 17, 20* *Workplace Skills, Reading for Information, Lessons 2-5, 8-9, 14-15, 19* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Unit 2; Lessons 1.1, 3.2, 4.4-4.5, 5.3* *Workforce Connects, Reading for Information, Lessons 3.2-3.5, 4.3-4.4, 5.5-5.6, 6.4*	**WEEK 2** **CHAPTER TITLE:** 2- LIFE FUNCTIONS AND ENERGY INTAKE **LESSON(S) TITLE:** *2.1-Flowering Plants; 2.2- Respiration; 2.3- Fermentation* **TEXT LESSON OBJECTIVES:** 2.1- Identify the basic parts of a flowering plant; Understand the food-making process in a plant; Describe how flowering plants reproduce 2.2- Relate respiration to energy; Identify step-by-step scientific procedures; Describe the rule of oxygen in the process of respiration; Explain the process of cellular respiration 2.3- Relate fermentation to energy; Relate the absence of oxygen to fermentation; Explain the process of fermentation **BEFORE, DURING & AFTER READING STRATEGIES:** **Form Sentences-** use one or more vocabulary words in a sentence-IRB 207 **Collaborative Reading**- read the first sentence of section *Reproduction in Flowering Plants*, then select a student to read the next sentence, until done- page 59, IRB 208 **Respond to Questions-** students develop sentences for vocabulary, then in teams read aloud the sentences, asking other team to guess the word- IRB 209; teacher reads sentences with a blank for vocabulary word -IRB 211 **Word Parts**- *carbohydrate* comes from *carbo* (chemical element carbon) and *hydrate* (Greek word *hydor* meaning water) and is a combination of of carbon, hydrogen and oxygen page 62, IRB 209 **Model Fluent Reading**- read first paragraph on page 70 ignoring the commas, then again with the commas, with students noting the differences in what they heard- IRB 211 **ADDITIONAL STRATEGIES:** **Integrate Text and Visuals-** images provide a visual representation of the text that aids in comprehension, allowing comparison of different types of items or too small or too large to see- page 55, IRB 207 **Apply Scientific Models**- explore the application of computer models in scientific research- page 57, IRB 208 **Determine Meaning of Terms-** identify suffixes, prefixes and base words to help with unfamiliar words (e.g. *glycolysis- glyco* means sugar, *lysis* means to split)-IRB 209 **Follow Multistep Procedure-** use examination of microorganisms in pond water to show value of writing numbered steps and explicit instructions – page 64, IRB 210 **Apply Scientific Processes-** relate the scientific process to investigations conducted by police officials and chemists and engineers- page 71, IRB 212 **HOME LEARNING:** **21st Century Skill- Initiative and Self-Direction-** write about a specific example of personal initiative and the result or effect of that initiative- page 65, IRB 210 **Compare and Contrast Information**-on the process of fermentation-page 72 **Application of Science Practices**: pages 84-85	**BELL RINGER:** 2.1- list various kinds of flowering plants with descriptions including shape and color- IRB 207 2.2-describe how the body responds to a period of heavy exercise and how it affects breathing rates- IRB 209 2.3- use experiences baking yeast breads and what causes the holes to form- IRB 211 **VOCABULARY:** 2.1- precise, reproduction, visual, chlorophyll, photosynthesis, pistil, pollination, stamen 2.2- aerobic, initiative, procedure, process, cellular respiration, glycolysis, mitochondria 2.3- accountability, productivity, research, anaerobic, fermentation, compare, contrast **STUDENT PRODUCT/PROJECT:** **21st Century Skill- Communication**- pairs of students write on a topic of interest, including critical details and visual devices to help readers understand the topic- page 56, IRB 208 **21st Century Skill- Productivity and Accountability**- develop a chart with examples of productivity and of accountability- IRB 212 **Write to Learn** activities: pages 58, 68, 74 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** use a flower to demonstrate its parts (IRB 208); explain a diagram (page 64) in own words (IRB 210); explain an experiment in their own words (IRB 212) **Extension Activity:** develop an advertisement on a flower's merits to market to potential pollinators (IRB 208); write the steps for a familiar process (repairing a bicycle) along with a diagram (IRB 210); write an explanation of how yeast works in the fermentation process (IRB 212) **EXIT SLIP:** **Think About Science** activities: pages 57, 58, 59, 64, 65, 66, 71, 73
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.3, CCRA.R.4, CCRA.R.7, CCRA.R.9, CCRA.R.10	**TABE CORRELATION TO TEXT:** Interpret Graphic Information Words in Context Recall Information- Sequence Construct Meaning- Main Idea, Compare / Contrast Evaluate/ Extend Meaning- Apply Passage Details	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 3 (pages 86-131) **TOPIC:** ECOSYSTEMS **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 167-178, 193-208* *Achieving TABE Success in Reading, Level D Reader, pages 77-93* *Reading Basics, Intermediate 2 Workbook, pages 38-43, 110-115, 142-147, 166-171* *Reading Basics, Intermediate 2 Reader, pages 26-33, 78-84, 120-128* *Words to Learn By- Expanding Academic Vocabulary, Lessons 7, 8, 19* *Words to Learn By- Advancing Academic Vocabulary, Lessons 2, 19* *Workplace Skills, Reading for Information, Lessons16, 21, 25* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 4.2, 4.7, 5.1, 5.6* *Workforce Connects, Reading for Information, Lessons 6.1, 6.6, 7.3*	**WEEK** 3 **CHAPTER TITLE:** 3- ECOSYSTEMS **LESSON(S) TITLE:** *3.1- Ecosystems; 3.2- Carrying Capacity; 3.3- Symbiosis; 3.4- Disruption; 3.5- Environmental Issues* **TEXT LESSON OBJECTIVES:** 3.1-Understand the organization of ecosystems; Describe interactions between organisms; Identify biomes of the world 3.2-Identify limiting factors that affect carrying capacity; Identify different kinds of relationships within a habitat; Explain the relationship between equilibrium and carrying capacity 3.3-Define mutualism, commensalism, and parasitism; Give real-world examples of each type of symbiotic relationship 3.4-Identify laws of ecology; Give examples of environmental disruptions; Explain the consequences of disruptions 3.5-Distinguish between nonrenewable and renewable resources; Identify types of pollution; Understand the effects of human activities on the environment **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate New Words**- to words or concepts already known- IRB 213 **Predict Meanings**- of words using word parts (*a-* "not, without"; *de-* "un, down"; *en-* "make, put in"; *in-* "in"; *bio-* "life"; *di-* "apart")- IRB 219; *symbiosis* has a Greek base word *bios* (one's life or way of living), prefix *sym-* (together), and suffix *–is* (having the character of)- IRB 217; *disruption* (Latin *disrumpere-* "break apart")-IRB 219 **Forms of a Word**- *habitat* is from the Latin word *habitare* (it dwells, or lives)and relates to *habit, habitable, habitual, habitation, inhabitant, habilitate* -IRB 216 **Summarize Text**- with a short restatement of main point and key ideas of a text- IRB 217 **Preview Text**- using titles, subtitles, boldfaced words, visuals as clues- IRB 221 **Distinguish Between Facts and Speculation-** use an example for speculation (something that a person thinks is true, but the truth has not been verified)- IRB 221 **ADDITIONAL STRATEGIES:** **Analyze Author's Purpose**- although in most science textbooks the author's purpose is to inform and educate, words can clue to a purpose other than to inform- page 89 **Understand Text-** skim text and highlight unfamiliar words, paying attention to those in italic or bold type, identifying jargon and parsing (breaking into parts)pages 93, 98 **Identify Hypothesis**-that can be made from observing spoiled milk-IRB 217 **Cite Textual Evidence**- in a news article, identify the conclusion, question or argument and specific supporting statements- pages 97, 114, 122 **HOME