School Curriculum Guide

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Early Childhood

<u>Overview:</u>

In our K4 and K5 classrooms, teachers utilize a project-based learning approach that utilizes hands-on experiences. Teachers and students choose projects based on students' interests, then design centers, choose books and other artifacts, and develop additional activities that guide student learning during the project. These methods recognize that children learn at different rates and in unique ways, and that children this age need plenty of time to play. Our goal is to develop a love of learning in each of our students by making it fun and interactive, and encouraging the natural curiosity of 4- and 5-year-olds.

Although textbooks are provided as a resource in most subjects, they are only that. Textbooks and worksheets are rarely used. Rather, students engage in learning through authentic multi-sensory materials appropriate for their age.

Kindergarten 4

Math – K4

Textbook: No textbook

Specific Objectives:

1. Counts forward orally to 20

2. Recognize numerals up to 10 and attempts to write them

3. Matches numerals 1-10 to sets of objects

4. Given a number 0-5, count out that many objects

5. State the number of objects in a small collection (1-5) without counting (ex: when a friend holds up two finders, look and say "two fingers" without counting)

6. Creates a set of objects from a group of many

7. Sorts and classifies objects by one attribute

8. Understands and uses positional words

9. Identifies basic shapes

10. Compares the length of two objects

11. Describe, duplicate, and extend simple repeating patterns

Language & Literacy - K4

Textbook: No Textbook

Specific Objectives:

1. Recognizes all letters of the alphabet

2. Writes name

3. Begins to understand print has a meaning

4. Begins to recognize initial letter sounds

5. Recalls some details in books read aloud

6. Begins to ask/answer questions about key details in texts

7. Begins to recognize rhyming words

8. Uses complete thoughts to communicate

9. Distinguishes between fiction and non-fiction stories

10. Uses a combination of drawing, dictation, and beginning writing to create texts.

Approaches to Learning – K4

Textbook: No Textbook

Specific Objectives:

1. Demonstrates initiative in selecting and carrying out activities

2. Demonstrates ability to focus attention on a variety of tasks

3. Demonstrates increasing ability to organize and use materials

4. Attempts to solve problems encountered in play

5. Demonstrates eagerness to learn

Personal & Social Growth – K4

Textbook: No Textbook

Specific Objectives:

1. Demonstrates self-awareness and confidence

2. Demonstrates self-management skills

3. Demonstrates positive relationship skills

4. Demonstrates initiative and curiosity

5. Demonstrates persistence and reflection

Kindergarten 5

Math – K5

Textbook:

   Title: My Math

   Author: Macmillan McGraw-Hill

   Copyright: 2016

   ISBN: 978-0-07-669373-3

Specific Objectives:

1. Count to 100 by 1s or 10s; count forward from a given number

2. Write numbers from 0 to 20; write numbers 0 to 20 to represent a number of objects

3. Count to answer "how many?" questions about as many as 20 things arranged (e.g., in a line or array), or 10 things in a scattered configuration

4. Compare objects (the number in groups) and numbers (1-10) using greater than, less than, an equal to.

5. Represent addition and subtraction using a variety of methods (e.g., objects, fingers, drawings, etc.)

6. Solve addition and subtraction word problems, and add and subtract within 10 (e.g., by using objects and drawings to represent the problem); fluently add and subtract within 5

7. Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., objects or drawings), and record each decomposition by a drawing or equation ($9 = 5 + 4$; $9 = 3 + 6$)

8. Compose and decompose numbers 11 to 19 into 10 ones and some further ones. Record each composition or decomposition with an equation (e.g., $18 = 10 + 8$)

9. For any number 1 to 9, find the number that makes 10 when added to the given number (e.g., by using objects or drawings), and record the answer with a drawing or equation

10. Describe several measurable attributes of a single object, and compare measureable attributes of different objects (e.g., length or weight) to see which has "more of" or "less of" an attribute (e.g., compare the heights of two children and describe one child as "taller".

11. Classify objects into categories; count the number of objects in each category and sort the categories by count

12. Identify, describe, compare, analyze, and create 2 dimensional and 3 dimensional shapes

Science –K5

Textbook:

Title: Science: A Closer Look

Author: Macmillan McGraw-Hill

Copyright: 2009

ISBN-13: 978-0-02-284197-3

Specific Objectives:

1. Applies science practices to develop an understanding of content

2. Understands organisms and how they depend on the environment, including plants, animals, and humans.

3. Understands daily and seasonal weather patterns

4. Understands observable properties of objects

5. Name and describe the 4 seasons

Social Studies – K5

Textbook:

Author: Houghton Mifflin

Title: Social Studies: My World

Copyright: 2005

ISBN: 0-618-42365-6

Specific Objectives:

1. Follow directions and recognize the needs for rules

2. Understand good classroom citizenship

3. Demonstrate an understanding of his/her surroundings, including identifying key locations on a simple map (e.g., home, school, city, state), and the natural features present in our environment.

4. Explain the purpose of rules, consequences, and authority figures.

5. Identify key concepts of American democracy, including important symbols (e.g., the bald eagle, the American flag, the "Star Spangled Banner," etc.) and key figures (e.g., George Washington, Abraham Lincoln, Susan B. Anthony, Rosa Parks, and Martin Luther King, Jr.).

6. Compares the daily lives of families today and in the past.

Reading Foundational Skills - K5

Textbook:

Title: Units of Study for Teaching Reading

Author: Heinemann

Copyright: 2015

ISBN 13: 978-0-325-05376-9

Specific Objectives:

1. Demonstrate an understanding of the organization and basic features of print (e.g., follow words, left to write, top to bottom, page by page; words separated by spaces in print, etc.)

2. Recognize and name all upper and lower case letters.

3. Recognize and produce rhyming words.

4. Count, pronounce, blend, and segment syllables in spoken words.

5. Blend and segment onsets and rimes of single-syllable spoken words.

6. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)

7. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

8. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant.

9. Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.

10. Read common, high-frequency words by sight.

11. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

Reading Literature - K5

Textbook:

Title: Units of Study for Teaching Reading

Author: Heinemann

Copyright: 2015

ISBN 13: 978-0-325-05376-9

Specific Objectives:

1. With prompting and support, ask and answer questions about key details in a literary and informational text.

2. With prompting and support, retell familiar stories including key details.

3. With prompting and support, identify characters, setting, and major events of a story.

4. Recognize common types of texts (e.g., stories, poems).

5. With prompting and support, identify the author and illustrator of a story and explain the role of each.

6. With prompting and support, describe the relationship between the illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).

7. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.

8. With prompting and support, identify the main topic and retell key details of an informational text.

9. Identify the front cover, back cover, and title page of a book.

10. With prompting and support, identify the reasons an author gives to support points in an informational text.

English Language Arts - K5

Classroom Kit:

> Title: Handwriting Without Tears Kindergarten Classroom Kit
> Author: Learning Without Tears

Specific Objectives:

1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell the reader the topic (or name of the book) and state an opinion (e.g., My favorite book is…).

2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order they occurred, and provide a reaction to what happened.

4. With guidance and support from adults, add details to strengthen writing as needed.

5. Print many upper and lower case letters.

6. Use frequently occurring nouns and verbs.

7. Form regular plural nouns orally by adding /s/ or /es/ (e.g., dog, dogs, wish, wishes).

8. Understand and use questions words: who, what, when, where, why, how.

9. Capitalize the first word in a sentence and the pronoun I.

10. Recognize and name end punctuation.

11. Write first and last name

Lower Elementary

<u>Overview:</u>

Fun, interactive lessons that evoke students' natural curiosity and encourage new-found abilities defines the lower elementary experience. Students work on developing strong reading habits, becoming more and more strategic and independent readers. As students move into second grade, students move from a focus on print to a focus on meaning. With the development of greater reading abilities, students' writing skills also take off. Lower elementary students write regularly in a variety of genres during writer's workshop. By the second grade year, students are writing multi-paragraph pieces!

In math, there is a strong focus on developing number sense and mastering basic mathematics skills. Math lessons are hands-on and often utilize centers and manipulatives. Students also take part in math discussions, developing greater reasoning and problem-solving abilities.

Lower elementary students are curious about the world around them! Science and social studies lessons foster that interest. Students conduct experiments and take part in simulations.

Although textbooks are provided as a resource, lower elementary students most often learn through authentic activities, materials, and texts.

First Grade

Math – 1ˢᵗ Grade

Textbook:

Title: My Math

Author: McGraw Hill

Copyright: 2016

ISBN: 978-0-07-669247-7

Specific Objectives:

1. Starting at any number, count by 1s to 120, and count by 5s or 10s to 100

2. Represent and write numbers to 100

3. Understands place value to 99

4. Compare two 2-digit numbers using less than, greater than, and equal to.

5. Add numbers to 99 (2-digit numbers with 1-digit numbers and 2-digit numbers with multiples of 10)

6. Compute and explain 10 more or 10 less than a 2-digit number

7. Solve addition and subtraction story problems to 20

8. Apply commutative and associative properties to 20 with 2-digit or 3-digit numbers

9. Add within 20 using strategies

10. Demonstrate fluency in addition facts to 10

11. Demonstrate fluency in subtraction facts to 10

12. Create, extend, and explain repeating and growing patterns

13. Identify 2D shapes and their attributes (square, rectangle, triangle, hexagon, rhombus, trapezoid, circle)

14. Combine shapes to form a composite shape (2D and 3D)

15. Partition a shape into halves and fourths

16. Use non-standard objects to show same length of objects

17. Tell time to the hour and half hour

18. Collect, organize, and interpret data using graphs

19. Identify and write coin values using the cent symbol (penny, nickel, dime, quarter)

Science – 1ˢᵗ Grade

Textbook:

Title: Science A Closer Look

Author: Macmillan McGraw-Hill

Copyright: 2008

ISBN: 978-0-02-284199-7

Specific Objectives:

1. Apply science and engineering practices to develop understandings of science content

2. Understand properties of light and how shadows are formed

3. Understand patterns of the sun and moon and the Sun's effect on the earth

4. Understand properties and uses of Earth's natural resources

5. Understand how plant structures help them survive and grow

Social Studies – 1st Grade

Textbook:

Title: School and Family

Author: Houghton Mifflin

Copyright: 2008

ISBN 978-0-618-83089-3

Specific Objectives:

1. Compare resource and land use by families around the world

2. Interpret a simple map using symbols and legend

3. Explain the role and responsibilities of government (e.g., passing and enforcing laws) and its impact on families (e.g., public services, taxes, authority figures)

4. Identify key concepts (rule of law, fair treatment for all, respect for rights and opinions of others), and figures of American democracy, including Benjamin Franklin, Thomas Jefferson, Dorothea Dix, Frederick Douglass, Mary McLeod Bethune, and Franklin D. Roosevelt

5. Compare the daily life and economic interactions of world communities

6. Understand national symbols and holidays and their significance

Reading Foundational Skills – 1st Grade

Textbook:

Title: Houghton Mifflin Reading

Author: Houghton Mifflin

Copyright: 2008

ISBN: 0-618-22511-0

Specific Objectives:

1. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, end punctuation).

2. Distinguish long from short vowel sounds in spoken single-syllable words.

3. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends; isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.

4. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

5. Know the spelling-sound correspondences for common consonant digraphs, and decode regularly spelled one-syllable words.

6. Know final -e and common vowel team conventions for representing long vowel sounds.

7. Decode two-syllable words following basic patterns by breaking the words into syllables; determine the number of syllables in printed words based on knowledge that every syllable has a vowel sound.

8. Read words with inflectional endings.

9. Recognize and read grade-appropriate irregularly spelled words.

10. Read with sufficient accuracy and fluency to support comprehension.

Reading Literature – 1st Grade

Textbook:

Title: Houghton Mifflin Reading; Units of Study for Teaching Reading

Author: Houghton Mifflin; Heinemann

Copyright: 2008; 2015

ISBN: 978-0-325-07704-8

978-0-325-07705-5

978-0-325-07706-2

978-0-325-07703-1

Specific Objectives:

1. Ask and answer questions about key details in literary and informational texts.

2. Retell a text, including key details to demonstrate understanding.

3. Describe characters, setting, and main events in a story.

4. Identify words and phrases in a story or poem that suggest feelings or appeal to the senses.

5. Explain major differences between books that tell stories and books that give information.

6. Identify who is telling the story at various points in a text.

7. Compare and contrast the adventures and experiences of characters in stories.

8. Know and use various text features (headings, tables of contents, glossaries) to locate key facts or information in a text.

9. Identify the main topic and key reasons an author gives to support points in an informational text.

10. Understand synonyms, antonyms and homonyms.

English Language Arts – 1ˢᵗ Grade

Textbook:

Title: Houghton Mifflin Reading; First Grade Writing Workshop Curriculum (digital)

Author: Houghton Mifflin; Allison Pond

ISBN: 0-618-22511-0

Copyright: 2008; 2017

Specific Objectives:

1. Write opinion pieces in which they introduce the topic (or the book) they are writing about, state an opinion, supply a reason, and provide some sense of closure.

2. Write informative/explanatory texts in which they name a topic, supply some facts about that topic, and provide some sense of closure.

3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to establish sequence, and provide some sense of closure.

4. With guidance and support from adults, focus on a topic and add details to strengthen it.

5. Print all upper and lower case letters using legible penmanship.

6. Use common, proper, and possessive nouns; capitalize dates and names of people.

7. Use the correct verb form with singular and plural nouns, and use verb tenses to show a sense of past, present, and future.

8. Use frequently occurring conjunctions, adjectives, and prepositions.

9. Produce and expand simple and compound declarative, interrogative, imperative, and exclamatory sentences.

10. Use end punctuation.

11. Use commas in dates and to separate single words in a series.

Second Grade

Math – 2nd Grade

Textbook:

Title: My Math

Author: McGraw Hill

Copyright: 2016

ISBN: 978-0-07-669380-1

Specific Objectives:

1. Demonstrate understanding of place value through 999; read, write, and represent numbers using models, standard form, and expanded form

2. Count by 10s and 100s to 1,000, starting at any number

3. Compare two numbers with up to three digits using words and symbols (i.e., >, =, or <)

4. Add and subtract fluently through 99 and add up to four two-digit numbers using knowledge of place value and properties of operations

5. Add and subtract through 999 using concrete models, drawings, and symbols which convey strategies connected to place value understanding

6. Determine the number that is 10 or 100 more or less than a given number through 1,000 and explain the reasoning verbally and in writing.

7. Solve one- and two-step real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 99 with unknowns in all positions.

8. Demonstrate fluency with addition and related subtraction facts through 20.

9. Determine whether a number through 20 is odd or even using pairings of objects, counting by twos, or finding two equal addends to represent the number (e.g., 3 + 3 = 6).

10. Use repeated addition to find the total number of objects arranged in a rectangular array with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends

11. Identify triangles, quadrilaterals, hexagons, and cubes. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.

12. Partition a rectangle into rows and columns of same-size squares to form an array and count to find the total number of parts

13. Partition squares, rectangles and circles into two or four equal parts, and describe the parts using the words halves, fourths, a half of, and a fourth of. Understand that when partitioning a square, rectangle or circle into two or four equal parts, the parts become smaller as the number of parts increases.

14. Select and use appropriate tools (e.g., rulers, yardsticks, meter sticks, measuring tapes) to measure the length of an object and estimate and measure length/distance in customary units (i.e., inch, foot, yard) and metric units (i.e., centimeter, meter).

15. Measure the same object or distance using a standard unit of one length and then a standard unit of a different length and explain verbally and in writing how and why the measurements differ.

16. Measure to determine how much longer one object is than another, using standard length units.

17. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences through 99 on a number line diagram.

18. Use analog and digital clocks to tell and record time to the nearest five-minute interval using a.m. and p.m.

19. Solve real-world/story problems involving dollar bills using the $ symbol or involving quarters, dimes, nickels, and pennies using the ¢ symbol.

20. Generate data by measuring objects in whole unit lengths and organize the data in a line plot using a horizontal scale marked in whole number units.

21. Collect, organize, and represent data with up to four categories using picture graphs and bar graphs with a single-unit scale.

22. Draw conclusions from t-charts, object graphs, picture graphs, and bar graphs.

Science -2nd Grade

Textbook:

Title: Science A Closer Look

Author: Macmillan/McGraw-Hill

Copyright: 2008

ISBN: 978-0-02-284204-8

Specific Objectives

1. Apply science and engineering practices to develop understandings of science content

2. Understand daily and seasonal weather patterns

3. Analyze and interpret data from observations and measurements to describe weather conditions (including temperature, precipitation, and wind).

4. Understand severe weather conditions and explain necessary safety precautions.

5. Understand the properties of solids and liquids, including how they can be mixed and separated and the effects of heat on different types of matter

6. Understand and explain the special properties of magnets

7. Understand the effects of pushes, pulls, and friction on the motion of objects

8. Understand how the structures of animals help them survive and grow in their environment, including how animals are adapted to specific environments.

9. Explain how animals grow and change during their development.

10. Communicate information to describe how animals interact with other animals and plants in their environment, how animals respond to changes in their environments, and how animals can change their environments (e.g., the shape of the land or flow of the water).

Social Studies – 2nd Grade

Textbook:

    Title: Neighborhoods

    Author: Houghton Mifflin

    Copyright: 2008

    ISBN: 978-0-618-83100-5 Textbook

Specific Objectives:

1. Interpret a simple map using a legend and cardinal directions

2. Identify the location of places and geographic features of the local community, including urban, suburban, and rural areas

3. Use a map to identify the local community, state, nation, and continent

4. Summarize the changes that have occurred over time to the local community, including changes in the use of land and the way people earn their living

5. Understand the structure and function of the local, state, and national government

6. Understand the role of goods and services and supply and demand in a community

7. Understand the cultural contributions made by people from various regions in the United States (including Native American, African American, and immigrant groups)

8. Recall folktales that reflect the cultural history of various regions/peoples of the United States

Spelling-2nd Grade

Textbook:

> Title: Building Spelling Skills
>
> Author: Evan-Moor
>
> Copyright: 2007
>
> ISBN: 978-1-557-99840-8

Specific Objectives:

1. Spell frequently used irregular words correctly (for example, was, were, says, said, who, what, why)

2. Words that contain prefixes (such as un-,re-,pre-,bi-,mis-,dis) and suffixes (such as –er,-est,-ful)

3. Number words one through one thousand

4. Spell words with sh, ch, th, wh, k, ck

5. Spell words ending with nd, ng, nk, nt, mp, er

6. Vowel + r sound

7. Spell basic short-vowel, long-vowel, *r-* controlled, and consonant-blend patterns correctly

8. Spell and break apart contractions (such as wouldn't = would not)

9. Compound words

10. Common homophones (ex: hair/hare)

11. Analyze spelling patterns in context and parts of multisyllabic words (for example, onsets and rimes)

Reading - 2ⁿᵈ Grade

Textbook:

Title: Units of Study in Teaching Reading, Grade 2 with Trade Pack; Building Vocabulary Foundations, Level 2

Author: Heinemann; Teacher Created Materials Publishing

Copyright: 2015; 2014

ISBN-10: 978-0-325-07466-5; 978-1-433-31732-3

Specific Objectives:

1. Read with sufficient accuracy and fluency to support comprehension at the grades 2-3 text complexity band, with scaffolding as needed at the high end of the range.

2. Generate and answer questions such as who, what, when, where, why, and how to demonstrate understanding of key details in a text.

3. Analyze literary and informational texts to make, revise, and confirm predictions, make inferences, and draw conclusions.

4. Analyze a text to determine author's purpose and how it shapes meaning in a text.

5. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.

6. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.

7. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.

8. Distinguish between the point-of-views of different characters.

9. Describe how characters in a story respond to major events and challenges.

10. Use information gained from the illustrations and words in a text to demonstrate understanding of its characters, setting, or plot.

11. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.

12. Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.

13. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

14. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.

15. Read a variety of genres and distinguish characteristics of different literary genres (realistic fiction, fantasy, folktales, and fables).

16. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

Writing/Grammar – 2nd Grade

Textbook:

Title: Units of Study in Opinion, Information, and Narrative Writing, Grade 2 with Trade Book Pack

Author: Heinemann

Copyright: 2016

ISBN: 978-0-325-08955-3

Specific Objectives:

1. Write opinion pieces that include supporting reasons.

2. Write informative/explanatory texts that use facts and definitions to develop a topic.

3. Write narrative texts that recount a well-elaborated event or short sequence of events.

4. Focus on a topic and strengthen writing by revising and editing (with guidance and support from peers and adults).

5. Use collective nouns (group), form and use irregular plural nouns (mice, feet, teeth, children) and reflexive pronouns (myself, ourselves).

6. Form and use the past tense of irregular verbs (sat, hid, told)

7. Use adjectives and adverbs and choose between them depending on what is to be modified.

8. Produce, expand, and rearrange simple and compound sentences.

9. Capitalize proper nouns, including holidays, product names, and geographic names

10. Use commas in the greetings and closing of letters, and use an apostrophe to form contractions and frequently occurring possessives.

Upper Elementary

Overview:

Students in upper elementary transition into much more independent learners, as students go from learning to read to reading to learn. Upper elementary students engage in more sophisticated literary analysis. They describe characters' traits, analyze the theme of a text, determine point-of-view, understand figurative language, and prove evidence from the text for their thinking. They enjoy reading longer, more sophisticated texts and aren't afraid to try out new genres. In writer's workshop, students hone their writing craft and use research skills to create refined pieces.

In math, students work with much larger numbers. They understand and develop fluency in multiplication and division, fractions, and by fifth grade, decimals. Problem solving skills also go through much change, as students work to solve multi-step word problems. Hands-on, real-world based math experiences aid students through this numerical journey, and students continue to develop their reasoning skills through math discussions.

In science, students' knowledge gets deeper as they investigate the natural world through science experiments and interactive lessons. And in social studies, students study U.S. history, government, and geography over the course of these years.

Upper elementary students also participate in the School Spelling Bee, and have the option of participating in the School Science Fair and after school Book Club. Fifth graders are also represented on the Student Council.

Textbooks are provided as a resource for teachers, but much of the learning that happens in upper elementary classrooms is through the use of authentic learning experiences and materials, including trade books.

Third Grade

Math - 3rd Grade

Textbook:

Title: My Math

Author: McGraw Hill

Copyright: 2016

ISBN: 978-0-07-669386-3

Specific Objectives:

- Use place value understanding to round whole numbers to the nearest 10 or 100.

- Add and subtract whole numbers fluently to 1,000 using knowledge of place value and properties of operations.

- Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90, using knowledge of place value and properties of operations.

- Read and write numbers through 999,999 in standard form and equations in expanded form.

- Compare and order numbers through 999,999 and represent the comparison using the symbols >, =, or <.

- Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers, including fractions as a portion of 1 whole and fractions as a portion of a group of items, and representing fractions on a number line.

- Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that: a. two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line; b. fraction equivalence can be represented using set, area, and linear models; c. whole numbers can be written as fractions (e.g., 4 = 4 1 and 1 = 4 4); d. fractions with the same numerator or same denominator can be compared by reasoning about their size based on the same whole.

- Develop an understanding of mixed numbers (i.e., denominators 2, 3, 4, 6, 8, 10) as iterations of unit fractions on a number line.

- Use concrete objects, drawings and symbols to represent multiplication and division facts (without remainders) of two single-digit whole numbers and explain the relationship between the factors (i.e., 0 – 10) and the product, or the quotient (i.e., 0 – 10), divisor(i.e., 0 – 10), and dividend.

- Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication and related division facts. Represent the problem situation using an equation with a symbol for the unknown

- Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is a missing factor, product, dividend, divisor, or quotient.

- Apply properties of operations (i.e., Commutative Property of Multiplication, Associative Property of Multiplication, Distributive Property) as strategies to multiply and divide and explain the reasoning.

- Demonstrate fluency with basic multiplication and related division facts of products and dividends through 100.

- Solve two-step real-world problems using addition, subtraction, multiplication and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity.

- Identify a rule for an arithmetic pattern (e.g., patterns in the addition table or multiplication table).

- Understand that shapes in different categories (e.g., rhombus, rectangle, square, and other 4-sided shapes) may share attributes (e.g., 4-sided figures) and the shared attributes can define a larger category (e.g., quadrilateral). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

- Partition two-dimensional shapes into 2, 3, 4, 6, or 8 parts with equal areas and express the area of each part using the same unit fraction. Recognize that equal parts of identical wholes need not have the same shape.

- Use a right angle as a benchmark to identify and sketch acute and obtuse angles.

- Identify a three-dimensional shape (i.e., right rectangular prism, right triangular prism, pyramid) based on a given two-dimensional net and explain the relationship between the shape and the net.

- Use analog and digital clocks to determine and record time to the nearest minute, using a.m. and p.m.; measure time intervals in minutes; and solve problems involving addition and subtraction of time intervals within 60 minutes.

- Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit.

- Collect, organize, classify, and interpret data with multiple categories and draw a scaled picture graph and a scaled bar graph to represent the data.

- Generate data by measuring length to the nearest inch, half-inch and quarter-inch and organize the data in a line plot using a horizontal scale marked off in appropriate units.

- Understand the concept of area measurement. a. Recognize area as an attribute of plane figures; b. Measure area by building arrays and counting standard unit squares; c. Determine the area of a rectilinear polygon and relate to multiplication and addition.

- Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Science - 3rd Grade

Textbook:

Title: Science: A Closer Look

Author: Macmillan McGraw-Hill

Copyright: 2008

ISBN: 978-0-02-284207-9

Specific Objectives

1. Use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

2. Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms; Use food chains to model the transfer of energy in a given environment from producers to consumers to decomposers.

3. Understand how plants and animals respond to habitat changes (such as hibernating, migrating, responding to light, death, or extinction)

4. Construct scientific arguments using evidence from fossils of plants and animals that lived long ago to infer the characteristics of early environments.

5. Identify and classify rocks, minerals, and soils based on distinct physical properties.

6. Describe how humans obtain, use, and protect renewable and nonrenewable Earth resources.

7. Use models to describe and classify Earth's continental landforms, including volcanoes, mountains, valleys, canyons, plains, and islands.

8. Conduct scientific investigations to determine how natural processes (including weathering, erosion, and gravity) shape Earth's surface and explain how explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming, mining, or building) impact the environment.

9. Describe and compare the physical properties of matter (e.g., length, mass, temperature and volume of liquids), and understand the properties used to classify matter as a solid, liquid, or gas.

10. Plan and conduct scientific investigations to determine how changes in heat (increase or decrease) change matter from one state to another (including melting, freezing, condensing, boiling, and evaporating).

11. Explain how different processes (burning, friction, electricity) serve as sources of heat energy; define problems of heat transfer and identify solutions that facilitate (conductor) or inhibit (insulator) the transfer of heat.

12. Understand how electricity transfers energy into other forms (including motion, sound, heat, or light), and how magnetism can result from electricity

13. Use models to describe the path of an electric current in a complete simple circuit.

14. Develop and use models to describe and compare the properties of magnets and electromagnets and determine the factors that affect the strength of an electromagnet through scientific investigation.

Social Studies - 3rd Grade

Textbook:

      Title: Social Studies: Communities

      Author: Houghton Mifflin

      Copyright: 2008

      ISBN: 978-0-618-83101-2

Specific Objectives:

1. American colonies and the American Revolution

2. Purpose and responsibilities of government and citizenship

3. The three branches of government

4. Westward expansion, pioneers and explorers

5. American Civil War

6. The role of immigrants in America, past and present

7. Economics in everyday life and trade between countries

8. What culture is and how different cultures are alike and different

9. Important holidays and national heroes in American culture

10. Geographical terms and map skills

Spelling – 3rd Grade

Textbook:

Title: Building Spelling Skills, Grade 3 & Grade 4
(spelling is differentiated)

Author: Evan Moor

Copyright: 2007

ISBN: 978-1-557-99841-5; 978-1-557-99842-2

Specific Objectives:

1. High frequency words

2. Words that have blends

3. Contractions

4. Abbreviations

5. Compound words

6. Words with "qu" sounds

7. Common homonyms

8. Number words up to one million

9. Plural patterns (adding –s, -es, dropping –y and adding –ies)

10. Words with double consonants

Reading – 3rd Grade

Textbook:

Title: Units of Study in Teaching Reading, Grade 3 with Trade Pack

Author: Heinemann

Copyright: 2015

ISBN: 978-0-618-85162-1

Specific Objectives:

1. Summarize key details and ideas to support analysis of thematic development.

2. Analyze literary and informational texts to make, revise, and confirm predictions, make inferences, and draw conclusions.

3. Analyze a text to determine author's point of view (first and third person), perspective, and purpose and determine how these shape meaning in a text.

4. Generate and answer questions about texts, referring explicitly to a text as a basis for the answer.

5. Analyze the relationship among characters, setting, and plot in a literary text.

6. Analyze the effects of author's craft (word choice, sentence structure) and illustrations on the meaning and tone of a given text.

7. Determine the main idea in an informational text; provide key details from the text and explain how they support the main idea.

8. Use text features, such as headings, subheadings, print styles, visual aids, captions, and chapter headings to gain information.

9. Generate the meaning of unfamiliar and multiple meaning words using context clues, and common affixes and roots.

10. Read a variety of genres and distinguish characteristics of different literary genres (fairy tales, historical fiction, trickster tales, etc.).

Writing/Grammar – 3rd Grade

Textbook:

Title: Units of Study in Opinion, Information, and Narrative Writing with Trade Book Pack

Author: Heinemann

Copyright: 2013

ISBN: 978-0-325-04756-0

Specific Objectives:

1. Write opinion pieces that support a point of view with reasons.

2. Write informative texts to examine a topic and convey ideas and information clearly.

3. Write narratives to develop real or imagined experiences using effective technique, descriptive details and clear event sequences.

4. Produce writing in which the development and organization are appropriate to task and purpose (with guidance from adults).

5. Develop and strengthen writing by planning, revising, and editing (with guidance and support from adults and peers).

6. Conduct short research projects that build knowledge about a topic.

7. Understand the functions of nouns, pronouns, verbs, adjectives, and adverbs.

8. Form and use regular and irregular plural nouns, possessive nouns, and abstract nouns.

9. Form regular and irregular verbs, comparative and superlative adjectives and adverbs, and ensure subject-verb and pronoun-antecedent agreement.

10. Produce simple, compound, and complex sentences and use coordinating and subordinating conjunctions.

11. Write dialogue correctly, capitalize titles, and use commas after direct addresses.

Fourth Grade

Math – 4th Grade

Textbook:

Title: My Math

Author: McGraw-Hill

Copyright: 2016

ISBN: 978-0-07-669157-9

Specific Objectives:

- Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right.

- Recognize math periods and number patterns within each period to read and write in standard form large numbers through 999,999,999.

- Use rounding as one form for estimation and round whole numbers to any given place value.

- Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm.

- Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models and/or equations.