LEARNING:** **Critical Thinking and Problem Solving-** research university websites for the types of science investigations being conducted and corresponding hypotheses- page 103 **21st Century Skill- Information Technology**- research ways that scientists propose to slow or stop polar ice melting- IRB 222 **Write to Learn** activities: pages 92, 100, 107, 115, 122 **Application of Science Practices**: pages 130-131	**BELL RINGER:** 3.1- use the environment outside the school to draw a comparison to how the nature of the environment affects organisms living in it-IRB 213 3.2- ask students to describe the meaning of the term *serving size* and possible consequences of having fewer servings than needed-IRB 125 3.3- students describe some of the living and nonliving things they see around them and in spaces beyond the immediate area- IRB 217 3.4-discuss what keeps an ecosystem healthy using scenarios on note cards (e.g. mouse population in a field grows too large)- IRB 219 3.5- use a two-column chart to list renewable and nonrenewable resources regularly used by the students- IRB 221 **VOCABULARY:** 3.1- environment, interact, biome, biosphere, ecosystem, food chain, prediction 3.2- exceeded, equilibrium, habitat, jargon, population, carrying capacity, limiting factor, concept 3.3-host, mutualism, parasite, antibodies, symbiosis, summarize 3.4-degradation, destruction, endangered, fragmentation, threatened, abiotic, biodiversity, biotic, invasive species 3.5-climate, fact, speculation, conservation, natural resources, pollution **STUDENT PRODUCT/PROJECT:** **Find Personal Connections**-work in small groups to create drawings of local ecosystem to represent vocabulary –IRB 215 **Illustrate Word Meanings**- of vocabulary in lesson with drawings working in small groups- IRB 217 **List Examples**- working in pairs, students surround the vocabulary word (in a circle) with examples- IRB 221 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** use a thesaurus to locate synonyms to substitute for unknown vocabulary words (IRB 214); examine the consequences of removing a food from the sea otters' diet on page 99 (IRB 216); summarize and illustrate sections of text (IRB 218); use four-column organizer to list examples of Commoner's laws of ecology (page 110, IRB 220); practice reading words aloud, clapping for each syllable (IRB 222) **Extension Activity:** create a diagram of the food chain within a biome (IRB 214); sketch out the plan descried in the Write to Learn activity on page 100 (IRB 216); students choose an organism and develop a question, hypothesis and experiment (IRB 218); use online media to find examples and non-examples of disruption (IRB 220); identify research questions from an environmental news story (IRB 222) **EXIT SLIP:** **Think About Science** activities: pages 88, 90, 92, 97, 99, 103, 105, 106, 112, 113, 121, 122, 123
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1, CCRA.R.2, CCRA.R.4, CCRA.R.6, CCRA.R.8, CCRA.R.10	**TABE CORRELATION TO TEXT:** Construct Meaning- Summary and Paraphrase; Supporting Evidence Evaluate/ Extend Meaning-Author's Purpose; Fact and Opinion	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 4 (pages 132-173) **TOPIC:** FOUNDATIONS OF LIFE **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 67-74, 83, 143-158, 175-178, 201-208* *Achieving TABE Success in Reading, Level D Reader, pages 34-39, 73-80, 89-93* *Reading Basics, Intermediate 2 Workbook, pages 30-35, 78-83, 110-115, 142-147, 150-155* *Reading Basics, Intermediate 2 Reader, pages 19-25, 42-49, 78-84, 103-110* *Words to Learn By- Expanding Academic Vocabulary, Lesson 18* *Words to Learn By- Advancing Academic Vocabulary, Lesson 15* *Workplace Skills, Reading for Information, Lessons 4-6, 8-9, 14-16* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 3.2, 4.4-4.7, 5.6* *Workforce Connects, Reading for Information, Lessons 3.4-3.5, 4.1, 4.3-4.4, 5.5-5.6, 6.1*	**WEEK 4** **CHAPTER TITLE:** 4- FOUNDATIONS OF LIFE **LESSON(S) TITLE:** *4.1- The Cell; 4.2- Simple Organisms; 4.3- Invertebrates; 4.4- Vertebrates* **TEXT LESSON OBJECTIVES:** 4.1-Identify the basic structure of cells; Identify similarities and differences in plant and animal cells; Understand how cells work 4.2-Identify basic characteristics of microbes; Recognize different types of microbes; Understand the role of microbes in the environment 4.3- Distinguish between invertebrates and vertebrates; Recognize the basic characteristics of invertebrates; Organize the steps in four stage and three-stage metamorphosis 4.4- Give characteristics of vertebrates; Explain the difference between warm- and cold-blooded animals **BEFORE, DURING & AFTER READING STRATEGIES:** **Write Sentences**- for vocabulary that includes an example or explanation- IRB 223 **Study Cards**- for vocabulary with definition, pronunciation and sentence-IRB 225 **Prefix *–in*-** means "not" changes *vertebrate* to *invertebrate*- IRB 227 **Set a Purpose for Reading**- use KWL chart, skimming text and using headings and subheadings to complete the chart- IRB 223 **Reread/ Read More Slowly**- to complete a chart comparing similarities and differences between humans and invertebrates- page 148, IRB 227 **Analyze Author's Purpose-** students determine if author's methods for presenting information (words or diagrams) make the topic easier to understand- page 159 **ADDITIONAL STRATEGIES:** **Support Conclusions**- look for supporting evidence while reading -underline textual evidence and circle conclusions – IRB 223 **Compare and Contrast Information**- use a Venn diagram to show similarities and differences between bacteria and viruses- page 143 **Cite Textual Evidence**- compare kinds of evidence investigated by scientists, doctors, police to expand knowledge of the term *evidence*- IRB 227 **HOME LEARNING:** **Word Parts**- use dictionaries or etymology websites to determine meanings of word parts- IRB 229 **Cite Textual Evidence-** research yellow fever or other tropical diseases citing textual evidence to support any conclusions drawn- page 141, IRB 225 **Write to Learn** activities: pages 138, 142, 153, 163 **Application of Science Practices**: pages 172-173	**BELL RINGER:** 4.1- students list what they do know and like to learn about plant and animal cells- IRB 223 4.2-ask for examples of food items made using microbes –IRB 225 4.3- list ten animals with and then ten without backbones- IRB 227 4.4-list characteristics shared by all vertebrates- IRB 229 **VOCABULARY:** 4.1- function, cell, diffusion, nucleus 4.2- compare, thrive, decomposer, microbe, organs 4.3-adapt, invertebrate, metamorphosis, parasite, vertebrate 4.4-reflex, respond, amphibians, instinct, mammals **STUDENT PRODUCT/PROJECT:** **21st Century Skill- Critical Thinking and Problem Solving**- working in pairs students interview each other about a hobby or place to visit, writing clear factual explanations that are free of opinion- page136 **Follow a Multistep Procedure-** use a procedural document with numbered steps (recipe or assembly instructions) to see if a procedure would produce the same results for each person using it- IRB 228, 229 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** use a three-column table to list plant cell, animal cell structures and the function of each structure (IRB 224); use main idea graphic organizer to summarize the key characteristics of different kinds of simple organisms (IRB 226); retell the multistep process for "Insect Life Stages" on pages 152-153 (IRB 228); discuss common words associated with vertebrates (*shrewlike, platypus, kangaroo, opossum, marsupial*)- (IRB 230) **Extension Activity:** research the use of intravenous saline solution to treat dehydration instead of water (IRB 224); use a graphic organizer to compare how organisms are helpful or harmful to humans (IRB 226); evaluate two or more sources of information on the impact of an insect species on humans, citing evidence for economic or medical benefits or damages (IRB 228); classify mammalian pet species as a good or bad pet species with supporting evidence (IRB 230) **EXIT SLIP:** **Think About Science** activities: pages 135, 136, 137, 141, 142, 143, 145, 149, 150, 152, 153, 157, 158, 159, 161, 162, 163
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.3; CCRA.R.6; CCRA.R.9; CCRA.R.10	**TABE CORRELATION TO TEXT:** Recall Information- Sequence Construct Meaning-Compare/ Contrast; Supporting Evidence; Draw Conclusions Evaluate/ Extend Meaning-Author's Purpose	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 5 (pages 174-197) **TOPIC:** HEREDITY **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 151-158, 167-174, 185-192* *Achieving TABE Success in Reading, Level D Reader, pages 73-84* *Reading Basics, Intermediate 2 Workbook, pages 30-35, 38-43, 158-163* *Reading Basics, Intermediate 2 Reader, pages 19-33, 111-119* *Words to Learn By- Advancing Academic Vocabulary, Lessons 8, 9* *Workplace Skills, Reading for Information, Lessons 6, 9, 16, 21, 25* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 4.2, 4.6, 5.2* *Workforce Connects, Reading for Information, Lessons 4.1, 4.4, 6.1, 6.6, 7.3*	**WEEK 5** **CHAPTER TITLE:** 5- HEREDITY **LESSON(S) TITLE:** *5.1-Genetics; 5.2- Genotypes and Phenotypes* **TEXT LESSON OBJECTIVES:** 5.1- Relate genes to chromosomes; Identify how traits are passed from parents to offspring; Explain the structure and processes of DNA 5.2- Use a Punnett Square to determine an organism's genotype and phenotype; Explain the relationship between genotype and phenotype; Describe the role of alleles **BEFORE, DURING & AFTER READING STRATEGIES:** **Word Analysis**- relate the meaning of the historical parts of *gene* to *pangen* "all" and *genos* "kind or offspring"- IRB 231 **Map Relationships**- make concept maps to determine relationships among the vocabulary words- IRB 233 **Summarize Text**- read a brief news story aloud while students note details, then ask students to share the details that they recorded, summarizing the article- IRB 231 **Base Words-** relate the Latin words *dominant* –"ruling, or governing" and *recedere*- "to go back, or withdraw" to the terms *dominant* and *recessive*- IRB 233 **ADDITIONAL STRATEGIES:** **Make Predictions-** ask students for examples of predictions that they hear or read in daily life (meteorologists make about weather and sportscasters make about the outcome of games), relate to Mendel's pea plant research- page 178, IRB 231, 232 **Distinguish Among Reasoned Judgments**- when there is too little evidence or conflicting evidence, scientists must apply reason or logic to form conclusions such as a when a doctor determines what is making a patient ill- IRB 233 **HOME LEARNING:** **21st Century Skill- Initiative and Self-Direction-** initiative is the first step toward a goal, with a schedule of checkpoints or tasks that would need self-direction to work independently – students set a goal with a schedule to achieve it- page 180 **Write to Learn** activities: pages 179, 191 **Application of Science Practices**: pages 196-197	**BELL RINGER:** 5.1- discuss prior knowledge of DNA and inheritance of traits (from their parents) and how it is used in forensics, paternity and inheritable disease tests – IRB 231 5.2- ask for a list of an organism's traits or characteristics that are shared with family members (or pet's offspring)- DNA- IRB 233 **VOCABULARY:** 5.1- dominant, trait, chromosome, genes, genetics, recessive, prediction 5.2- heredity, offspring, allele, genotype, phenotype, Punnett Square, distinguish **STUDENT PRODUCT/PROJECT:** **Express Scientific Information-** after discussing the tools scientists use most often to understand or present complex information (tables, charts, diagrams, lists) students express the ratio of possible allele combinations for pea plant traits- page 186 **Extracting Strawberry DNA**- page 191 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** students retell a text excerpt from the lesson in their own words (IRB 232); students summarize the steps in the investigation for extracting strawberry DNA (page 191) and safety precautions taken (IRB 234) **Extension Activity:** develop a flow chart that outlines Gregor Mendel's method for his experiment on pea plants (IRB 232); research and compare other procedures for extracting DNA from a fruit other than strawberries (IRB 234) **EXIT SLIP:** **Think About Science** activities: pages 177, 179, 181, 187, 188, 189, 190
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.4; CCRA.R.8; CCRA.R.10	**TABE CORRELATION TO TEXT:** Construct Meaning-Summary and Paraphrase; Draw Conclusions Evaluate/ Extend Meaning-Predict Outcomes	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

SCIENCE ABE PACING GUIDES <<COMMON CORE BASICS, MCGRAW-HILL EDUCATION >>

TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 6 (pages 198-235) **TOPIC:** EVOLUTION **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 20-44, 67-74, 89-92, 135-142, 175178* *Achieving TABE Success in Reading, Level D Reader, pages 5-18, 34-39, 64-72, 77-80* *Reading Basics, Intermediate 2 Workbook, pages 29, 62-67, 69, 78-83, 93, 110-115, 154, 162, 165* *Reading Basics, Intermediate 2 Reader, pages 42-49, 78-84* *Words to Learn By- Advancing Academic Vocabulary, Lessons 5, 6, 15* *Workplace Skills, Reading for Information, Lessons 1-6, 8-10, 14-15* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 1.1, 2, 3.2, 4.1, 4.7* *Workforce Connects, Reading for Information, Lessons3.1-3.5, 4.1, 4.3-4.4, 5.1, 5.5-5.6*	**WEEK 6** **CHAPTER TITLE:** 6- EVOLUTION **LESSON(S) TITLE:** *6.1- Biological Evolution; 6.2- Common Ancestry and Cladograms; 6.3- Speciation* **TEXT LESSON OBJECTIVES:** 6.1- Understand the theory of evolutionary development; Recognize adaptations that enable organisms to survive in their environments; Understand the importance of fossil evidence 6.2-Describe the purpose of cladistics; Interpret a cladogram; Identify assumptions behind cladistics 6.3-Identify different types and causes of speciation; Describe different kinds of evolution **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate Words**- that are unfamiliar to words of concepts already known, using concept maps or semantic maps- IRB 235, 239 **Respond to Questions-** write the word *assumption* on the board, explaining that it is an unproven belief that the thought is true; then list: *clothing, music, artists, mathematics, sports, eyeglasses, technology, school* and ask for assumptions about each word- IRB 237 **Context Clues**- in small groups, students search for meaning of boldfaced terms-IRB 237 **Determine Meaning-** of word parts- *taxo* is Greek base that means "group or rank" and *–nomy* means "to arrange", so *taxonomy* means to "arrange in groups or classify"- IRB 237 **ADDITIONAL STRATEGIES:** **Identify Hypothesis-** as a proposed explanation based on limited evidence- use a flow chart to demonstrate the steps from a hypothesis to a theory- page 202, IRB 236 **Determine Central Ideas**- use clues such as bulleted lists, titles, subtitles and key words to determine central ideas of text- IRB 239 **Analyze Text Structure**- or text organization method: description, sequential or chronological arrangement, comparison, cause and effect, presentation of problem and solution- IRB 239 **HOME LEARNING:** **Integrate Explanations with Visual Representations-** develop a family tree showing relationships among members using a graph or diagram- IRB 237 **Write to Learn** activities: pages 205, 217, 227 **Application of Science Practices**: pages 233-234	**BELL RINGER:** 6.1- discuss Darwin's evolutionary theory, suggesting traits of a particular kind of organism that enable it to live in its specific environment-IRB 235 6.2- relate understanding of ancestry and relationship between evolution and natural selection, with examples of extinct organisms and factors leading to their extinction- IRB 237 6.3- discuss genetic traits and how