- Divide up to a four-digit dividend by a one-digit divisor using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

- Explain why a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100), $\frac{a}{b}$, is equivalent to a fraction, $\frac{n \times a}{n \times b}$, by using visual fraction models, with attention to how the number and size of the parts differ even though the two factions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

- Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$ and represent the comparison using the symbols >, =, or <.

- Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions.

a. Compose and decompose a fraction in more than one way, recording each composition and decomposition as an addition or subtraction equation;

b. Add and subtract mixed numbers with like denominators;

c. Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having like denominators.

- Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12. 25, 100).

  a. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$;

  b. Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number;

  c. Solve real-world problems involving multiplication of a fraction by a whole number (i.e., use visual fraction models and equations to represent the problem).

- Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.

- Write a fraction with a denominator of 10 or 100 using decimal notation, and read and write a decimal number as a fraction.

- Compare and order decimal numbers to hundredths, and justify using concrete and visual models.

- Interpret a multiplication equation as a comparison (e.g. interpret 35 = 5x7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.) Represent verbal statements of multiplicative comparisons as multiplication equations.

- Solve real-world problems using multiplication (product unknown) and division (group size unknown, number of groups unknown).

- Solve multi-step, real-world problems using the four operations. Represent the problem using an equation with a variable as the unknown quantity.

- Recognize that a whole number is a multiple of each of its factors. Find all factors for a whole number in the range 1-100 and determine whether the whole number is prime or composite.

- Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.

- Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.

- Classify quadrilaterals based on the presence or absence of parallel or perpendicular lines.

- Recognize right triangles as a category, and identify right triangles.

- Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can e folded along the line into matching parts. Identify line-symmetric figures and draw lines

- Convert measurements within a single system of measurement, customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.

- Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations

- Apply the area and perimeter formulas for rectangles,

- Create a line plot to display a data set (i.e., generated by measuring length to the neatest quarter-inch and eight-inch) and interpret the line plot.

- Understand the relationship of an angle measurement to a circle.

- Measure and draw angles in whole number degrees using a protractor.

- Solve addition and subtraction problems to find unknown angles in real-world and mathematical problems.

- Determine the value of a collection of coins and bills greater than $1.00.

Science-4th Grade

Textbook:

Title: Science a Closer Look

Author: Macmillan/McGraw-Hill

Copyright: 2006

ISBN: 978-0-022-84137-9

Specific objectives:

1. Use science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content

2. Understand the water cycle and weather and climate patterns

3. Collect, analyze, and interpret weather data

4. Severe weather and how humans can reduce its impact

5. Understand the locations, movements, and patterns of stars and objects in the solar system

6. Compare the properties and location of the Earth, the Sun, and the Moon

7. Explain how the tilt and rotation of Earth causes seasons and night and day

8. Understand the properties of light and sound as forms of energy

9. Summarize how light travels and explain what happens when it strikes an object

10. Understand how the structural characteristics and traits of plants and animals allow them to survive, grow, and reproduce.

11. Classification of plants (flowering/nonflowering) and animals (vertebrates/invertebrates)

12. Stages of development in different seed plans and in different animals

Textbook:

Title: Social Studies: States and Regions

Author: Houghton Mifflin

Copyright: 2008

ISBN: 978-0-618-83102-9

Specific Objectives:

1. Geographical features and regions of the U.S.

2. Geography, economy, culture, and major historical events of the Eastern Region

3. Geography, economy, culture, and major historical events of the Southern Region

4. Geography, economy, culture, and major historical events of the Midwestern Region

5. Geography, economy, culture, and major historical events of the Western Region

6. Locate U.S. states and capitals on a map

7. North American neighbors

8. Voting, elections, and the structure of U.S. government

9. Important holidays and national figures in American culture and history

Spelling – 4th Grade

Textbook:

Title: Building Spelling Skills, Grade 4 and Grade 5
(spelling is differentiated)

Author: Evan Moor

Copyright: 2007

ISBN: 978-1-557-99842-2; 978-1-557-99843-9

Specific Objectives:

1. Words with suffixes and prefixes (-ful, -less, -ness, -ment; re-, un-, dis-)

2. Multisyllabic words

3. Words with short and long vowel sounds

4. Homophones and compound words

5. Words with -ed and -ing endings

6. Words with unusual vowel sounds (e.g., /yōō/, /ōō/, /ŭ/, /ŏŏ/, /ou/, /ô/)

7. Words with vowel + /r/ sounds

8. Words with final long e

9. Words with /k/, /ng/, and /kw/

10. Words with final /j/ and /s/

Reading – 4th Grade

Textbook:

Title: Units of Study in Teaching Reading, Grade 4 with Trade Pack; Building Vocabulary from Word Roots, Level 4

Author: Heinemann; Teacher Created Materials Publishing

Copyright: 2015; 2014

ISBN: 978-0-325-07468-9; 978-1-493-80646-1

Specific Objectives:

1. Read with sufficient accuracy and fluency to support comprehension at the grades 4-5 text complexity band, with scaffolding as needed at the high end of the range.

2. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text in literary and informational texts.

3. Determine a theme of a story, drama, or poem from details in the text; summarize the text.

4. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).

5. Determine the meaning of words and phrases as they are used in a text.

6. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.

7. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

8. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.

9. Determine the main idea of a text and explain how it is supported by key details; summarize the text.

10. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

11. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.

12. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

13. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

14. Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon (including Greek and Latin roots); acquire and use general academic and domain-specific vocabulary.

15. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Writing/Grammar – 4th Grade

Textbook:

Title: Units of Study in Opinion, Information, and Narrative Writing

Author: Heinemann

Copyright: 2013

ISBN: 978-0-325-04757-7

Specific Objectives:

1. Use all steps of the writing process (planning, drafting, revising, editing, and publishing) to create a variety of written works.

2. Write independently, legibly, and routinely for a variety of tasks, purposes, and audiences over short and extended time frames.

3. Incorporate authors' craft techniques observed from mentor texts across disciplines for a variety of purposes.

4. Write narratives to develop real or imagined experiences or events using effective techniques, well-chosen details, and well-structured event sequences.

5. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

6. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

7. Formulate relevant, self-generated questions based on interests and/or needs that can be investigated.

8. Synthesize integrated information to share learning and/or take action.

9. Interact with others to explore ideas and concepts through collaborative conversations.

10. Demonstrate command of the conventions of standard English grammar and usage when writing and speaking:

    a. Use relative pronouns and relative adverbs;

b. Form and use the progressive verb tenses;

c. Use modal auxiliaries to convey various conditions;

d. Use progressive verb tenses, recognizing and correcting inappropriate shifts in verb tense;

e. Order adjectives within a sentence according to conventional patterns;

f. Explore using prepositional phrases in different positions within a sentence;

g. Use coordinating and subordinating conjunctions;

h. Use a variety of sentence types to produce complete sentences, recognizing and correcting inappropriate fragments and run-ons;

i. Use frequently confused homonyms correctly;

j. Capitalize names of names of magazines, newspapers, works of art, musical compositions, organizations, and the first word in quotations;

k. Use apostrophes to form possessives and contractions;

l. Use quotation marks and commas to mark direct speech;

m. Use commas before a coordinating conjunction in a compound sentence.

Fifth Grade

Math – 5th Grade

Textbook:

    Title: My Math

    Author: McGraw-Hill

    Copyright: 2016

    ISBN: 978-0-07-669160-9

Specific Objectives:

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

4. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

6. Read, write, and compare decimals to thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

7. Use place value understanding to round decimals to any place.

8. Fluently multiply multi-digit whole numbers using the standard algorithm.

9. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

10. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

11. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*

12. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*

13. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

14. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = (ac)/(bd).*

b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

15. Interpret multiplication as scaling (resizing), by:
    a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

    b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n × a)/(n × b)$ to the effect of multiplying a/b by 1.

16. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

17. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[1]

    a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*

    b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*

    c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*

18. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

19. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally*.

20. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

    a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

    b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

21. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

22. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

    a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

    b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

    c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

23. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel

in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).

24. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

25. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

26. Classify two-dimensional figures in a hierarchy based on properties.

Science-5th Grade

Textbook:

Title: Science a Closer Look

Author: Macmillan/McGraw-Hill

Copyright: 2011

ISBN: 978-02-287992-1

Specific objectives:

- Use science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

- Physical properties of matter and mixtures.

- The effects of natural processes and human activities affect the features of Earth's landforms and oceans.

- Continental and oceanic landforms.

- Solutions to reduce the impact on landforms and the ocean shore zone.

- Relationships among biotic and abiotic factors in terrestrial and aquatic ecosystems.

- Classification of organisms

- The effects of limiting factors on an ecosystem

- Food chains and food webs

- Motion of an object (position, direction, and speed

- The effects of force (including magnetism, gravity and friction) on motion

Social Studies – 5th Grade

Textbook:

Title: Social Studies: United States History

Author: Houghton Mifflin

Copyright: 2008

ISBN: 978-0-618-83104-3

Specific Objectives:

- Westward Expansion in the late 1700s and early 1800s

- Slavery and the Underground Railroad

- American Civil War and Reconstruction, its causes and impact, major events and leaders

- The rise of big business, labor unions, and immigration in the late 1800s

- World War I

- The Great Depression

- World War II

- The Cold War

- Important holidays and national heroes in American culture

- Voting, elections, and the structure of government

Spelling – 5th Grade

Textbook:

Title: Building Spelling Skills, Grade 5 & Grade 6
(spelling is differentiated)

Author: Evan-Moor

ISBN: 13: 978-0-618-49212-1

Copyright: 2007

Specific Objectives:

1. Short and long vowel sounds

2. Words with vowel + /r/ controlled sounds

3. Homophones and compound words

4. Commonly confused words

5. Irregular vowel patterns in multisyllabic words

6. Words with -ed and -ing endings

7. Words with prefixes and suffixes (in-, un-, dis-, mis-, -ful, -ly, -ness, -less, -ment)

8. Changing final y and i words

9. Final schwa +/l/ and /r/ sound

10. Double consonant patterns

Reading – 5th Grade

Textbook:

Title: Units of Study in Teaching Reading, Grade 3 with Trade Pack; Growing Your Vocabulary: Learning from Greek and Latin Roots – Level 5

Author: Houghton Mifflin; Prestwick House

Copyright: 2015; 2008

ISBN: 978-0-325-07469-6; 978-1-60389-097-7

Specific Objectives:

- Read with sufficient accuracy and fluency to support comprehension at the grades 5-6 text complexity band, with scaffolding as needed at the high end of the range.

- Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

- Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.

- Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

- Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes, idioms, adages, and proverbs.

- Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.

- Describe how a narrator's or speaker's point of view influences how events are described.

- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).

- Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

- Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

- Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

- Apply a range of strategies to determine and deepen the meaning of known, unknown, and multiple-meaning words, phrases, and jargon (including Greek and Latin roots); acquire and use general academic and domain-specific vocabulary.

- Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.

- Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

- Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

- Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Writing/Grammar – 5th Grade

Textbook:

> Title: Units of Study in Opinion, Information, and Narrative Writing
>
> > English with Trade Book Pack
>
> Author: Heinemann
>
> Copyright: 2013
>
> ISBN: 978-0-325-04758-4

Specific Objectives:

- Use all steps of the writing process (planning, drafting, revising, editing, and publishing) to create a variety of written works.

- Write independently, legibly, and routinely for a variety of tasks, purposes, and audiences over short and extended time frames.

- Incorporate authors' craft techniques observed from mentor texts across disciplines for a variety of purposes.

- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

- Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

  a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.

  b. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses.

c. Use verb tense to convey various times, sequences, states, and conditions.

d. Recognize and correct inappropriate shifts in verb tense.

e. Use correlative conjunctions (e.g., *either/or, neither/nor*).

f. Use punctuation to separate items in a series.

g. Use a comma to separate an introductory element from the rest of the sentence.

h. Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).

i. Use underlining, quotation marks, or italics to indicate titles of works.

Middle School

<u>**Overview:**</u>

Being a middle school student comes with newfound privileges and responsibilities. In Language Arts, students engage in four project-based learning themes that guide their reading and writing for the year. Students read texts daily in school and at home. Students have the opportunity to choose final projects to showcase their learning, and they often share their learning with their peers. Students who have demonstrated advanced reading and writing skills are eligible to take Advanced Language Arts, which comes with additional required assignments. Eighth grade students who qualify take English I Honors for high school credit.

In math, learning is fast-paced and becomes more and more abstract. Math conversations supplement the curriculum and provide students with access and experience in mathematical thinking that furthers their understanding. There is also an emphasis on real-world problem solving. Qualifying students in eighth grade take Algebra I for a high school credit.

Middle school science classes are integrated, focusing on topics within Life, Earth, and Physical Science. Students regularly engage in labs, conversations, and projects. In social studies, students focus on world history during the first two years of middle school, and then South Carolina history in their final year. Simulations of historical events are some of students' favorite learning activities.

Outside of the regularly school hours, middle school students who are eligible may participate in Jr. Beta Club, Student Council, Book Club, and the School Spelling Bee and Science Fair.

Sixth Grade

Advanced Math (Math 6/7) – 6th Grade

Textbook:

Title: Mathematics, Grade 6

Mathematics, Grade 7

Explorations in Core Math, Grade 6

Author: Holt McDougal

Copyright: 2012

ISBN: 978-0-547-64716-6

978-0-547-64717-3

978-0-547-87663-4

Specific Objectives:

The Number System

- Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).

- Fluently divide multi-digit whole numbers using a standard algorithmic approach.

- Fluently add, subtract, multiply, and divide multi-digit decimal numbers using a standard algorithmic approach.

- Find common factors and multiples using two whole numbers.
  - ➢ Compute the greatest common factor (GCF) of two numbers both less than or equal to 100.
  - ➢ Compute the least common multiple (LCM) of two numbers both less than or equal to 12.
  - ➢ Express sums of two whole numbers, each less than or equal to 100, using the Distributive Property to factor out a common factor of the original addends.

- Investigate and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100

Ratios & Rates

- Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.

- Investigate relationships between ratios and rates.
  - Translate between multiple representations of ratios (i.e., $\frac{a}{a}$, a :b, a to b, visual models).
  - Recognize that a rate is a type of ratio involving two different units.
  - Convert from rates to unit rates.

- Apply the concepts of ratios and rates to solve real-world and mathematical problems.
  - Create a table consisting of equivalent ratios, and plot the results on the coordinate plane.
  - Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios.
  - Use two tables to compare related ratios.
  - Apply concepts of unit rate to solve problems, including unit pricing and constant speed.
  - Understand that a percentage is a rate per 100, and use this to solve problems involving wholes, parts, and percentages.
  - Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).

Graphing & Rational Numbers

- Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations, and explain the meaning of zero in each situation.

- Extend the understanding of the number line to include all rational numbers, and apply this concept to the coordinate plane.
  - Understand the concept of opposite numbers, including zero, and their relative locations on the number line.
  - Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane.
  - Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin.
  - Plot rational numbers on number lines and ordered pairs on coordinate planes.

- Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers.
  - ➢ Interpret statements using equal to (=) and not equal to (≠).
  - ➢ Interpret statements using less than (), and equal to (=) as relative locations on the number line.
  - ➢ Use concepts of equality and inequality to write and to explain real-world and mathematical situations.
  - ➢ Understand that absolute value represents a number's distance from zero on the number line, and use the absolute value of a rational number to represent real-world situations.
  - ➢ Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases.

- Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers.
  - ➢ Plot points in all four quadrants to represent the problem.
  - ➢ Find the distance between two points when ordered pairs have the same x - coordinates or same y -coordinates.
  - ➢ Relate finding the distance between two points in a coordinate plane to absolute value using a number line.

- Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers, and represent the sum or difference on a number line.
  - ➢ Understand that the additive inverse of a number is its opposite and their sum is equal to zero.
  - ➢ Understand that the sum of two rational numbers (p + q) represents a distance from p on the number line equal to |p | where the direction is indicated by the sign of q.
  - ➢ Translate between the subtraction of rational numbers and addition using the additive inverse, p – q = p + (-q).
  - ➢ Demonstrate that the distance between two rational numbers on the number line is the absolute value of their difference.
  - ➢ Apply mathematical properties (e.g., Commutative, Associative, Distributive, or the properties of Identity and Inverse Elements) to add and subtract rational numbers.

- Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers.
  - ➢ Understand that the multiplicative inverse of a number is its reciprocal and their

product is equal to one.

- ➢ Understand sign rules for multiplying rational numbers.
- ➢ Understand sign rules for dividing rational numbers and that a quotient of integers (with a non-zero divisor) is a rational number.
- ➢ Apply mathematical properties (e.g., Commutative, Associative, Distributive, or the properties of Identity and Inverse Elements) to multiply and divide rational numbers.
- ➢ Understand that some rational numbers can be written as integers, and all rational numbers can be written as fractions or decimal numbers that terminate or repeat.

- Apply the concepts of all four operations with rational numbers to solve real world and mathematical problems

Expressions

- Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.

- Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers.
  - ➢ Translate between algebraic expressions and verbal phrases that include variables.
  - ➢ Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor.
  - ➢ Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole numbers.

- Apply mathematical properties (e.g., Commutative, Associative, Distributive) to generate equivalent expressions.

- Apply mathematical properties (e.g., Commutative, Associative, Distributive) to justify that two expressions are equivalent.

- Apply mathematical properties (e.g., Commutative, Associative, Distributive) to simplify and to factor linear algebraic expressions with rational coefficients.

- Recognize that algebraic expressions may have a variety of equivalent forms, and determine an appropriate form for a given real-world situation.

Equations

- Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.

- Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.

- Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.

- Extend knowledge of inequalities used to compare numerical expressions to include algebraic expressions in real-world and mathematical situations.
  - ➢ Write an inequality of the form x > c or x < c, and graph the solution set on a number line.
  - ➢ Recognize that inequalities have infinitely many solutions.

- Investigate multiple representations of relationships in real-world and mathematical situations.
  - ➢ Write an equation that models a relationship between independent and dependent variables.
  - ➢ Analyze the relationship between independent and dependent variables using graphs and tables.
  - ➢ Translate among graphs, tables, and equations.

- Understand and apply the concepts of comparing and ordering to rational numbers.
  - ➢ Interpret statements using less than (), less than or equal to (≤), greater than or equal to (≥), and equal to (=) as relative locations on the number line.
  - ➢ Use concepts of equality and inequality to write and explain realworld and mathematical situations.

- Extend previous understanding of Order of Operations to solve multi-step real-world and mathematical problems involving rational numbers. Include fraction bars as a grouping symbol.

- Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations.

- ➢ Write and fluently solve linear equations of the form $ax + b = c$ and $a(x + b) = c$ where a, b, and c are rational numbers.
- ➢ Write and solve multi-step linear equations that include the use of the Distributive Property and combining like terms. Exclude equations that contain variables on both sides.
- ➢ Identify and justify the steps for solving multi-step linear equations and two-step linear inequalities.

- Understand and apply the laws of exponents (i.e., product rule, quotient rule, power to a power, product to a power, quotient to a power, zero power property) to simplify numerical expressions that include whole-number exponents.

Ratios & Proportions

- Compute unit rates, including those involving complex fractions, with like or different units.

- Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and realworld situations.
  - ➢ Determine when two quantities are in a proportional relationship.
  - ➢ Recognize or compute the constant of proportionality.
  - ➢ Understand that the constant of proportionality is the unit rate.
  - ➢ Use equations to model proportional relationships.
  - ➢ Investigate the graph of a proportional relationship, and explain the meaning of specific points (e.g., origin, unit rate) in the context of the situation.

- Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Exclude the conversion of repeating decimal numbers to fractions.

- Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations.
  - ➢ Write and fluently solve linear equations of the form $ax + b = c$ and $a(x + b) = c$ where a, b, and c are rational numbers.
  - ➢ Write and solve multi-step linear equations that include the use of the Distributive Property and combining like terms. Exclude equations that contain variables on both sides.

Statistics

- Differentiate between statistical and non-statistical questions.

- Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.

- Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

- Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots.

- Describe numerical data sets in relation to their real-world context.
  - ➢ State the sample size.
  - ➢ Describe the qualitative aspects of the data (e.g., how it was measured, units of measurement).
  - ➢ Give measures of center (median, mean).
  - ➢ Find measures of variability (interquartile range, mean absolute deviation) using a number line.
  - ➢ Describe the overall pattern (shape) of the distribution.
  - ➢ Justify the choices for measure of center and measure of variability based on the shape of the distribution.
  - ➢ Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.

- Visually compare the centers, spreads, and overlap of two displays of data (i.e., dot plots, histograms, box plots) that are graphed on the same scale, and draw inferences about this data.

- Compare the numerical measures of center (mean, median, mode) and variability (range, interquartile range, mean absolute deviation) from two random samples to draw inferences about the populations.

Geometry

- Determine the scale factor and translate between scale models and actual measurements (e.g., lengths, area) of real-world objects and geometric figures using proportional reasoning.

- Investigate the concept of circles.
  - Demonstrate an understanding of the proportional relationships between diameter, radius, and circumference of a circle.
  - Understand that the constant of proportionality between the circumference and diameter is equivalent to $\pi\pi$.
  - Explore the relationship between circumference and area using a visual model.
  - Use the formulas for circumference and area of circles appropriately to solve real-world and mathematical problems.

- Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations.
  - Understand that the concept of area is applied to two-dimensional figures such as triangles, quadrilaterals, and polygons.
  - Understand that the concepts of volume and surface area are applied to three-dimensional figures such as cubes, right rectangular prisms, and right triangular prisms.
  - Decompose cubes, right rectangular prisms, and right triangular prisms into rectangles and triangles to derive the formulas for volume and surface area.
  - Use the formulas for area, volume, and surface area appropriately.

- Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

- Use visual models (e.g., model by packing) to discover that the formulas for the volume of a right rectangular prism (V = lwh, V = Bh) are the same for whole or fractional edge lengths. Apply these formulas to solve real-world and mathematical problems.

- Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations.
  - Given coordinates of the vertices, draw a polygon in the coordinate plane.
  - Find the length of an edge if the vertices have the same x -coordinates or same y - coordinates.

- Unfold three-dimensional figures into two-dimensional rectangles and triangles (nets) to find the surface area and to solve real-world and mathematical problems.

Science-6th Grade

Textbook:

Title: Integrated iScience, Course 1 (Grade 6) – Hard Copy and Online Edition

 Author: Glencoe

Copyright: 2012

ISBN: 978-0-078-88005-6

Specific objectives:

Science & Engineering Practices

- Use scientific and engineering practices (e.g., formulate scientific questions, generate hypothesis, plan and conduct controlled experiments, analyze and interpret informational texts, collect and analyze data, utilize data to support or reject scientific claims) to develop understandings of science content.

- Communicate written and orally using conventions of scientific writing and presentation.

Earth Science: Earth's Weather & Climate

- Develop and use models to exemplify the properties of the atmosphere (including the gases, temperature and pressure differences, and altitude changes) and the relative scale in relation to the size of Earth.

- Critically analyze scientific arguments based on evidence for and against how different phenomena (natural and human induced) may contribute to the composition of Earth's atmosphere.

- Construct explanations of the processes involved in the cycling of water through Earth's systems (including transpiration, evaporation, condensation and crystallization, precipitation, and downhill flow of water on land).

- Analyze and interpret data from weather conditions (including wind speed and direction, air temperature, humidity, cloud types, and air pressure), weather maps, satellites, and radar to predict local weather patterns and conditions.

- Develop and use models to explain how relationships between the movement and interactions of air masses, high and low pressure systems, and frontal boundaries

result in weather conditions and storms (including thunderstorms, hurricanes and tornadoes

- Develop and use models to represent how solar energy and convection impact Earth's weather patterns and climate conditions (including global winds, the jet stream, and ocean currents).

- Construct explanations for how climate is determined in an area (including latitude, elevation, shape of the land, distance from water, global winds, and ocean currents).

Physical Science: Energy Transfer & Conservation

- Analyze and interpret data to describe the properties and compare sources of different forms of energy (including mechanical, electrical, chemical, radiant, and thermal).

- Develop and use models to exemplify the conservation of energy as it is transformed from kinetic to potential (gravitational and elastic) and vice versa.

- Construct explanations for how energy is conserved as it is transferred and transformed in electrical circuits.

- Develop and use models to exemplify how magnetic fields produced by electrical energy flow in a circuit is interrelated in electromagnets, generators, and simple electrical motors.

- Develop and use models to describe and compare the directional transfer of heat through convection, radiation, and conduction.

- Design and test devices that minimize or maximize heat transfer by conduction, convection, or radiation.

- Plan and conduct controlled scientific investigations to provide evidence for how the design of simple machines (including levers, pulleys, inclined planes) helps transfer mechanical energy by reducing the amount of force required to do work.

- Design and test solutions that improve the efficiency of a machine by reducing the input energy (effort) or the amount of energy transferred to the surrounding environment as it moves an object.

Life Science: Diversity of Life – Classification of Animals

- Obtain and communicate information to support claims that living organisms (1) obtain and use resources for energy, (2) respond to stimuli, (3) reproduce, and (4) grow and develop.

- Develop and use models to classify organisms based on the current hierarchical taxonomic structure (including the kingdoms of protists, plants, fungi, and animals).

- Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics.

- Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.

- Construct explanations of how animal responses (including hibernation, migration, grouping, and courtship) to environmental stimuli allow them to survive and reproduce.

- Obtain and communicate information to compare and classify innate and learned behaviors in animals.

- Analyze and interpret data to compare how endothermic and ectothermic animals respond to changes in environmental temperature.

Life Science: Diversity of Life – Protists, Fungi, & Plants

- Analyze and interpret data from observations to compare how the structures of protists (including euglena, paramecium, and amoeba) and fungi allow them to obtain energy and explore their environment.

- Analyze and interpret data to describe how fungi respond to external stimuli (including temperature, light, touch, water, and gravity).

- Construct explanations of how the internal structures of vascular and nonvascular plants transport food and water.

- Analyze and interpret data to explain how the processes of photosynthesis, respiration, and transpiration work together to meet the needs of plants.

- Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

- Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant.

- Analyze and interpret data to describe how plants respond to external stimuli (including temperature, light, touch, water, and gravity).

Social Studies – 6th Grade

Textbook:

Title: Journey Across Time: The Early Ages

Author: McGraw Hill

Copyright: 2007

ISBN: 978-0-078-75047-2

Specific Objectives:

Cradles of Civilizations and the Movement from Nomadic to Settled Life

- Explain the characteristics of hunter-gatherer groups and their relationship to the natural environment.

- Explain the emergence of agriculture and its effect on early human communities, including the domestication of plants and animals, the impact of irrigation techniques, and subsequent food surpluses.

- Compare the river valley civilizations of the Tigris and Euphrates (Mesopotamia), the Nile (Egypt), the Indus (India), and the Huang He (China), including the evolution of written language, government, trade systems, architecture, and forms of social order.

- Explain the origins, fundamental beliefs, and spread of Eastern religions, including Hinduism (India), Judaism (Mesopotamia), Buddhism (India), and Confucianism and Taoism (China).

Ancient Civilizations

- Describe the development of ancient Greek culture (the Hellenic period), including the concept of citizenship and the early forms of democracy in Athens.

- Analyze the role of Alexander the Great (Hellenistic period), Socrates, Plato, Archimedes, Aristotle, and others in the creation and spread of Greek governance, literature, philosophy, the arts, math, and science.

- Describe the development of Roman civilization, including language, government, architecture, and engineering.

- Describe the expansion and transition of the Roman government from monarchy to republic to empire, including the roles of Julius Caesar and Augustus Caesar (Octavius).

- Explain the decline and collapse of the Roman Empire and the impact of the Byzantine Empire, including the Justinian Code and the preservation of ancient Greek and Roman learning, architecture, and government.

- Compare the polytheistic belief systems of the Greeks and the Romans with the origins, foundational beliefs, and spread of Christianity.

Changing Political, Social, and Economic Cultures in Asia

- Summarize the major contributions of the Chinese civilization from the Qing dynasty through the Ming dynasty, including the golden age of art and literature, the invention of gunpowder and woodblock printing, and the rise of trade via the Silk Road.

- Summarize the major contributions of the Japanese civilization, including the Japanese feudal system, the Shinto traditions, and works of art and literature.

- Summarize the major contributions of India, including those of the Gupta dynasty in mathematics, literature, religion, and science.

- Explain the origin and fundamental beliefs of Islam and the geographic and economic aspects of its expansion.

Changing Political, Social, and Economic Cultures in Africa & the Americas

- Compare the major contributions of the African civilizations of Ghana, Mali, and Songhai, including the impact of Islam on the cultures of these kingdoms.

- Describe the influence of geography on trade in the African kingdoms, including the salt and gold trades.

- Compare the contributions and the decline of the Maya, Aztec, and Inca civilizations in Central and South America, including their forms of government and their contributions in mathematics, astronomy, and architecture.

- Explain the contributions, features, and rise and fall of the North American ancestors of the numerous Native American tribes, including the Adena, Hopewell, Pueblo, and Mississippian cultures.

The Middle Ages and the Emergence of Nation-States in Europe

- Explain feudalism and its relationship to the development of European monarchies and nation-states, including feudal relationships, the daily lives of peasants and serfs, and the economy under the manorial system.

- Explain the effects of the Magna Carta on European society, its effect on the feudal system, and its contribution to the development of representative government in England.

- Summarize the course of the Crusades and explain their effects on feudalism and their role in spreading Christianity.

- Explain the role and influence of the Roman Catholic Church in medieval Europe.

- Summarize the origins and impact of the bubonic plague (Black Death) on feudalism.

Renaissance, Reformation, and the Age of Exploration

- Summarize the contributions of the Italian Renaissance, including the importance of Florence, the influence of humanism and the accomplishments of the Italians in art, music, literature, and architecture.

- Identify key figures of the Renaissance and the Reformation and their contributions (e.g., Leonardo da Vinci, Michelangelo, Johannes Gutenberg, John Calvin, and Martin Luther).

- Explain the causes, events, and points of contention and denominational affiliations (of nations) of the Reformation and the Catholic Reformation (Counter Reformation).

- Compare the economic, political, and religious incentives of the various European countries to explore and settle new lands. 6-6.5 Identify the origin and destinations of the voyages of major European explorers. 6-6.6 Explain the effects of the exchange of plants, animals, diseases, and technology throughout Europe, Asia, Africa, and the Americas (known as the Columbian Exchange).

Reading – 6th Grade

Textbook:

Title: Growing Your Vocabulary: Learning from Greek and Latin Roots, Level 6

Author: Prestwick House

Copyright: 2008

ISBN: 978-1-580-49872-2

*Several novels and other texts are provided

Specific Objectives:

- Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

- Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

- Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

- Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone

- Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.

- Explain how an author develops the point of view of the narrator or speaker in a text.

- Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.

- Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.

- Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

- Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).

- Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.

- Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

- Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

- Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.

- Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).

- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.

- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Writing/Grammar – 6th Grade

Textbook:

Title: Units of Study in Opinion, Information, and Narrative Writing

Author: Heinemann

Copyright: 2015

ISBN: 978-0-325-04714-0

Specific Objectives:

- Use all steps of the writing process (planning, drafting, revising, editing, and publishing) to create a variety of written works.

- Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

- Write arguments to support claims with clear reasons and relevant evidence.

- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

- Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

- Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

- Draw evidence from literary or informational texts to support analysis, reflection, and research.

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- Ensure that pronouns are in the proper case (subjective, objective, possessive).

- Use intensive pronouns (e.g., *myself, ourselves*).

- Recognize and correct inappropriate shifts in pronoun number and person.

- Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).

- Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.

- Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.

- Spell correctly

- Vary sentence patterns for meaning, reader/listener interest, and style.

- Maintain consistency in style and tone.

Seventh Grade

Pre-Algebra – 7th Grade

Textbook:

Title: Mathematics, Grade 7

Pre-Algebra

Explorations in Core Math, Grade 7

Author: Holt McDougal

Copyright: 2012

ISBN: 978-0-547-64717-3

978-0-547-58777-6

978-0-547-87653-5

Specific Objectives:

Geometric Transformations

- Investigate the properties of rigid transformations (rotations, reflections, translations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, technology).
  - ➢ Verify that lines are mapped to lines, including parallel lines.
  - ➢ Verify that corresponding angles are congruent.
  - ➢ Verify that corresponding line segments are congruent.

- Apply the properties of rigid transformations (rotations, reflections, translations).
  - ➢ Rotate geometric figures 90, 180, and 270 degrees, both clockwise and counterclockwise, about the origin.
  - ➢ Reflect geometric figures with respect to the x -axis and/or y -axis.
  - ➢ Translate geometric figures vertically and/or horizontally.
  - ➢ Recognize that two-dimensional figures are only congruent if a series of rigid transformations can be performed to map the pre-image to the image.
  - ➢ Given two congruent figures, describe the series of rigid transformations that justifies this congruence.

- Investigate the properties of transformations (rotations, reflections, translations, dilations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, dynamic software).
  - ➤ Use coordinate geometry to describe the effect of transformations on two-dimensional figures.
  - ➤ Relate scale drawings to dilations of geometric figures.

- Apply the properties of transformations (rotations, reflections, translations, dilations).
  - ➤ Dilate geometric figures using scale factors that are positive rational numbers.
  - ➤ Recognize that two-dimensional figures are only similar if a series of transformations can be performed to map the preimage to the image.
  - ➤ Given two similar figures, describe the series of transformations that justifies this similarity.
  - ➤ Use proportional reasoning to find the missing side lengths of two similar figures.

- Extend and apply previous knowledge of angles to properties of triangles, similar figures, and parallel lines cut by a transversal.
  - ➤ Discover that the sum of the three angles in a triangle is 180 degrees.
  - ➤ Discover and use the relationship between interior and exterior angles of a triangle.
  - ➤ Identify congruent and supplementary pairs of angles when two parallel lines are cut by a transversal.
  - ➤ Recognize that two similar figures have congruent corresponding angles.

- Use models to demonstrate a proof of the Pythagorean Theorem and its converse.

- Apply the Pythagorean Theorem to model and solve real-world and mathematical problems in two and three dimensions involving right triangles.

The Number System

- Explore the real number system and its appropriate usage in real-world situations.
  - ➤ Recognize the differences between rational and irrational numbers.
  - ➤ Understand that all real numbers have decimal expansions.
  - ➤ Model the hierarchy of the real number system, including natural, whole, integer, rational, and irrational numbers.

- Estimate and compare the value of irrational numbers by plotting them on a number line.

- Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Include the conversion of repeating decimal numbers to fractions.

Expressions, Equations, & Inequalities

- Understand and apply the laws of exponents (i.e., product rule, quotient rule, power to a power, product to a power, quotient to a power, zero power property, negative exponents) to simplify numerical expressions that include integer exponents.

- Investigate concepts of square and cube roots.
  - Find the exact and approximate solutions to equations of the form $x^2 = p$ and $x^3 = p$ where p is a positive rational number.
  - Evaluate square roots of perfect squares.
  - Evaluate cube roots of perfect cubes.
  - Recognize that square roots of non-perfect squares are irrational.

- Explore the relationship between quantities in decimal and scientific notation.
  - Express very large and very small quantities in scientific notation in the form $a \times 10^b = p$ where $1 \leq a < 10$ and b is an integer.
  - Translate between decimal notation and scientific notation.
  - Estimate and compare the relative size of two quantities in scientific notation.

- Apply the concepts of decimal and scientific notation to solve real-world and mathematical problems.
  - Multiply and divide numbers expressed in both decimal and scientific notation.
  - Select appropriate units of measure when representing answers in scientific notation.
  - Translate how different technological devices display numbers in scientific notation.

- Extend concepts of linear equations and inequalities in one variable to more complex multi-step equations and inequalities in real-world and mathematical situations.
  - Solve linear equations and inequalities with rational number coefficients that include the use of the Distributive Property, combining like terms, and variables on both sides.

- ➤ Recognize the three types of solutions to linear equations: one solution ($x = a$), infinitely many solutions ($a = a$), or no solutions ($a = b$).
- ➤ Generate linear equations with the three types of solutions.
- ➤ Justify why linear equations have specific types of solutions.
- ➤ Write and solve two-step linear inequalities. Graph the solution set on a number line, and interpret its meaning.

- Organize data in matrices with rational numbers and apply to real world and mathematical situations.
  - ➤ Understand that a matrix is a way to organize data.
  - ➤ Recognize that a m × n matrix has m rows and n columns.
  - ➤ Add and subtract matrices of the same size.
  - ➤ Multiply a matrix by a scalar.

Algebraic Geometry

- Use models to demonstrate a proof of the Pythagorean Theorem and its converse.

- Apply the Pythagorean Theorem to model and solve real-world and mathematical problems in two and three dimensions involving right triangles.

- Find the distance between any two points in the coordinate plane using the Pythagorean Theorem.

- Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres and the surface area of cylinders.

- Investigate concepts of square and cube roots.
  - ➤ Find the exact and approximate solutions to equations of the form $x2 = p$ and $x\,3 = p$ where p is a positive rational number.
  - ➤ Evaluate square roots of perfect squares.
  - ➤ Evaluate cube roots of perfect cubes.
  - ➤ Recognize that square roots of non-perfect squares are irrational.

- Construct triangles and special quadrilaterals using a variety of tools (e.g., freehand, ruler and protractor, technology).
  - ➤ Construct triangles given all measurements of either angles or sides.
  - ➤ Decide if the measurements determine a unique triangle, more than one triangle, or no triangle.

- ➢ Construct special quadrilaterals (i.e., kite, trapezoid, isosceles trapezoid, rhombus, parallelogram, rectangle) given specific parameters about angles or sides.

- Describe two-dimensional cross sections of three-dimensional figures, specifically right rectangular prisms and right rectangular pyramids.

- Write equations to solve problems involving the relationships between angles formed by two intersecting lines, including supplementary, complementary, vertical, and adjacent.

Functions

- Explore the concept of functions.
  - ➢ Understand that a function assigns to each input exactly one output.
  - ➢ Relate inputs (x -values or domain) and outputs (y -values or range) to independent and dependent variables.
  - ➢ Translate among the multiple representations of a function, including mappings, tables, graphs, equations, and verbal descriptions.
  - ➢ Determine if a relation is a function using multiple representations, including mappings, tables, graphs, equations, and verbal descriptions.
  - ➢ Graph a function from a table of values. Understand that the graph and table both represent a set of ordered pairs of that function.

- Compare multiple representations of two functions, including mappings, tables, graphs, equations, and verbal descriptions, in order to draw conclusions.

Linear Functions

- Apply concepts of proportional relationships to real-world and mathematical situations.
  - ➢ Graph proportional relationships.
  - ➢ Interpret unit rate as the slope of the graph.
  - ➢ Compare two different proportional relationships given multiple representations, including tables, graphs, equations, diagrams, and verbal descriptions.
  - ➢ Solve problems involving ratios and percentages using proportional reasoning (e.g., multi-step dimensional analysis, percent increase/decrease, tax).

- Apply concepts of slope and *y*-intercept to graphs, equations, and proportional relationships.
  - ➢ Explain why the slope, m, is the same between any two distinct points on a nonvertical line using similar triangles.
  - ➢ Derive the slope-intercept form (y = mx + b) for a nonvertical line.
  - ➢ Relate equations for proportional relationships (y = kx) with the slope-intercept form (y = mx + b) where b = 0.

- Explain why the slope, m, is the same between any two distinct points on a nonvertical line using similar triangles.
  - ➢ Derive the slope-intercept form (y = mx + b) for a nonvertical line.
  - ➢ Relate equations for proportional relationships (y = kx) with the slope-intercept form (y = mx + b) where b = 0.
- Apply the concepts of linear functions to real-world and mathematical situations.
  - ➢ Understand that the slope is the constant rate of change, and the y -intercept is the point where x = 0.
  - ➢ Determine the slope and the y -intercept of a linear function given multiple representations, including two points, tables, graphs, equations, and verbal descriptions.
  - ➢ Construct a function in slope-intercept form that models a linear relationship between two quantities.
  - ➢ Interpret the meaning of the slope and the y -intercept of a linear function in the context of the situation.
  - ➢ Explore the relationship between linear functions and arithmetic sequences.

- Apply the concepts of linear and nonlinear functions to graphs in realworld and mathematical situations.
  - ➢ Analyze and describe attributes of graphs of functions (e.g., constant, increasing/decreasing, linear/nonlinear, maximum/minimum, discrete/continuous).
  - ➢ Sketch the graph of a function from a verbal description.
  - ➢ Write a verbal description from the graph of a function with and without scales.

- Write and solve two-step linear inequalities. Graph the solution set on a number line, and interpret its meaning.
  - ➢ Identify and justify the steps for solving multi-step linear equations and two-step linear inequalities.

Statistics with Linear Models

- Investigate bivariate data.
  - ➢ Collect bivariate data.
  - ➢ Graph the bivariate data on a scatter plot.
  - ➢ Describe patterns observed on a scatter plot, including clustering, outliers, and association (positive, negative, no correlation, linear, nonlinear).

- Draw an approximate line-of-best fit on a scatter plot that appears to have a linear association, and informally assess the fit of the line to the data points.

- Apply concepts of an approximate line-of-best fit in real-world situations.
  - ➢ Find an approximate equation for the line-of-best fit using two appropriate data points.
  - ➢ Interpret the slope and intercept.
  - ➢ Solve problems using the equation.

- Investigate bivariate categorical data in two-way tables.
  - ➢ Organize bivariate categorical data in a two-way table.
  - ➢ Interpret data in two-way tables using relative frequencies.
  - ➢ Explore patterns of possible association between the two categorical variables.

- Extend concepts of linear equations and inequalities in one variable to more complex multi-step equations and inequalities in real-world and mathematical situations.
  - ➢ Solve linear equations and inequalities with rational number coefficients that include the use of the Distributive Property, combining like terms, and variables on both sides.
  - ➢ Recognize the three types of solutions to linear equations: one solution ($x = a$), infinitely many solutions ($a = a$), or no solutions ($a = b$).
  - ➢ Generate linear equations with the three types of solutions.
  - ➢ Justify why linear equations have specific types of solutions.

- Investigate and solve real-world and mathematical problems involving systems of linear equations in two variables with integer coefficients and solutions.
  - ➢ Graph systems of linear equations, and estimate their point of intersection.
  - ➢ Understand and verify that a solution to a system of linear equations is represented on a graph as the point of intersection of the two lines.
  - ➢ Solve systems of linear equations algebraically, including methods of substitution and elimination, or through inspection.
  - ➢ Understand that systems of linear equations can have one solution, no solution, or infinitely many solutions.

- Investigate concepts of random sampling.
  - ➢ Understand that a sample is a subset of a population and both possess the same characteristics.
  - ➢ Differentiate between random and non-random sampling.
  - ➢ Understand that generalizations from a sample are valid only if the sample is representative of the population.
  - ➢ Understand that random sampling is used to gather a representative sample and supports valid inferences about the population.

- Draw inferences about a population by collecting multiple random samples of the same size to investigate variability in estimates of the characteristic of interest.

Probability

- Investigate the concept of probability of chance events.
  - ➢ Determine probabilities of simple events.
  - ➢ Understand that probability measures likelihood of a chance event occurring.
  - ➢ Understand that the probability of a chance event is a number between 0 and 1.
  - ➢ Understand that a probability closer to 1 indicates a likely chance event.
  - ➢ Understand that a probability close to 1 2 indicates that a chance event is neither likely nor unlikely.
  - ➢ Understand that a probability closer to 0 indicates an unlikely chance event.

- Investigate the relationship between theoretical and experimental probabilities for simple events.
  - ➢ Determine approximate outcomes using theoretical probability.
  - ➢ Perform experiments that model theoretical probability.
  - ➢ Compare theoretical and experimental probabilities.

- Apply the concepts of theoretical and experimental probabilities for simple events.
  - ➢ Differentiate between uniform and non-uniform probability models (distributions).
  - ➢ Develop both uniform and non-uniform probability models.
  - ➢ Perform experiments to test the validity of probability models.

- Extend the concepts of simple events to investigate compound events.
  - ➢ Understand that the probability of a compound event is between 0 and 1.
  - ➢ Identify the outcomes in a sample space using organized lists, tables, and tree

diagrams.
- ➢ Determine probabilities of compound events using organized lists, tables, and tree diagrams.
- ➢ Design and use simulations to collect data and determine probabilities.
- ➢ Compare theoretical and experimental probabilities for compound events.

<div align="center">**Science-7th Grade**</div>

Textbook:

Title: Integrated iScience, Course 2 (Grade 7) – Hard Copy and Online Edition

Author: Glencoe

Copyright: 2012

ISBN: 9780076773510

Specific objectives:

Science & Engineering Practices

- Use scientific and engineering practices (e.g., formulate scientific questions, generate hypothesis, plan and conduct controlled experiments, analyze and interpret informational texts, collect and analyze data, utilize data to support or reject scientific claims) to develop understandings of science content.

- Communicate written and orally using conventions of scientific writing and presentation.

Physical Science: Classification & Conservation of Matter

- Develop and use simple atomic models to illustrate the components of elements (including the relative position and charge of protons, neutrons, and electrons).

- Obtain and use information about elements (including chemical symbol, atomic number, atomic mass, and group or family) to describe the organization of the periodic table.

- Analyze and interpret data to describe and classify matter as pure substances (elements or compounds) or mixtures (heterogeneous or homogeneous) based on composition.

- Construct explanations for how compounds are classified as ionic (metal bonded to nonmetal) or covalent (nonmetals bonded together) using chemical formulas.

- Analyze and interpret data to describe substances using physical properties (including state, boiling/melting point, density, conductivity, color, hardness, and magnetic properties) and chemical properties (the ability to burn or rust).

- Use mathematical and computational thinking to describe the relationship between the mass, volume, and density of a given substance.

- Analyze and interpret data to compare the physical properties, chemical properties (neutralization to form a salt, reaction with metals), and pH of various solutions and classify solutions as acids or bases.

- Plan and conduct controlled scientific investigations to answer questions about how physical and chemical changes affect the properties of different substances.

- Develop and use models to explain how chemical reactions are supported by the law of conservation of matter.

Life Science: Organization in Living Systems

- Obtain and communicate information to support claims that (1) organisms are made of one or more cells, (2) cells are the basic unit of structure and function of organisms, and (3) cells come only from existing cells.

- Analyze and interpret data from observations to describe different types of cells and classify cells as plant, animal, protist, or bacteria.