they are passed from one generation to the next, and how evolution relates to inherited traits- IRB 239 **VOCABULARY:** 6.1- evidence, adaptation, evolution, fossil, mutation 6.2-ancestry, assumptions, diverge, cladistics, cladogram, homologous, phylogeny, systematics, taxonomy 6.3-fossil record, gene flow, hierarchy, lineage, continental drift, incipient species, natural selection, speciation **STUDENT PRODUCT/PROJECT:** **Choral Reading-** groups read text on page 200 together, using the same pace, expression and intonation as the rest of the group- IRB 235 **Cite Textual Evidence-** students select editorials to demonstrate the inclusion of facts as evidence to support the writers' opinions, and what broader questions that are not addressed in the article- IRB 235 **21st Century Skill- Information Literacy**- explore the impact of evidence rather than opinion in the continued success of a company- page 212 **21st Century Skill- Media Literacy**- research the claim that 140 species of marsupials live in Australia, documenting sources- page 223 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** students question the importance of each sentence to determine the topic sentence for a paragraph (IRB 236); explain the meaning of the cladogram on page 212 in own words (IRB 238); explain speciation process with examples from the text (page 224, IRB 240) **Extension Activity:** summarize Darwin's journey on the HMS Beagle using a map to plot his course along with his discoveries (IRB 236); write research questions based on topics presented on pages 213 and 217 and present answers along with visuals (IRB 238); research geodynamic models that predict continental movement over the next several hundred million years (IRB 240) **EXIT SLIP:** **Think About Science** activities: pages 201, 203, 204, 212, 215, 216, 221, 223, 225, 227
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.4; CCRA.R.5; CCRA.R.7; CCRA.R.10	**TABE CORRELATION TO TEXT:** Recall Information- Sequence Construct Meaning-Main Idea; Supporting Evidence Interpret Graphic Information Words in Context	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 7 (pages 236-257) **TOPIC:** ENERGY **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 20-44, 135-142, 151-158, 175-178* *Achieving TABE Success in Reading, Level D Reader, pages 5-18, 64-80* *Reading Basics, Intermediate 2 Workbook, pages 30-35, 62-67, 69,, 93, 110-115, 165* *Reading Basics, Intermediate 2 Reader, pages 19-25, 78-84* *Words to Learn By- Building Academic Vocabulary, Lessons 1, 9* *Words to Learn By- Expanding Academic Vocabulary, Lessons 12, 17, 20* *Words to Learn By- Advancing Academic Vocabulary, Lesson 12* *Workplace Skills, Reading for Information, Lessons1-3, 6-7, 9, 11, 16, 24* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 2, 4.1, 4.6, 4.7* *Workforce Connects, Reading for Information, Lessons3.1-3.3, 4.1-4.2, 4.4, 5.2, 6.1, 7.2*	**WEEK 7** **CHAPTER TITLE:** 7-ENERGY **LESSON(S) TITLE:** *7.1- Energy; 7.2- Waves; 7.3- Electricity and Magnetism* **TEXT LESSON OBJECTIVES:** 7.1- Define energy; Differentiate between kinetic and potential energy; Recognize different types of energy and energy transformations 7.2- Relate the characteristics of a wave to the electromagnetic spectrum; Compare low-energy and high-energy waves; Describe the visible spectrum 7.3- Discuss how electric current is produced and used; Identify parallel and series circuits; Describe an electromagnet and how it works **BEFORE, DURING & AFTER READING STRATEGIES:** **Multiple-Meaning Words-** use 2 different sentences for the meanings of term *contract* to explain multiple-meaning words- IRB 241 **Determine the Central Idea of a Text**- using headings, subheadings and captions- page 239 **Syllables**- divide vocabulary into syllables, looking for base words and prefixes or suffixes- IRB 243 **Cite Textual Evidence**- use a three-column chart (labeled high-energy waves, visible spectrum, low-energy waves)to list characteristics and examples of each type of wave- page 245-246, IRB 243 **Possible Sentence-** write sentences for vocabulary (used both correctly and incorrectly) and exchange and identify the correct sentences- IRB 245 **ADDITIONAL STRATEGIES:** **Determine Meaning-** two words may have different meanings while the concepts are related- IRB 241 **Determine Meaning of Symbols-** scientists use numbers and letters as symbols, which are listed in a caption next to a diagram- page 253, IRB 245 **Understand Text**- strategies include skim headings, examine visuals, define boldface terms, read in short chunks, summarize important details- IRB 245 **HOME LEARNING:** **21st Century Skill- Flexibility and Adaptability-** research examples of flexibility and adaptability in their own lives or in a historical situation- page 239 **Write to Learn** activities: pages 240, 248, 255	**BELL RINGER:** 7.1-discuss the forms of energy used in everyday life (riding a bike, turning on a light)- IRB 241 7.2- discuss students' prior knowledge about waves, e.g. ocean, radio, light, sound waves- IRB 243 7.3- invite students to discuss what they rely upon electricity to do each day and the source of that electricity- IRB 245 **VOCABULARY:** 7.1- contract, efficient, energy, expand, law of conservation of energy, transformation 7.2- frequency, electromagnetic spectrum, prism, reflect, refract, ultraviolet 7.3- magnets, circuit, electricity, electromagnet, generator, resistance, interpret **STUDENT PRODUCT/PROJECT:** **Draw Conclusions-** as a group discuss what it means to draw a conclusion (statement or explanation based on specific facts or details) then apply this method to why sonar is an effective method for mapping the ocean floor- page 248, IRB 243 **Write to Learn** activities: pages 240, 248, 255 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** in teams students read and explain the sections on page 240(IRB 242); use a word web to represent a conclusion and supporting details from a text (IRB 244); read text on page 254 and compare to diagram, then try building simple circuits- IRB 246 **Extension Activity:** students draw a diagram showing the differences between conduction, convection and radiation (IRB 242); create a poster that categorizes objects by their opacity (IRB 244); investigate different causes of power surges and explain what happens during a power-surge event (IRB 246) **EXIT SLIP:** **Think About Science** activities: pages 240, 247, 254
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.4; CCRA.R.10	**TABE CORRELATION TO TEXT:** Words in Context Construct Meaning-Main Idea; Draw Conclusions; Supporting Evidence	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 7 (pages 258-281) **TOPIC:** ENERGY **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 67-74, 185-192, 201-208, 213-220* *Achieving TABE Success in Reading, Level D Reader, pages 34-39, 81-84, 89-93* *Reading Basics, Intermediate 2 Workbook, pages 78-83, 142-147, 158-163* *Reading Basics, Intermediate 2 Reader, pages 42-49, 111-119* *Workplace Skills, Reading for Information, Lessons 4-5, 8-9, 14-15, 19* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 3.2, 5.2, 5.6* *Workforce Connects, Reading for Information, Lessons 3.4-3.5, 4.3-4.4, 5.5-5.6, 6.4*	**WEEK 8** **CHAPTER TITLE:** 7-ENERGY **LESSON(S) TITLE:** *7.4-Sources of Energy; 7.5- Endothermic and Exothermic Reactions* **TEXT LESSON OBJECTIVES:** 7.4- Compare and contrast different sources of energy; Distinguish between renewable and nonrenewable resources 7.5- Recognize endothermic and exothermic reactions; Relate changes in energy to endothermic and exothermic reactions **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate Terms-** use a three-column tally table (labeled never heard or read it, heard it but never used it, used it) to determine level of familiarity with terms- IRB 247 **Predict Meanings-** read aloud each vocabulary word in a sentence and ask students to predict the meaning of the word- IRB 