- Develop and use models to explain how the relevant structures within cells (including cytoplasm, cell membrane, cell wall, nucleus, mitochondria, chloroplasts, lysosomes, and vacuoles) function to support the life of plant, animal, and bacterial cells.

- Construct scientific arguments to support claims that bacteria are both helpful and harmful to other organisms and the environment.

- Develop and use models to explain how the structural organizations within multicellular organisms function to serve the needs of the organism.

- Construct explanations for how systems in the human body (including circulatory, respiratory, digestive, excretory, nervous, and musculoskeletal systems) work together to support the essential life functions of the body.

Life Science: Heredity – Inheritance and Variation of Traits

- Obtain and communicate information about the relationship between genes and chromosomes to construct explanations of their relationship to inherited characteristics.

- Construct explanations for how genetic information is transferred from parent to offspring in organisms that reproduce sexually.

- Develop and use models (Punnett squares) to describe and predict patterns of the inheritance of single genetic traits from parent to offspring (including dominant and recessive traits, incomplete dominance, and codominance).

- Use mathematical and computational thinking to predict the probability of phenotypes and genotypes based on patterns of inheritance.

- Construct scientific arguments using evidence to support claims for how changes in genes (mutations) may have beneficial, harmful, or neutral effects on organisms.

- Construct scientific arguments using evidence to support claims concerning the advantages and disadvantages of the use of technology (such as selective breeding, genetic engineering, or biomedical research) in influencing the transfer of genetic information.

Ecology: Interaction of Living Systems and the Environment

- Develop and use models to describe the characteristics of the levels of organization within ecosystems (including species, populations, communities, ecosystems, and biomes).

- Construct explanations of how soil quality (including composition, texture, particle size, permeability, and pH) affects the characteristics of an ecosystem using evidence from soil profiles.

- Analyze and interpret data to predict changes in the number of organisms within a population when certain changes occur to the physical environment (such as changes due to natural hazards or limiting factors).

- Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

- Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.

- Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.

- Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.

Textbook:

Title: Discovering Our Past: A History of the World – Hard Copy and Online Edition

Author: McGraw Hill

Copyright: 2014

ISBN: 978-0-07-664750-7

Specific Objectives:

Growth & Impact of Global Trade After 1600

- Compare the colonial claims and the expansion of European powers through 1770.

- Explain how technological and scientific advances contributed to the power of European nations.

- Summarize the policy of mercantilism as a way of building a nation's wealth, including government policies to control trade.

- Analyze the beginnings of capitalism and the ways that it was affected by mercantilism, the developing market economy, international trade, and the rise of the middle class.

- Compare the differing ways that European nations developed political and economic influences, including trade and settlement patterns, on the continents of Asia, Africa, and the Americas.

Limited & Unlimited Government in Europe in the 17ᵗʰ & 18ᵗʰ Centuries

- Analyze the characteristics of limited government and unlimited government that evolved in Europe in the 1600s and 1700s.

- Explain how the scientific revolution challenged authority and influenced Enlightenment philosophers, including the importance of the use of reason, the challenges to the Catholic Church, and the contributions of Galileo and Sir Isaac Newton.

- Analyze the Enlightenment ideas of John Locke, Jean-Jacques Rousseau, Montesquieu, and Voltaire that challenged absolutism and influenced the development of limited government.

- Explain the effects of the English Civil War and the Glorious Revolution on the power of the monarchy in England and on limited government.

- Explain how the Enlightenment influenced the American and French revolutions leading to the formation of limited forms of government, including the relationship between people and their government, the role of constitutions, the characteristics of shared powers, the protection of individual rights, and the promotion of the common good.

Independence Movements around the World, 1770 – 1900

- Explain the causes, key events, and outcomes of the French Revolution, including the storming of the Bastille, the Reign of Terror, and Napoleon's rise to power.

- Analyze the effects of the Napoleonic Wars on the development and spread of nationalism in Europe, including the Congress of Vienna, the revolutionary movements of 1830 and 1848, and the unification of Germany and Italy.

- Explain how the Haitian, Mexican, and South American revolutions were influenced by Enlightenment ideas as well as by the spread of nationalism and the revolutionary movements in the United States and Europe.

- Explain how the Industrial Revolution caused economic, cultural, and political changes around the world.

- Analyze the ways that industrialization contributed to imperialism in India, Japan, China, and African regions, including the need for new markets and raw materials, the Open Door Policy, and the Berlin Conference of 1884.

- Explain reactions to imperialism that resulted from growing nationalism, including the Zulu wars, the Sepoy Rebellion, the Opium Wars, the Boxer Rebellion, and the Meiji Restoration.

- Explain the causes and effects of the Spanish-American War as a reflection of American imperialist interests, including acquisitions, military occupations, and status as an emerging world power.

World Conflicts in the Early 20ᵗʰ Century

- Explain the causes and course of World War I, including militarism, alliances, imperialism, nationalism, the assassination of Archduke Franz Ferdinand, the impact of Russia's withdrawal from, and the United States entry into the war.

- Explain the outcomes of World War I, including the creation of President Woodrow Wilson's Fourteen Points, the Treaty of Versailles, the shifts in national borders, and the League of Nations.

- Explain the causes and effects of the worldwide depression that took place in the 1930s, including the effects of the economic crash of 1929.

- Compare the ideologies of socialism, communism, fascism, and Nazism and their influence on the rise of totalitarian governments after World War I in Italy, Germany, Japan, and the Soviet Union as a response to the worldwide depression.

- Summarize the causes and course of World War II, including drives for empire, appeasement and isolationism, the invasion of Poland, the Battle of Britain, the invasion of the Soviet Union, the "Final Solution," the Lend-Lease program, Pearl Harbor, Stalingrad, the campaigns in North Africa and the Mediterranean, the D-Day invasion, the island-hopping campaigns, and the bombing of Hiroshima and Nagasaki.

- Analyze the Holocaust and its impact on European society and Jewish culture, including Nazi policies to eliminate the Jews and other minorities, the Nuremberg trials, the Universal Declaration of Human Rights, the rise of nationalism in Southwest Asia (Middle East), the creation of the state of Israel, and the resultant conflicts in the region.

The Cold War Era

- Compare the political and economic ideologies of the United States and the Soviet Union during the Cold War.

- Summarize the impact of the Truman Doctrine, the Marshall Plan, the North Atlantic Treaty Organization (NATO), the United Nations, and the Warsaw Pact on the course of the Cold War.

- Explain the spread of communism in Eastern Europe, Asia, Africa, and Latin America, including the ideas of the satellite state containment, and the domino theory.

- Analyze the political and technological competition between the Soviet Union and the United States for global influence, including the Korean Conflict, the Berlin Wall, the Vietnam War, the Cuban missile crisis, the "space race," and the threat of nuclear annihilation.

- Analyze the events that contributed to the collapse of the Soviet Union and other communist governments in Europe, including the growth of resistance movements in Eastern Europe, the policies of Mikhail Gorbachev and Ronald Reagan, and the failures of communist economic systems.

Major Changes around the World after the fall of the Berlin Wall in 1989

- Summarize the political and social impact of the collapse/dissolution of the Soviet Union and subsequent changes to European borders, including those of Russia and the Independent Republics, the Czech Republic, and Slovakia; the breakup of Yugoslavia; the reunification of Germany; and the birth of the European Union (EU).

- Compare features of nationalist and independence movements in different regions in the post–World War II period, including Mohandas Gandhi's role in the non-violence movement for India's independence, the emergence of nationalist movements in African and Asian countries, and the collapse of the apartheid system in South Africa.

- Explain the ongoing conflicts in the Middle East, including the Persian Gulf War, the terrorist attack on September 11, 2001, and the wars in Iraq and Afghanistan.

- Compare the social, economic, and political opportunities for women in various nations and societies around the world, including those in developing and industrialized nations and within societies dominated by religions.

- Explain the significance and impact of the information, technological, and communications revolutions, including the role of television, satellites, computers, and the Internet

- Summarize the dangers to the natural environment that are posed by population growth, urbanization, and industrialization, including global influences on the environment and the efforts by citizens and governments to protect the natural environment.

Reading – 7th Grade

Textbook:

Title: Vocabulary from Latin and Greek Roots, Level 7: A Study of Word Families

Author: Prestwick House

Copyright: 2008

ISBN: 978-1-620-19196-5

*Several novels and other texts are provided

Specific Objectives:

- Cite multiple examples of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

- Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.

- Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

- Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.

- Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.

- Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).

- Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.

- Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

- Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.

- Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.

- Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

- Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies.

- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Writing/Grammar – 7th Grade

Textbook:

N/A

Specific Objectives:

- Use all steps of the writing process (planning, drafting, revising, editing, and publishing) to create a variety of written works.

- Write independently, legibly, and routinely for a variety of tasks, purposes, and audiences over short and extended time frames.

- Write arguments to support claims with clear reasons and relevant evidence.

- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

- Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

- Draw evidence from literary or informational texts to support analysis, reflection, and research.

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

  ➤ Explain the function of phrases and clauses in general and their function in specific sentences.
  ➤ Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.

➢ Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.
➢ Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old [,] green shirt*).
➢ Spell correctly.

- Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.

Eighth Grade

Textbook:

Title: Algebra I – Hard copy and online edition

Author: Holt McDougal Larson

Copyright: 2012

ISBN: 9780544505025

Specific objectives:

Exponents, Radicals, and Polynomials

- Rewrite expressions involving simple radicals and rational exponents in different forms.

- Use the definition of the meaning of rational exponents to translate between rational exponent and radical forms.

- Explain why the sum or product of rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

- Add, subtract, and multiply polynomials, and understand that polynomials are closed under these operations.

Quantities

- Use units of measurement to guide the solution of multi-step tasks.

- Choose and interpret appropriate labels, units, and scales when constructing graphs and other data displays.

- Label and define appropriate quantities in descriptive modeling contexts.

- Choose a level of accuracy appropriate to limitations on measurement when reporting quantities in context.

Expressions & Equations

- Interpret the meanings of coefficients, factors, terms, and expressions based on their real-world contexts. Interpret complicated expressions as being composed of simpler expressions.

- Create and solve equations and inequalities in one variable that model real-world problems involving linear, quadratic, simple rational, and exponential relationships. Interpret the solutions, and determine whether they are reasonable.

- Solve literal equations and formulas for a specified variable including equations and formulas that arise in a variety of disciplines.

- Understand and justify that the steps taken when solving simple equations in one variable create new equations that have the same solution as the original.

- Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Multi-Variable Equations

- Create equations in two or more variables to represent relationships between quantities. Graph the equations on coordinate axes using appropriate labels, units, and scales.

- Explain that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane.

Systems of Equations

- Create equations in two or more variables to represent relationships between quantities. Graph the equations on coordinate axes using appropriate labels, units, and scales.

- Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

- Justify that the solution to a system of linear equations is not changed when one of the equations is replaced by a linear combination of the other equation.

- Solve systems of linear equations algebraically and graphically focusing on pairs of linear equations in two variables.
  - ➢ Solve systems of linear equations using the substitution method.
  - ➢ Solve systems of linear equations using linear combination.

- Explain that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane. Solve an equation of the form $f(x) = g(x)$ graphically by identifying the x -coordinate(s) of the point(s) of intersection of the graphs of $y = f(x)$ and $y = g(x)$.

- Graph the solutions to a linear inequality in two variables.

Linear Functions

- Extend previous knowledge of a function to apply to general behavior and features of a function.
  - ➢ Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.
  - ➢ Represent a function using function notation, and explain that $f(x)$ denotes the output of function f that corresponds to the input x.
  - ➢ Understand that the graph of a function labeled as f is the set of all ordered pairs (x, y) that satisfy the equation $y = f(x)$.

- Evaluate functions, and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.

- Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity.

- Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.

- Given a function in graphical, symbolic, or tabular form, determine the average rate of change of the function over a specified interval. Interpret the meaning of the average rate of change in a given context.

- Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand, and use technology for complicated cases.

- Compare properties of two functions given in different representations such as algebraic, graphical, tabular, or verbal.

- Create symbolic representations of linear and exponential functions, including arithmetic and geometric sequences, given graphs, verbal descriptions, and tables.

Quadratic Expressions & Equations

- Analyze the structure of binomials, trinomials, and other polynomials in order to rewrite equivalent expressions.

- Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
  - ➢ Find the zeros of a quadratic function by rewriting it in equivalent factored forms, and explain the connection between the zeros of the function, its linear factors, the x -intercepts of its graph, and the solutions to the corresponding quadratic equation.

- Create and solve equations and inequalities in one variable that model real-world problems involving linear, quadratic, simple rational, and exponential relationships. Interpret the solutions, and determine whether they are reasonable.

- Create equations in two or more variables to represent relationships between quantities. Graph the equations on coordinate axes using appropriate labels, units, and scales.

- Solve literal equations and formulas for a specified variable including equations and formulas that arise in a variety of disciplines.

- Understand and justify that the steps taken when solving simple equations in one variable create new equations that have the same solution as the original.

- Solve mathematical and real-world problems involving quadratic equations in one variable.
  - ➢ Solve quadratic equations by inspection, taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a + bi for real numbers a and b. (Limit to non-complex roots.)
  - ➢ Solve quadratic equations by inspection, taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a + bi for real numbers a and b. (Limit to non-complex roots.)

Quadratic Functions

- Describe the effect of the transformations k ·f (x), f (x) + k, f (x + k), and combinations of such transformations on the graph of y = f (x) for any real number k. Find the value of k given the graphs, and write the equation of a transformed parent function given its graph.

- Extend previous knowledge of a function to apply to general behavior and features of a function.

  - ➢ Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.
  - ➢ Represent a function using function notation, and explain that f (x) denotes the output of function f that corresponds to the input x.
  - ➢ Understand that the graph of a function labeled as f is the set of all ordered pairs (x, y) that satisfy the equation y = f (x).

- Evaluate functions, and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.

- Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity.

- Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.

- Given a function in graphical, symbolic, or tabular form, determine the average rate of change of the function over a specified interval. Interpret the meaning of the average rate of change in a given context.

- Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand, and use technology for complicated cases.

- Translate between different but equivalent forms of a function equation to reveal and explain different properties of the function.
  - ➢ Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

- Compare properties of two functions given in different representations such as algebraic, graphical, tabular, or verbal.

Exponential Functions

- Create and solve equations and inequalities in one variable that model real-world problems involving linear, quadratic, simple rational, and exponential relationships. Interpret the solutions, and determine whether they are reasonable.

- Create equations in two or more variables to represent relationships between quantities. Graph the equations on coordinate axes using appropriate labels, units, and scales.

- Describe the effect of the transformations $k \cdot f(x)$, $f(x) + k$, $f(x + k)$, and combinations of such transformations on the graph of $y = f(x)$ for any real number k. Find the value of k given the graphs, and write the equation of a transformed parent function given its graph.

- Extend previous knowledge of a function to apply to general behavior and features of a function.

➢ Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.
➢ Represent a function using function notation, and explain that f (x) denotes the output of function f that corresponds to the input x.
➢ Understand that the graph of a function labeled as f is the set of all ordered pairs (x, y) that satisfy the equation y = f (x).

- Evaluate functions, and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.
- Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity.

- Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.

- Given a function in graphical, symbolic, or tabular form, determine the average rate of change of the function over a specified interval. Interpret the meaning of the average rate of change in a given context.

- Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand, and use technology for complicated cases.

- Translate between different but equivalent forms of a function equation to reveal and explain different properties of the function.

- Distinguish between situations that can be modeled with linear functions or exponential functions by recognizing situations in which one quantity changes at a constant rate per unit interval as opposed to those in which a quantity changes by a constant percent rate per unit interval.

- Create symbolic representations of linear and exponential functions, including arithmetic and geometric sequences, given graphs, verbal descriptions, and tables.

- Interpret the parameters in a linear or exponential function in terms of the context.

Comparing Functions

- Describe the effect of the transformations $k \cdot f(x)$, $f(x) + k$, $f(x + k)$, and combinations of such transformations on the graph of $y = f(x)$ for any real number k. Find the value of k given the graphs, and write the equation of a transformed parent function given its graph.

- Extend previous knowledge of a function to apply to general behavior and features of a function.
  - ➢ Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.
  - ➢ Represent a function using function notation, and explain that $f(x)$ denotes the output of function f that corresponds to the input x.
  - ➢ Understand that the graph of a function labeled as f is the set of all ordered pairs (x, y) that satisfy the equation $y = f(x)$.

- Evaluate functions, and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.

- Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity.

- Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes. Given a function in graphical, symbolic, or tabular form, det ermine the average rate of change of the function over a specified interval. Interpret the meaning of the average rate of change in a given context.

- Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand, and use technology for complicated cases.

- Compare properties of two functions given in different representations such as algebraic, graphical, tabular, or verbal.

- Distinguish between situations that can be modeled with linear functions or exponential functions by recognizing situations in which one quantity changes at a constant rate per unit interval as opposed to those in which a quantity changes by a constant percent rate per unit interval.
  - ➢ Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.

- Create symbolic representations of linear and exponential functions, including arithmetic and geometric sequences, given graphs, verbal descriptions, and tables.

- Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or more generally as a polynomial function.

- Interpret the parameters in a linear or exponential function in terms of the context.

Data & Statistics

- Interpret the parameters in a linear or exponential function in terms of the context.

- Using technology, create scatter plots, and analyze those plots to compare the fit of linear, quadratic, or exponential models to a given data set. Select the appropriate model, fit a function to the data set, and use the function to solve problems in the context of the data.

- Create a linear function to model data graphically from a real-world problem, and interpret the meaning of the slope and intercept(s) in the context of the given problem.

- Using technology, compute and interpret the correlation coefficient of a linear fit.

Textbook:

Title: Integrated iScience, Course 3 (Grade 8) – Hard Copy and Online Edition

Author: Glencoe

Copyright: 2012

ISBN: 9780076772872

Specific objectives:

Science & Engineering Practices

- Use scientific and engineering practices (e.g., formulate scientific questions, generate hypothesis, plan and conduct controlled experiments, analyze and interpret informational texts, collect and analyze data, utilize data to support or reject scientific claims) to develop understandings of science content.

- Communicate written and orally using conventions of scientific writing and presentation.

Physical Science: Forces & Motion

- Plan and conduct controlled scientific investigations to test how varying the amount of force or mass of an object affects the motion (speed and direction), shape, or orientation of an object.

- Develop and use models to compare and predict the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.

- Construct explanations for the relationship between the mass of an object and the concept of inertia (Newton's First Law of Motion).

- Analyze and interpret data to support claims that for every force exerted on an object there is an equal force exerted in the opposite direction (Newton's Third Law of Motion).

- Analyze and interpret data to describe and predict the effects of forces (including gravitational and friction) on the speed and direction of an object.

- Use mathematical and computational thinking to generate graphs that represent the motion of an object's position and speed as a function of time.

- Use mathematical and computational thinking to describe the relationship between the speed and velocity (including positive and negative expression of direction) of an object in determining average speed (v=d/t).

Physical Science: Waves

- Construct explanations of the relationship between matter and energy based on the characteristics of mechanical and light waves.

- Develop and use models to exemplify the basic properties of waves (including frequency, amplitude, wavelength, and speed).

- Analyze and interpret data to describe the behavior of waves (including refraction, reflection, transmission, and absorption) as they interact with various materials.

- Analyze and interpret data to describe the behavior of mechanical waves as they intersect.

- Construct explanations for how humans see color as a result of the transmission, absorption, and reflection of light waves by various materials.

- Obtain and communicate information about how various instruments are used to extend human senses by transmitting and detecting waves (such as radio, television, cell phones, and wireless computer networks) to exemplify how technological advancements and designs meet human needs.

Earth Science: Earth's Place in the Universe

- Obtain and communicate information to model the position of the Sun in the universe, the shapes and composition of galaxies, and the measurement unit needed to identify star and galaxy locations.

- Construct and analyze scientific arguments to support claims that the universe began with a period of extreme and rapid expansion using evidence from the composition of stars and gases and the motion of galaxies in the universe.

- Obtain and communicate information to model and compare the characteristics and

movements of objects in the solar system (including planets, moons, asteroids, comets, and meteors). 8.E.4B.2 Construct explanations for how gravity affects the motion of objects in the solar system and tides on Earth.

- Develop and use models to explain how seasons, caused by the tilt of Earth's axis as it orbits the Sun, affects the length of the day and the amount of heating on Earth's surface.

- Develop and use models to explain how motions within the Sun-Earth-Moon system cause Earth phenomena (including day and year, moon phases, solar and lunar eclipses, and tides).

- Obtain and communicate information to describe how data from technologies (including telescopes, spectroscopes, satellites, space probes) provide information about objects in the solar system and the universe.

- Analyze and interpret data from the surface features of the Sun (including photosphere, corona, sunspots, prominences, and solar flares) to predict how these features may affect Earth.

Earth Science: Earth Systems & Resources

- Develop and use models to explain how the processes of weathering, erosion, and deposition change surface features in the environment.

- Use the rock cycle model to describe the relationship between the processes and forces that create igneous, sedimentary, and metamorphic rocks.

- Obtain and communicate information about the relative position, density, and composition of Earth's layers to describe the crust, mantle, and core.
- Construct explanations for how the theory of plate tectonics accounts for (1) the motion of lithospheric plates, (2) the geologic activities at plate boundaries, and (3) the changes in landform areas over geologic time.

- Construct and analyze scientific arguments to support claims that plate tectonics accounts for (1) the distribution of fossils on different continents, (2) the occurrence of earthquakes, and (3) continental and ocean floor features (including mountains, volcanoes, faults and trenches).

- Analyze and interpret data to describe patterns in the location of volcanoes and earthquakes related to tectonic plate boundaries, interactions, and hot spots.

- Construct explanations of how forces inside Earth result in earthquakes and volcanoes.

- Define problems that may be caused by a catastrophic event resulting from plate movements and design possible devices or solutions to minimize the effects of that event on Earth's surface and/or human structures.

- Obtain and communicate information regarding the physical and chemical properties of minerals, ores, and fossil fuels to describe their importance as Earth resources.

Earth Science: Earth's History & Diversity of Life

- Develop and use models to organize Earth's history (including era, period, and epoch) according to the geologic time scale using evidence from rock layers.

- Analyze and interpret data from index fossil records and the ordering of rock layers to infer the relative age of rocks and fossils.

- Construct explanations from evidence for how catastrophic events (including volcanic activities, earthquakes, climatic changes, and the impact of an asteroid/comet) may have affected the conditions on Earth and the diversity of its life forms.

- Construct and analyze scientific arguments to support claims that different types of fossils provide evidence of (1) the diversity of life that has been present on Earth, (2) relationships between past and existing life forms, and (3) environmental changes that have occurred during Earth's history.

- Construct explanations for why most individual organisms, as well as some entire taxonomic groups of organisms, that lived in the past were never fossilized.

- Construct explanations for how biological adaptations and genetic variations of traits in a population enhance the probability of survival in a particular environment.

- Obtain and communicate information to support claims that natural and human-made factors can contribute to the extinction of species.

Social Studies – 8th Grade

Textbook:

Title: South Carolina Journey, Grade 8 – Hard Copy and Online Edition

Author: Gibbs Smith Education

Copyright: 2013

ISBN: 978-1-4236-2193-5

Specific Objectives:

Settlement of SC & the U.S. by Native Americans, Europeans, and Africans

- Summarize the collective and individual aspects of the Native American culture of the Eastern Woodlands tribal group, including the Catawba, Cherokee, and Yemassee.

- Compare the motives, activities, and accomplishments of the exploration of South Carolina and North America by the Spanish, French, and English.

- Summarize the history of English settlement in New England, the mid-Atlantic region, and the South, with an emphasis on South Carolina as an example of a distinctly southern colony.

- Explain the significance of enslaved and free Africans in the developing culture and economy of the South and South Carolina, including the growth of the slave trade and resulting population imbalance between African and European settlers; African contributions to agricultural development; and resistance to slavery, including the Stono Rebellion and subsequent laws to control slaves.

- Explain how South Carolinians used their natural, human, and political resources uniquely to gain economic prosperity, including settlement by and trade with the people of Barbados, rice and indigo planting, and the practice of mercantilism.

- Compare the development of representative government in South Carolina to representative government in the other colonial regions, including the proprietary regime, the period of royal government, and South Carolina's Regulator Movement.

The American Revolution, Early America, and SC

- Explain the political and economic consequences of the French and Indian War on the relationship of the South Carolina colonists with Native Americans and England.

- Summarize the response of South Carolina to events leading to the American Revolution, including the Stamp Act, the Tea Acts, and the Sons of Liberty.

- Explain the roles of South Carolinians in the adoption of the Declaration of Independence.

- Compare the perspectives of different groups of South Carolinians during the American Revolution, including Patriots, Tories/Loyalists, women, enslaved and free Africans, and Native Americans.

- Summarize the role of South Carolinians in the course of the American Revolution, including the use of partisan warfare and the battles of Charleston, Camden, Cowpens, Kings Mountain and Eutaw Springs.

- Explain the role of South Carolinians in the establishment of their new state government and the national government after the American Revolution.

SC and the New National Government

- Explain the tensions between the Upcountry and the Lowcountry of South Carolina, including their economic struggles after the Revolutionary War, their disagreement over representation in the General Assembly, the location of the new capital, and the transformation of the state's economy.

- Explain the role of South Carolina and its leaders in the Constitutional Convention, including their support of the Three-Fifths Compromise and the Commerce Compromise as well as the division among South Carolinians over the ratification of the Constitution.

- Explain the basic principles of government as established in the United States Constitution.

- Analyze the position of South Carolina on the issues that divided the nation in the early 1800s, including the assumption of state debts, the creation of a national bank, the protective tariff and the role of the United States in the European conflict between France and England and in the War of 1812.

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The Civil War

- Explain the importance of agriculture in antebellum South Carolina, including the plantation system and the impact of the cotton gin on all social classes.

- Analyze how sectionalism arose from racial tension, including the Denmark Vesey plot, slave codes and the growth of the abolitionist movement.

- Analyze key issues that led to South Carolina's secession from the Union, including the nullification controversy and John C. Calhoun, the extension of slavery and the compromises over westward expansion, the Kansas-Nebraska Act, the Dred Scott decision, and the election of 1860.

- Evaluate the arguments of unionists, cooperationists, and secessionists on the issues of states' rights and slavery and the ways that these arguments contributed to South Carolina's secession.

- Compare the military strategies of the North and the South during the Civil War and the fulfillment of these strategies in South Carolina and in the South as a whole, including the attack on Fort Sumter, the Union blockade of Charleston and other ports, the early capture of Port Royal, and the development of the Hunley submarine; the exploits of Robert Smalls; and General William T. Sherman's march through the state.

- Compare the differing impact of the Civil War on South Carolinians in each of the various social classes, including those groups defined by race, gender, and age.

Reconstruction, Industrialization, and Progressivism

- Analyze the development of Reconstruction policy and its impact in South Carolina, including the presidential and the congressional reconstruction plans, the role of black codes, and the Freedmen's Bureau.

- Describe the economic impact of Reconstruction on South Carolinians in each of the various social classes.

- Summarize the successes and failures of Reconstruction in South Carolina, including the creation of political, educational, and social opportunities for African Americans; the rise of discriminatory groups; and the withdrawal of federal protection.

- Summarize the policies and actions of South Carolina's political leadership in implementing discriminatory laws that established a system of racial segregation, intimidation, and violence.

- Compare industrial development in South Carolina to industrialization in the rest of the United States, including the expansion of railroads, the development of the phosphate and textile industries, and immigration.

- Compare the plight of farmers in South Carolina with that of farmers throughout the United States, including the problems of overproduction, natural disasters, and sharecropping and encompassing the roles of Ben Tillman, the Populists, and land-grant colleges.

- Compare migration patterns of South Carolinians to such patterns throughout the United States, including the movement from rural to urban areas and the migration of African Americans from the South to the North, Midwest, and West.

- Compare the Progressive movement in South Carolina with the national Progressive movement, including the impact on temperance; women's suffrage; labor laws; and educational, agricultural, health, and governmental reform.

SC in the Early 20th Century

- Explain the reasons for United States involvement in World War I and the war's impact on South Carolina and the nation as a whole, including the building of new military bases and the economic impact of emigration to industrial jobs in the North.

- Explain the causes and effects of changes in South Carolina and the nation as a whole in the 1920s, including Prohibition, the destruction caused by the boll weevil, the rise of mass media, improvements in daily life, increases in tourism and recreation, the revival of the Ku Klux Klan, and the contributions of South Carolinians to the Harlem Renaissance and the Southern Literary Renaissance.

- Explain the reasons for depressed conditions in the textile mills and on farms in South Carolina and other regions of the United States in the 1920s and the impact of these conditions on the coming of the Great Depression.

- Explain the effects of the Great Depression and the lasting impact of the New Deal on people and programs in South Carolina, including James F. Byrnes and Mary McLeod Bethune, the Rural Electrification Act, the general textile strike of 1934, the Civilian Conservation Corps, the Works Progress Administration, the Public Works Administration, the Social Security Act, and the Santee Cooper electricity project.

- Compare the ramifications of World War II on South Carolina and the United States as a whole, including the training of the Doolittle Raiders and the Tuskegee Airmen, the building of additional military bases, the rationing and bond drives, and the return of economic prosperity.

SC in the Late 20th Century and Early 21st Century

- Compare the social and economic impact of World War II and the Cold War on South Carolina with its impact on the rest of the United States, including the increases in the birth rate; the emergence of the consumer culture; the expanding suburbanization, highway construction, tourism and economic development; the continuing growth of military bases and nuclear power facilities; and the increases in educational opportunities.

- Analyze the movement for civil rights in South Carolina, including the impact of the landmark court cases Elmore v. Rice and Briggs v. Elliot; civil rights leaders Septima Poinsette Clark, Modjeska Monteith Simkins, and Matthew J. Perry; the South Carolina school equalization effort and other resistance to school integration; peaceful efforts to integrate beginning with colleges and demonstrations in South Carolina such as the Friendship Nine and the Orangeburg Massacre.

- Explain changing politics in South Carolina, including the role of Strom Thurmond, the shift from the Democratic Party to the Republican Party, the increasing political participation of African Americans and women, and the passage of the Education Improvement Act (EIA).

- Summarize key economic issues in present-day South Carolina, including the decline of the textile industry, the state's continuing right-to-work status, the changes in agricultural emphasis, the growing globalization and foreign investment, the influx of immigrants and migrants into the Sunbelt, the increased protection of the

environment, the expanding number of cultural offerings, and the changes in tax policy.

Reading – 8th Grade

Textbook:

Title: Vocabulary from Latin and Greek Roots, Level 8: A Study of Word Families

Author: Prestwick House

Copyright: 2008

ISBN: 978-1-620-19197-2

*Several novels and other texts are provided

Specific Objectives:

- Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

- Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.

- Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

- Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

- Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.

- Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.

- Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

- Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.

- By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6-8 text complexity band independently and proficiently.

- Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

- Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

- Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

- Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

- Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.

- Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.

- Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

- Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.

- Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

- By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6-8 text complexity band independently and proficiently.