249 **Word Analysis-** prefix *hydro-* (Greek *hudor* meaning water) found in *hydropower*, *hydroelectric* and *hydraulic*- IRB 248 **Suffixes**: *-ity, -al, -ly* used on dense (*density*), origin (*original*), potential (*potentially*), and apply to *gravitation* and *probable*- IRB 268 **ADDITIONAL STRATEGIES:** **Analyze an Author's Purpose-** review conflicting statements about "wind turbine syndrome" for the authors' specific point of view and purpose- page 260 **Analyze Text Structure**- identify how text is organized (description, sequential or chronological, cause-and-effect, problem-solution)- IRB 247 **Make Predictions**- use the example of a weather change to demonstrate how scientists use prior experience and knowledge to make predictions about what will happen during an investigation- IRB 249 **HOME LEARNING:** **Follow a Multistep Procedure-** research the instructions for making a chemical reaction ("hot ice") with each step followed exactly to get reliable results- page 272 **Write to Learn** activities: pages 266, 273 **Application of Science Practices**: pages 280-281	**BELL RINGER:** 7.4- students discuss energy-related topics that they hear on the news and their dependence on energy and sources of energy- IRB 247 7.5- use a cup of steaming cocoa to explain the transfer of heat from an area of greater to lesser thermal energy- IRB 249 **VOCABULARY:** 7.4- crowdsourcing, nonrenewable, renewable, reservoir, biomass, energy density, magma, nuclear fission 7.5- catalyst, chemical reaction, compounds, potential energy, product, reactant, activation energy, endothermic, exothermic **STUDENT PRODUCT/PROJECT:** **21st Century Skill- Information Literacy-** students summarize the purposes and advantages of crowdsourcing and why it might be helpful in the workplace (creativity, expense, collaborations)- page 262 **Write to Learn** activities: pages 266, 273 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** students explain each of the diagrams in the lesson (IRB 248); students describe each step in a process that they know how to do well (IRB 250) **Extension Activity:** students research a problem related to energy sources or consumption and offer a solution (IRB 248); students compose explanations of chemical reactions for young students using age-appropriate examples (IRB 250) **EXIT SLIP:** **Think About Science** activities: pages 259, 261, 263, 270, 271, 272, 273
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.3; CCRA.R.5; CCRA.R.6; CCRA.R.10	**TABE CORRELATION TO TEXT:** Recall Information- Sequence Evaluate/ Extend Meaning-Predict Outcomes; Author's Purpose	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 8 (pages 282-301) **TOPIC:** WORK, MOTION, AND FORCES **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 75-82, 135-142, 159-166, 193-200* *Achieving TABE Success in Reading, Level D Reader, pages 40-43, 64-72, 77-88* *Reading Basics, Intermediate 2 Workbook, pages 22-27, 46-51, 62-67, 166-171* *Reading Basics, Intermediate 2 Reader, pages 10-18, 34-41, 120-128* *Workplace Skills, Reading for Information, Lessons 1, 6, 16-17, 20, 24* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 2, 3.1, 4.1, 4.3, 5.1* *Workforce Connects, Reading for Information, Lessons 3.1, 4.1, 6.1-6.2, 6.5, 7.2*	**WEEK 9** **CHAPTER TITLE:** 8- WORK, MOTION, AND FORCES **LESSON(S) TITLE:** *8.1- Newton's Laws of Motion; 8.2- Forces and Machines* **TEXT LESSON OBJECTIVES:** 8.1- Apply the characteristics of speed, velocity and acceleration to describe motion; Apply Newton's Laws of Motion to describe the motion of familiar objects 8.2- Define work; Describe the relationship between forces and work; Identify simple machines and compound machines **BEFORE, DURING & AFTER READING STRATEGIES:** **Latin Origins-** *motio(n-)* "to move" in the term *motion*, *velocitas*- "swift" as the base of *velocity*- IRB 251 **Syllables**- break terms into syllables (equilibrium) to help sound out words- IRB 253 **Determine the Central Idea of a Text**- students identify the "big" idea or main point as they read to aid in understanding the text- page 285, IRB 251 **Use Prior Knowledge**- use self-questioning models, (such as *Have I read about this topic before? Does this sound familiar?)* to create a context or framework of known information- page 286, IRB 252 **ADDITIONAL STRATEGIES:** **Determine Meaning of Terms-** review the meanings of terms in the context of a specific text, such as physical science (force = mass x acceleration)-IRB 251 **Distinguish Between Facts and Speculation-** define speculation as a conclusion or opinion reached by conjecture, and use questions to determine if facts are being given (Can the statement be proved? Is the statement free of words that express beliefs and feelings? Is the statement based on data?)- IRB 253, page 291 **HOME LEARNING:** **Write to Learn** activities: pages 287, 293 **Application of Science Practices**: pages 300-301	**BELL RINGER:** 8.1- discuss the motion of familiar objects (skateboards, bicycles, cars) and what is required to make them turn, speed up, slow down, and stop- IRB 251 8.2- discuss the need for force to move an object- IRB 253 **VOCABULARY:** 8.1- acceleration, distance, motion, speed, inertia, velocity 8.2- force, friction, compound machine, equilibrium, simple machine, distinguish **STUDENT PRODUCT/PROJECT:** **Distinguish Cause and Effect-** students develop charts with a listing of machines and the cause-effect relationship between force (cause) and work (effect)- page 293 **Ask Questions-** students write a question they have about the text, then trade questions and look for the answers in the lesson- IRB 254 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** ask students to explain to their partner something they know such as the proper way to prepare for an activity with the partner identifying the main idea of the procedure (IRB 252); list cause- and-effect events from their lives (IRB 254) **Extension Activity:** choose examples that demonstrate each of Newton's Laws of Motion including the steps for performing it (IRB 252); find and label images of simple and compound machines (IRB 254) **EXIT SLIP:** **Think About Science** activities: pages 286, 292, 294
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.2; CCRA.R.3; CCRA.R.4; CCRA.R.8; CCRA.R.10	**TABE CORRELATION TO TEXT:** Recall Information- Stated Concepts Evaluate/ Extend Meaning- Fact / Opinion Construct Meaning- Main Idea; Cause/ Effect Words in Context	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 9 (pages 302-325) **TOPIC:** CHEMICAL PROPERTIES **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 89-92, 143-158, 175-178* *Achieving TABE Success in Reading, Level D Reader, pages 73-80* *Reading Basics, Intermediate 2 Workbook, pages 30-35, 110-115, 150-155* *Reading Basics, Intermediate 2 Reader, pages 19-25, 78-84, 103-110* *Words to Learn By- Building Academic Vocabulary, Lessons 5, 19* *Words to Learn By- Expanding Academic Vocabulary, Lessons 1, 5, 18* *Words to Learn By- Advancing Academic Vocabulary, Lessons 1, 16* *Workplace Skills, Reading for Information, Lessons 6, 9, 11, 16* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 1, 4.4-4.7* *Workforce Connects, Reading for Information, Lessons 4.1, 4.4, 5.2, 6.1*	**WEEK 10** **CHAPTER TITLE:** 9- CHEMICAL PROPERTIES **LESSON(S) TITLE:** *9.1- Matter; 9.2- The Atoms; 9.3- Compounds and Molecules* **TEXT LESSON OBJECTIVES:** 9.1- Recognize the four different states of matter; Distinguish between chemical and physical properties and changes; Explain the relationship between energy and states of matter 9.2- Describe the structure of an atom; Identify the properties of the elements using the periodic table of the elements 9.3- Explain how individual atoms interact to form compounds; Compare and contrast different types of chemical bonds; Communicate the structure of molecules using chemical formulas **BEFORE, DURING & AFTER READING STRATEGIES:** **Connect to Life Experiences-** compare the word simulation to online simulation games as a model of an action, object, or event in real life- IRB 255 **Label the Model**- of the Bohr model of the atom (page 312) using vocabulary terms- IRB 257 **Identify a Formula**- share examples of formulas students have used, including how a recipe is an example of a formula- IRB 259 **Roots**- Latin root *nucula* "kernel" in *nucleus*, and how the word is used in other contexts- IBR 257 **ADDITIONAL STRATEGIES:** **Compare and Contrast Information-** use a Venn diagram to compare two items (two kinds of vehicles, or animals) summarizing similarities and differences- IRB 255 **Cite Textual Evidence**- after identifying a paragraph's main idea sentence, the remaining sentences contain factual details or textual evidence- page 313 **Understand Text**- use the signal words for cause-and-effect (since, because, so, consequently, thus, therefore)- IRB 259 **Determine Meaning** of symbols used to identify the elements- page 323 **HOME LEARNING:** **21st Century Skill- Critical Thinking and Problem Solving-** research online for Mendeleyev's (Mendeleev) original periodic table and how the elements were discovered- page 315 **Write to Learn** activities: pages 308, 315, 323	**BELL RINGER:** 9.1- discuss the different forms water can take, recognizing that water is matter and exists in different forms (ice, steam, liquid)- IRB 255 9.2- examine the Periodic Table on page s 316-317 asking students to identify familiar elements- IRB 257 9.3- discuss prior knowledge of atoms and their electrons- what happens when an atom loses or gains an electron- IRB 259 **VOCABULARY:** 9.1- simulation, chemical property, element, matter, physical property, state of matter, conclusion 9.2-model, neutral, table, atom, electron, neutron, proton 9.3-bonding, compound, formula, symbol, molecule, cause, effect **STUDENT PRODUCT/PROJECT:** **Draw Conclusions-** in small groups students use background knowledge to categorize a list of changes as either chemical or physical- page 307 **Apply Scientific Models-** students use small round objects to model the parts of an atom- page 313 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** review concept maps to explain connections between content of the lesson (IRB 256); use an interactive periodic table to learn about the elements and their properties (IRB 258); use diagrams on pages 320, 322, 323 to review meanings of letters, symbols and signs (IRB 260) **Extension Activity:** research online for examples of science experiments that demonstrate changes of state, then follow the procedure and summarize their findings (IRB 256); design a game to help younger learners learn about the relationship between atomic number and chemical and physical properties of elements (IRB 258); create models of each bond (ionic, covalent, polar covalent and hydrogen bonds)- IRB 260 **EXIT SLIP:** **Think About Science** activities: pages 206, 307, 314, 315, 323
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.3; CCRA.R.4; CCRA.R.7; CCRA.R.9; CCRA.R.10	**TABE CORRELATION TO TEXT:** Interpret Graphic Information Construct Meaning- Compare and Contrast; Draw Conclusions; Supporting Evidence	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 9 (pages 326- 355) **TOPIC:** CHEMICAL PROPERTIES **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 89-92, 135-150, 201-208* *Achieving TABE Success in Reading, Level D Reader, pages 64-76, 89-93* *Reading Basics, Intermediate 2 Workbook, pages 62-67, 142-147, 150-155* *Reading Basics, Intermediate 2 Reader, pages 103-110* *Words to Learn By- Building Academic Vocabulary, Lesson 20* *Workplace Skills, Reading for Information, Lessons 1-3, 6* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 1, 2, 4.1, 4.4-4.5, 5.6* *Workforce Connects, Reading for Information, Lessons 3.1-3.3, 4.1*	**WEEK 11** **CHAPTER TITLE:** 9- CHEMICAL PROPERTIES **LESSON(S) TITLE:** *9.4- Chemical Reactions and Solutions; 9.5- The Chemistry of Life; 9.6-Chemical Equations* **TEXT LESSON OBJECTIVES:** 9.4- Recognize a balanced chemical equation; Understand and apply the law of conservation of matter; Identify different types of solutions 9.5- Understand the importance of organic chemistry; Identify the advantages and disadvantages of using hydrocarbons; Describe the four groups of organic compounds found in living things 9.6-Balance a chemical equation; Identify types of chemical reactions **BEFORE, DURING & AFTER READING STRATEGIES:** **Flash Cards-** write the definitions of words already known on flash cards, adding the unknown term definitions as the lesson progresses- IRB 261 **Word Map-** use the term as the center of the word map, adding definition, classifying information, examples and sentences as the lesson progresses- IRB 263 **Predict Meanings**- use the definition of the term *reaction* (the act or moment of reacting or changing in response to a stimulus) to define the terms that contain *reaction*- IRB 265 **Word Forms**- the Latin root *solutus* (to loosen, untie, solve, dissolve) of *solution*, *solute* and *solvent* tie to the meanings of the terms- IRB 262 **Use Context Clues**- in text to explain the term *complex carbohydrate*- IRB 264 **ADDITIONAL STRATEGIES:** **Analyze Structure-** compound word *photosynthesis* (*photo*-"light", and *synthesis*- "out together, combine")- IRB 261 **Understand Text**- search online for visual explanations of the "fractional distillation of hydrocarbons" and discuss how water is distilled- page 333 **Analyze Author's Purpose-** discuss how to rewrite the last sentence on page 335 to make the author's purpose informational rather than persuasive- IRB 264 **Interpret Information in Text and Graphical Form**- use the diagrams on pages 341 and 342 to extend and restate the accompanying text- IRB 266 **HOME LEARNING:** **21st Century Skill- Leadership and Responsibility-** research the USDA's current recommendations for the amounts of nutrients to maintain good health- page 334 **Write to Learn** activities: pages 329, 334, 345 **Application of Science Practices**: pages 353-354	**BELL RINGER:** 9.4- write $2H_2O$ and $2NH_3$ on the board and have students identify which digits represent the number of molecules and atoms- IRB 261 9.5- use the image of a food label to discuss fats, carbohydrates and proteins- IRB 263 9.6- ask students to define the terms *molecule* and *compound* and their connections to physical and chemical properties- IRB 265 **VOCABULARY:** 9.4- acid, balanced, base, solution, equation, law of conservation of matter 9.5- protein, biomolecules, carbohydrates, distillation, hydrocarbons, lipids, organic chemistry, polymer, replicate 9.6- combust, chemical equilibrium, decomposition reaction, double replacement reaction, net forward reaction, reversible reaction, single replacement reaction, stoichiometric coefficient, synthesis reaction **STUDENT PRODUCT/PROJECT:** **Compare and Contrast Information-** construct or draw a model of what happens when a solute dissolves in a solution and compare with the text version of the process- page 329 **Determine Central Ideas-** as a class locate the thesis statement (main argument or idea) in the sidebar activity- page 344 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** use text to define boldface words in lesson (IRB 262); review prefixes *bio-, poly-, carbo-,* and *hydro-* as used in *biomolecule, polymer, carbohydrate, hydrocarbon* (IRB 264); use own words to interpret the diagram on page 342, including the sequence of steps (IRB 266) **Extension Activity:** formulate a procedure for making an electrolyte solution, and acid solution, an alkaline solution of a salt (IRB 262); interview a dietician or nutritionist about the benefits and problems of including fats in the diet (IRB 264); identify two sources of information that explain the environmental consequences of the production of nitric oxide (IRB 266) **EXIT SLIP:** **Think About Science** activities: pages 328, 329, 334, 341, 343
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.2; CCRA.R.3; CCRA.R.4; CCRA.R.6; CCRA.R.7; CCRA.R.10	**TABE CORRELATION TO TEXT:** Interpret Graphic Information Construct Meaning- Compare and Contrast; Main Idea Evaluate and Extend Meaning- Author's Purpose Words in Context	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

SCIENCE ABE PACING GUIDES <<COMMON CORE BASICS, MCGRAW-HILL EDUCATION >>

TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 10 (pages 356-379) **TOPIC:** EARTH AND LIVING THINGS **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 67-74, 143-158, 185-192* *Achieving TABE Success in Reading, Level D Reader, pages 34-39, 73-76, 81-84* *Reading Basics, Intermediate 2 Workbook, pages 30-35, 78-83, 150-155, 158-163* *Reading Basics, Intermediate 2 Reader, pages 19-25, 42-49, 103-119* *Words to Learn By- Expanding Academic Vocabulary, Lesson 12* *Workplace Skills, Reading for Information, Lessons 4-6, 8-9, 14-16* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 3.2, 4.4-4.6, 5.2* *Workforce Connects, Reading for Information, Lessons 3.4-3.5, 4.1, 4.3-4.4, 5.5-5.6, 6.1*	**WEEK 12** **CHAPTER TITLE:** 10- EARTH AND LIVING THINGS **LESSON(S) TITLE:** *10.1- Cycles of Matter; 10.2- Fossil Fuels* **TEXT LESSON OBJECTIVES:** 10.1- Define a biogeochemical cycle; Identify five kinds of biogeochemical cycles 10.2- Identify fossil fuels; Explain the processes by which fossil fuels formed; Describe environmental consequences of using fossil fuels **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate Word Parts-** relate Greek *bios*-"the course of human life" geo-"earth" and *chem*- from *khemeioa*-"alchemy" combine to form *biogeochemical*- IRB 267 **Relate Terms** into 2 categories (Energy, Global Warming and Pollution) – IRB 269 **Suffix –***vore* (from Latin *vorare*- "to swallow up or to devour"), **Prefixes** *carn*- (Latin *caro*-"meat"), *herb-, omni-, detri*- apply these meanings to the *terms herbivore, omnivore, detritivore*- IRB 267 **Base words-** *petra* (Latin-"rock"), *oleum* (Latin-"oil") as *petroleum*- IRB 269 **ADDITIONAL STRATEGIES:** **Follow a Multistep Procedure-** insure accurate measurements while following the procedure for analyzing the decomposition rate of rubber latex balloons- page 359 **Make Predictions-** scientists predict what they expect to happen during an experiment based on what they already know- answer why CDCL isn't more widely used in coal-fired power plants- page 371 **Draw Conclusions-** about the evidence in the text (page 358) combined with prior knowledge and experience about pizza boxes and other familiar packaging materials- page 358 **HOME LEARNING:** **21st Century Skill- Information, Communication and Technology Literacy**- investigate the places on Earth that have a high concentration of oil and find out the reasons why- page 369 **Write to Learn** activities: pages 362, 374 **Application of Science Practices**: pages 378-379	**BELL RINGER:** 10.1- determine how much students recall about the ways in which living things are connected to their environments and the manner in which nutrients are recycled- IRB 267 10.2- students mention the kinds of energy used daily and the dependence on energy and fossil fuels- IRB 269 **VOCABULARY:** 10.1-producers, weathering, algae, biogeochemical cycle, detritivore, nitrogen fixers, nutrient 10-2- acid rain, ozone, petroleum, smog, toxins, biofuel, hydrocarbons, particulates **STUDENT PRODUCT/PROJECT:** **Compare and Contrast Information-** use Venn diagrams to compare information from contrasting sources on the same topic in order to find accurate information- page 372 **Write to Learn** activities: pages 362, 374 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** explain one of the cycles discussed in the lesson using the diagram to coach steps (IRB 268); ask students to retell the information that they found most interesting (IRB 270) **Extension Activity:** interpret information from a graph summarizing water-use data in local area or state (IRB 268); investigate how biofuels have been applied both successfully and unsuccessfully as alternative fuels (IRB 270) **EXIT SLIP:** **Think About Science** activities: pages 359, 363, 365, 369, 370, 372
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.3; CCRA.R.9; CCRA.R.10	**TABE CORRELATION TO TEXT:** Construct Meaning- Compare and Contrast; Draw Conclusions Evaluate and Extend Meaning- Predict Outcomes Recall Information- Sequence	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 11 (pages 380-407) **TOPIC:** EARTH **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 89-92, 135-142, 193-200* *Achieving TABE Success in Reading, Level D Reader, pages 64-72, 81-88* *Reading Basics, Intermediate 2 Workbook, pages 62-67, 154, 162, 166-171* *Reading Basics, Intermediate 2 Reader, pages 120-128* *Words to Learn By- Expanding Academic Vocabulary, Lesson 5* *Words to Learn By- Advancing Academic Vocabulary, Lesson 8* *Workplace Skills, Reading for Information, Lessons 6, 16* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 1.1, 4.1, 5.1* *Workforce Connects, Reading for Information, Lessons 4.1, 6.1*	**WEEK 13** **CHAPTER TITLE:** 11- EARTH **LESSON(S) TITLE:** *11.1- Geology; 11.2- Oceanography; 11.3- Meteorology* **TEXT LESSON OBJECTIVES:** 11.1- Describe the structure of Earth; Relate movement of Earth's crust to geologic activity; Describe the three main types of rock and how they change in the rock cycle 11.2- Identify Earth's major oceans and the features of the ocean floor; Recognize the effects of ocean currents and waves 11.3-Identify the factors that cause weather; Explain how winds form; Describe major storms and their causes **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate Word Parts-** use the Greek word parts *mets* (change) and *morphe* (form or shape) plus suffix *–ic* (taking the form of or relating to) to define the term *metamorphic*- IRB 271 **Illustrate a Word-** from the vocabulary list and use in a sentence- IRB 273 **Context Clues**- use the weather pages from the newspaper or online to determine the meaning of the vocabulary terms- IRB 275 **Make Connections-** between diagram of the Ocean Zones and the names of the zones- pages 390 and 392 **Comprehension**- encourage students to ask questions while reading text such as "I wonder…" and "What does the author mean by…"- IRB 275 **ADDITIONAL STRATEGIES:** **Integrate Text and Visuals-** use a two-column chart (labeled text, visuals) to record impressions of a text then reactions to images of the same event and compare how both methods improve the understanding of the content- IRB 271, page 385 **Determine Central Ideas**- use the title and visuals of the text "Currents" to aid in determining the central idea of the text- page 393, IRB 274 **Distinguish Between Facts and Speculation**- facts are information that is true or indisputable and can be proven, while speculation uses information that may or may not be true to form a conclusion- apply to the text on page 399- IRB 275, 276 **HOME LEARNING:** **21st Century Skill- Flexibility and Adaptability-**imagine planning a camping trip with friends and how adaptability and flexibility are needed as they choose destination, travel dates and methods of transportation- page 392, IRB 274 **Write to Learn** activities: pages 386, 394, 399 **Application of Science Practices**: pages 406-407	**BELL RINGER:** 11.1- discuss the processes that form rocks (igneous, sedimentary, metamorphic)- IRB 271 11.2- ask students what they have read or heard about underwater explorations or the discovery of shipwrecks, leading into aspects of oceans and ocean life- IRB 273 11.3- discuss the weather at the moment and recent weather trends including extreme weather conditions- IRB 275 **VOCABULARY:** 11.1- igneous, inner core, metamorphic, outer core, rock cycle, sedimentary 11.2- current, pattern, continental shelf, ecological succession, mid-ocean ridge 11.3- forecast, humidity, weather, wind, air pressure, greenhouse effect, meteorology **STUDENT PRODUCT/PROJECT:** **Apply Scientific Models-** create a model of the rock cycle, with some of the steps that can move in either direction- page 387, IRB 272; research models used by meteorologists to predict weather- page 398, IRB 276 **Write to Learn** activities: pages 386, 394, 399 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** students work in pairs to pronounce and define terms from the lesson (IRB 272); use diagrams of ecological succession on land and in lakes and ponds (IRB 274); describe the topics identified in the titles and subtitles on pages 398-399 (IRB 276) **Extension Activity:** research the distribution and strength of earthquakes around the world (IRB 272); research ecological succession within the local community (IRB 274); gather weather data for seven consecutive days and organize in charts and graphs (IRB 276) **EXIT SLIP:** **Think About Science** activities: pages 383, 387, 392, 393, 399
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.2; CCRA.R.4; CCRA.R.7; CCRA.R.8; CCRA.R.10	**TABE CORRELATION TO TEXT:** Construct Meaning- Main Idea Evaluate and Extend Meaning- Fact / Opinion Interpret Graphic Information	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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TEXT AND CCR STANDARDS	UNIT DESCRIPTIONS AND ASSESSMENT STANDARDS	COMPONENTS OF EFFECTIVE INSTRUCTION
TEXT: COMMON CORE BASICS, SCIENCE **TEXT CHAPTER:** CHAPTER 12 (pages 408-435) **TOPIC:** THE COSMOS **SUGGESTED INTEGRATION OF ADDITIONAL TEXT** *Achieving TABE Success in Reading, Level D Workbook, pages 21-44, 105-108, 151-158, 175-178, 201-208* *Achieving TABE Success in Reading, Level D Reader, pages 5-18, 44-48, 73-80, 89-93* *Reading Basics, Intermediate 2 Workbook, pages 29-35, 69, 93-99, 110-115, 142-147, 165* *Reading Basics, Intermediate 2 Reader, pages 19-25, 59-67, 78-84* *Words to Learn By- Expanding Academic Vocabulary, Lessons 3, 11, 15* *Words to Learn By- Advancing Academic Vocabulary, Lessons 1, 13* *Workplace Skills, Reading for Information, Lessons 6-7, 9, 13, 16, 24* **DIGITAL RESOURCES:** *Instruction Targeted for TABE Success , Level D, Reading, Lessons 1.3, 2, 4.6-4.7, 5.6* *Workforce Connects, Reading for Information, Lessons 4.1-4.2, 4.4, 5.4, 6.1, 7.2*	**WEEK 14** **CHAPTER TITLE:** 12- THE COSMOS **LESSON(S) TITLE:** *12.1- Earth's Origins; 12.2- Origins of the Universe; 12.3- The Milky Way and the Solar System; 12.4- Earth and the Moon* **TEXT LESSON OBJECTIVES:** 12.1- Describe the unique characteristics of Earth that allow it to sustain life; Sequence events in the development of Earth and the Moon 12.2- Describe the big band theory; Discuss the origins of the elements that make up Earth 12.3-Describe the Milky Way galaxy; Identify the objects that make up the solar system; Understand the definition of a planet 12.4-Relate Earth's motion to day and night and to the seasons; Discuss the characteristics that make Earth habitable for living things;Identify the interactions between the Earth, Sun, and Moon that cause the phases of the Moon and tides **BEFORE, DURING & AFTER READING STRATEGIES:** **Relate Words-** to those known and those with multiple meanings (*mantle*)- IRB 277; link *asteroid* to *astronaut, astronomy, astrology* and *asterisk*-IRB 281 **Multiple-Meaning Words**- *nebula* (Latin-"mist, fog, smoke, vapor") is a cloud of gas and dust, while the form *nebulous* is an adjective- IRB 279 **Suffixes**- -*tion* changes action words into nouns- IRB 283 **Understand Science Texts**- remind students that science texts are written to inform and to explain and require a different style of reading than fiction-page 411, IRB 277 **Analyze Author's Purpose**- differentiate between sections of passage on page 419 that are informative and those that are entertaining- IRB 281 **ADDITIONAL STRATEGIES:** **Identify Hypothesis-** use a 3 box flow chart (Origins of Earth's Water, hypothesis, then descriptions of the investigations of hypothesis)- page 412, IRB 278 **Determine and Evaluate Conclusions**- inference might be needed when there is missing information, and be reevaluated as new evidence is discovered- IRB279, 281 **HOME LEARNING:** **21st Century Skill- Information Literacy-** use the six listed questions (page 411) to evaluate a web page and report back to the class- IRB 278 **Write to Learn** activities: pages 411, 416, 421, 426 **Application of Science Practices**: pages 434-435	**BELL RINGER:** 12.1- ask students to recall what they know about how the Earth was formed using a KWL chart- IRB 277 12.2- determine the students' understanding of the enormous energy that leads to the birth of stars (crashing nebula)0- IRB 279 12.3- ask what a star and a planet are, and the components of the Milky Way and the Solar System- IRB 281 12.4- build a concept map as a class with the word Earth in the center, adding as many connections as possible- IRB 283 **VOCABULARY:** 12.1- habitable, mantle, nebula, comprehension 12.2-assumption, light-year, nebula, supernova 12.3-criteria, asteroid, comet, galaxy, satellite, solar system, bias 12.4- interactions, revolution, rotation, tides, habitable, phase **STUDENT PRODUCT/PROJECT:** **Cite Textual Evidence**- read the page on page 425 as a class, identifying the statement that establishes the main idea and those that provide supporting evidence- IRB 283 **Apply Scientific Models-** in small groups, do an online search for models of the big bang- IRB 279; of the lunar cycle- IRB 284 **EXTENSION/ENRICHMENT ACTIVITY:** **ELL Instruction:** practice pronunciation of multisyllable words (IRB 278); explain vocabulary (light-year, nebula, supernova) in own words (IRB 280); use sample sentences to establish the difference between fact and opinion or bias (IRB 282); use a globe to explain the seasons (IRB 284) **Extension Activity:** investigate a myth or legend that describes how Earth and the moon came into existence (IRB 278); make a timeline to show the events (big bang, formation of our solar system, formation of Earth) using a scale of 1 inch= 1 billion years (IRB 280); make a mobile of the solar system and other celestial objects of their choosing (IRB 282); research the most effective ways to observe a solar eclipse and produce a safety guide (IRB 284) **EXIT SLIP:** **Think About Science** activities: pages 411, 415, 419, 420, 421, 425, 426
CCR STANDARDS EMBEDDED IN TEXT: CCRA.R.1; CCRA.R.2; CCRA.R.4; CCRA.R.6; CCRA.R.7; CCRA.R.8; CCRA.R.10	**TABE CORRELATION TO TEXT:** Construct Meaning- Draw Conclusions; Supporting Evidence Evaluate and Extend Meaning- Author's Purpose Interpret Graphic Information- Reference Sources Words in Context	**EVALUATION/ASSESSMENT:** In each lesson: Vocabulary Review, Skill Review, Skill Practice

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COLLEGE AND CAREER READINESS READING STANDARDS (level D, 6-8)

Reading Anchors (Levels A-E)

Anchor 1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Anchor 2: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Anchor 3: Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Anchor 4: Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Anchor 5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Anchor 6: Assess how point of view or purpose shapes the content and style of a text.

Anchor 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Anchor 8: Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

Anchor 9: Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Anchor 10: Read and comprehend complex literary and informational texts independently and proficiently.

TEXT & DIGITAL MATERIALS LIST (with ISBN numbers)

Achieving TABE Success in Reading, Level D, Workbook (978-0-07-704461-9)

Achieving TABE Success in Reading, Level D, Reader (978-0-07-704465-7)

Common Core Basics: Science Core Subject Module (978-0-07-657552-7)

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