Writing/Grammar – 8th Grade

Textbook:

N/A

Specific Objectives:

- Write arguments to support claims with clear reasons and relevant evidence
  - ➢ Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
  - ➢ Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
  - ➢ Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
  - ➢ Establish and maintain a formal style.
  - ➢ Provide a concluding statement or section that follows from and supports the argument presented.

- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
  - ➢ Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
  - ➢ Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
  - ➢ Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
  - ➢ Use precise language and domain-specific vocabulary to inform about or explain the topic.
  - ➢ Establish and maintain a formal style.
  - ➢ Provide a concluding statement or section that follows from and supports the information or explanation presented.

- Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

- Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
- Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.
- Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.
- Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
- Provide a conclusion that follows from and reflects on the narrated experiences or events.

- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

- With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 8 here.)

- Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

- Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

- Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

- Draw evidence from literary or informational texts to support analysis, reflection, and research.
  - Apply *grade 8 Reading standards* to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from

myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new").

➢ Apply *grade 8 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").

- Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

    ➢ Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.
    ➢ Form and use verbs in the active and passive voice.
    ➢ Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
    ➢ Recognize and correct inappropriate shifts in verb voice and mood.*

- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
    ➢ Use punctuation (comma, ellipsis, dash) to indicate a pause or break.
    ➢ Use an ellipsis to indicate an omission.
    ➢ Spell correctly.

- Use knowledge of language and its conventions when writing, speaking, reading, or listening.
    ➢ Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

- Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies.
    ➢ Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

- Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede, recede, secede*).
- Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
- Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
  - Interpret figures of speech (e.g. verbal irony, puns) in context.
  - Use the relationship between particular words to better understand each of the words.
  - Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded, willful, firm, persistent, resolute*).

- Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Quran, Arabic, and Islamic Studies (QAIS)

<u>Overview:</u>

Daily instruction in Quran, Arabic, and Islamic Studies is an integral part of As-Sabeel Academy's curriculum.

After memorizing Al-Fatiha, the Quran curriculum works backwards through the book, with the youngest students committing the short surahs to memory. Most students graduate from middle school with the last four Juzz of the Quran memorized. In addition to memorization, our teachers help students gain an understanding of the surah's content and meaning in a manner that is appropriate for the student's grade level.

Arabic instruction includes a focus on reading, writing, and conversation. Our youngest students begin with the Arabic alphabet, mastering its sounds and common words that begin with each letter. As students get older, they perform skits, have conversations, and read and write stories all in Arabic. By the fourth grade, teachers begin emphasizing students' reading skills, and reading the Quran becomes an important aspect of instruction. Students learn the rules of Tajweed and apply them as they read Quran. They also learn the meaning of Quranic words. By learning Arabic, the students will develop a framework for understanding the Quran, and will be able to use Arabic as a second/third language.

In Islamic Studies, students learn Islamic manners and etiquette, Fiqh, Aqeedah, the Seerah, Quranic studies, Islamic history, and more. We teach the "I Love Islam" series, which is the most widely used and most successful Islamic studies curriculum used in full-time Islamic schools throughout the nation.

Quran – K4

Textbook:

    Title: Holy Quran

General Objectives:

    Memorize and understand some chapters of the Holy Quran

Specific Objectives:

1	Al-Fatihah
114	An-Nas
113	Al-Falaq
112	Al-Ikhlas
111	Al-Masad
110	An-Nasr
109	Al-Kafirun
108	Al-Kauthar
107	Al-Ma'un
106	Al-Quraysh

Islamic Studies – K4

Textbook:

Title: Basics of Islam Part I

Author: Al-Asr Publications

Copyright: 2007

Specific Objectives:

1. Basic Islamic etiquettes

2. Recite and memorize the shahadah

3. Allah as the creator

4. Quran as guide to Islam

5. Five pillars of Islam

6. Muhammad as the messenger of Islam

7. Identity of a Muslim

8. Basic Islamic values

Arabic Language – K4

Textbook:

>Title: Arabic Letters
>
>Author: IQRA' International Educational Foundation
>
>Copyright: 2015
>
>
>Title: Arabic for Beginners Textbook: Level 2
>
>Author: Al-Adly Publications
>
>Copyright: 2012
>
>
>Title: Arabic for Beginners Textbook: Level 1
>
>Author: Al-Adly Publications
>
>Copyright: 2012

Specific Objectives:

1. Arabic letters

2. Letter sounds

3. Writing individual letters

4. Working from right to left

5. Writing first names

6. High-frequency Arabic words

7. Exchanging greetings

8. Using polite formulas

9. Colors

10. Counting from 1 to 10 in Arabic

Quran – K5

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

105	Al-Fil
104	Al-Humazah
103	Al-Asr
102	At-Takathur
101	Al-Qariah
100	Al-Aadiyat
99	Al-Zalzala
97	Al-Qadr
96	Al-Alaq
95	At-Tin
94	Al-Inshirah

Islamic Studies – K5

Textbook:

Title: I Love Islam 1, I Love Islam Workbook 1

Author: Islamic Services Foundation

Copyright: 2008

Specific Objectives:

1. Basic Islamic etiquette

2. Allah is the creator

3. Pillars of faith

4. Example of prophet Muhammad

5. Stories of prophets (Adam, Ibrahim)

6. Qur'an as the main source of Islamic teachings

7. Acts of worship

8. Why and how we pray

9. Islamic values

10. Islamic events and Muslim world

Arabic Language – K5

Textbook:

Title: Write and Learn the Letters

Author: Dar Al Manhal Publishers

Copyright: 2016

Title: Write and Learn the Numbers

Author: Dar Al Manhal Publishers

Copyright: 2013

Title: I Read..I Write

Author: Alexandria Library for Publishing

Copyright: 2006

Specific Objectives:

1. Arabic letters in their isolate form

2. Arabic letters in their joined forms

3. short and long vowels

4. Writing first and last names

5. Short words and simple sentences

6. High-frequency Arabic words

7. Exchanging greetings and using polite formulas

8. Expressing like and dislike

9. Colors

10. Counting from 1 to 20 in Arabic

Quran – 1ˢᵗ Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

98	Al-Bayinnah
93	Al-Duha
92	Al-Layl
91	Ash-Shams
90	Al-Balad
89	Al-Fajr
88	Al-Ghashiya
87	Al-A'la
86	At-Tariq
85	Al-Buruj

Islamic Studies – 1ˢᵗ Grade

Textbook:

Title: I Love Islam 2, I Love Islam Workbook 2

Author: Islamic Services Foundation

Copyright: 2009

Specific Objectives:

1. Islamic etiquette

2. Beliefs of Islam

3. Acts of worship

4. Prophets stories (Adam, Noah, Younus)

5. Story of prophet Muhammad and the early history of Islam

6. Prophet Muhammad's characteristics

7. Islam in the World

8. Qur'an and Sunnah as Muslims 'treasures

9. Divine supplications

10. Learn 5 Ahadith (prophet Muhammad's sayings)

Arabic Language – 1st Grade

Textbook:

Title: I Love Arabic Book 1, I love Arabic Workbook 1

Author: Arabian Education Office of Gulf Countries

Copyright: 2013

Specific Objectives:

1. Letters in all positions

2. Long and short vowels

3. Grammar: gender, comparatives, superlatives, pronouns, negative state, positive

4. Verbal sentence (present, and future tense)

5. Spelling skills

6. Reading sentences and short paragraphs

7. Vocabulary to form basic expressions

8. Communicating in Arabic for real-life purposes

9. Writing numbers from 1 to 20 in Arabic

Quran – 2ⁿᵈ Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

84	Al-Inshiqaq
83	Al-Mutaffifin
82	Al-Infitar
81	At-Takwir
80	Abasa
79	An-Naziat
78	An-Naba'

Islamic Studies – 2nd Grade

Textbook:

Title: I Love Islam 3, I Love Islam Workbook 3

Author: Islamic Services Foundation

Copyright: 2014

Specific Objectives:

1. Islamic etiquette

2. Pillars of faith in more details

3. Prophets stories (Ibrahim and the hard tests)

4. Acts of worship in more details

5. Prophet Muhammad in Makkah

6. Prophet Muhammad's companions

7. Role of the Qur'an and Sunnah

8. Islam in character

9. Divine supplications

10. Learn and understand 10 Ahadith (prophet Muhammad's sayings)

Arabic Language – 2nd Grade

Textbook:

Title: I Love Arabic Book 2, I love Arabic Workbook 2

Author: Arabian Education Office of Gulf Countries

Copyright: 2010

Specific Objectives:

1. Short vowels, long vowels, doubled short vowels, and consonant and doubled consonant

2. Grammar (subject-verb agreement and tense), syntax (word order)

3. Reading a short paragraph (containing 30-65 words)

4. Writing Sentences

5. Ordering sentences to build a short story

6. Enriching student vocabulary

7. How to give oral presentations

8. Spelling of new and previously taught vocabulary words

9. Numbers

Quran – 3rd Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

77	Al-Mursalat
76	Al-Insan
75	Al-Qiyamah
74	Al-Mudathir
73	Al-Muzammil
72	Al-Jinn

Islamic Studies – 3rd Grade

Textbook:

Title: I Love Islam 4, I Love Islam Workbook 4

Author: Islamic Services Foundation

Copyright: 2014

Specific Objectives:

1. Islamic etiquette

2. Prophets stories (Ismail, Ishaq, Lut, Yaqoub, and Yusuf)

3. Acts of worship (nullification, Sunnah, praying, fasting)

4. Prophet Muhammad in Madinah

5. Prophet Muhammad's companions

6. Islamic Values and Ethics

7. Islamic History and Civilization (Introduce Lunar calendar)

8. Islam in Africa

9. Interpretation of some chapters from Quran

10. Learn and understand 15 Ahadith (prophet Muhammad's sayings)

Arabic Language – 3ʳᵈ Grade

Textbook:

Title: I Love Arabic Book 3, I love Arabic Workbook 3

Author: Arabian Education Office of Gulf Countries

Copyright: 2016

Specific Objectives:

1. Grammar (interrogative and relative pronouns, modification and determination, and conditional sentences)

2. Listening skills (dictation, listening for comprehension)

3. Reading a short story

4. Writing short stories

5. Summarizing short stories

6. Enriching student vocabulary

7. How to give oral presentations (songs, dialogues or plays)

8. Spelling and dictation (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Reading from the Quran and Tajweed Rules.

Quran – 4th Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

71	Nooh
70	Al-Maarij
69	Al-Haqqah
68	Al-Qalam
67	Al-Mulk

Islamic Studies – 4ᵗʰ Grade

Textbook:

Title: I Love Islam 5, I Love Islam Workbook 5

Author: Islamic Services Foundation

Copyright: 2010

Specific Objectives:

1. Islamic etiquette

2. Concept of Tawheed (God the only Creator)

3. Prophets stories (Nuh, Musa, Hud, Salih)

4. Acts of worship (voluntary prayers)

5. More details of Prophet Muhammad in Madinah

6. Prophet Muhammad's companions

7. Islamic Values and Ethics

8. Islamic dress code

9. Muslims online

10. People of the book

11. 40 names of Allah and their meaning

12. Interpretation of some chapters from Quran

13. Learn and understand 15 Ahadith (prophet Muhammad's sayings)

Arabic Language – 4ᵗʰ Grade

Textbook:

Title: I Love Arabic Book 4, I love Arabic Workbook 4

Author: Arabian Education Office of Gulf Countries

Copyright: 2016

Specific Objectives:

1. Grammar (complex sentence, adverbs, comparisons, singular, dual and plural, modification, determination, subjective mood, result and conditional sentence)

2. Listening skills (dictation, listening for comprehension, listening drills)

3. Reading short stories

4. Writing short stories

5. Summarizing short stories

6. Enriching student vocabulary

7. Giving oral presentations that include book reports.

8. Spelling and dictation (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Reading from the Quran and Tajweed rules.

Quran – 5th Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

66	Al-Tahrim
65	Al-Talaq
64	Al-Taghabun
63	Al-Munafiqun
62	Al-Jumah
61	As-Saff

Islamic Studies – 5th Grade

Textbook:

> Title: Learning Islam 1, Learning Islam Workbook 1

> Author: Islamic Services Foundation

> Copyright: 2014

Specific Objectives:

1. Islamic etiquette

2. Learning about Allah

3. The world of angles (angle Jibreel)

4. The story of Prophet Musa (Egypt and Palestine)

5. Voluntary prayers (three congregational prayers)

6. Short history of Qur'an

7. Prophet Muhammad's great victory and return to Makkah

8. Islamic Values and Ethics

9. Interpretation of certain chapters from Quran

10. Learn and understand 20 Ahadith (prophet Muhammad's sayings)

Arabic Language – 5th Grade

Textbook:

Title: I Love Arabic Book 5, I love Arabic Workbook 5

Author: Arabian Education Office of Gulf Countries

Copyright: 2015

Specific Objectives:

1. Grammar (conjugating verbs in different tenses)

2. Listening skills

3. Reading stories

4. Writing short stories

5. Dictation

6. Enriching student vocabulary

7. Giving oral presentations that include book reports.

8. Spelling (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Reading from the Quran

11. Seasons

Quran – 6th Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

60	Al-Mumtahina
59	Al-Hashr
58	Al-Mujadila
57	Al-Hadid
56	Al-Waqia
55	Ar-Rahman

Islamic Studies – 6th Grade

Textbook:

Title: Learning Islam 2, Learning Islam Workbook 2

Author: : Islamic Services Foundation

Copyright: 2015

Specific Objectives:

1. Islamic etiquette

2. Learning about Allah

3. Journey to the hereafter

4. The story of Prophet Dawood

5. The story of Prophet Suleyman

6. Zakat the third pillar of Islam

7. Islamic history

8. Islamic Values and Ethics

9. Interpretation of certain chapters from Quran

10. Learn and understand 20 Ahadith (prophet Muhammad's sayings)

Arabic Language – 6ᵗʰ Grade

Textbook:

Title: I Love Arabic Book 6, I love Arabic Workbook 6

Author: Arabian Education Office of Gulf Countries

Copyright: 2016

Specific Objectives:

1. Grammar (noun sentence and verbal sentence)

2. Listening skills

3. Reading stories

4. Writing stories

5. Dictation

6. Enriching student vocabulary

7. Giving oral presentations that include book reports.

8. Spelling (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Quran vocabulary

Quran – 7th Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

54	Al-Qamar
53	An-Najam
52	At-Tur
51	Al-Thariat
50	Qaff
49	Al-Hujjarat

Islamic Studies – 7th Grade

Textbook:

Title: Learning Islam 3, Learning Islam Workbook 3

Author: Islamic Services Foundation

Copyright: 2016

Specific Objectives:

1. Islamic etiquette

2. The Knowledge of Hadith

3. The Aspects of Al-Qadar

4. The story of Prophets Zakarriyyah and Yahia

5. The story of Prophet Isa and Maryam

6. The Rules of Siyam and Hajj

7. Islamic history

8. Islamic Values and Ethics

9. Interpretation of certain chapters from Quran

10. Learn and understand 20 Ahadith (prophet Muhammad's sayings)

Arabic Language – 7th Grade

Textbook:

Title: I Love Arabic Book 7, I love Arabic Workbook 7

Author: Arabian Education Office of Gulf Countries

Copyright: 2015

Specific Objectives:

1. Grammar (noun sentence and verbal sentence)

2. Listening skills

3. Reading stories

4. Writing stories

5. Dictation

6. Enriching student vocabulary

7. Giving oral presentations that include book reports.

8. Spelling (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Quran vocabulary

Quran – 8th Grade

Textbook:

Title: Holy Quran

General Objectives:

Memorize and understand some chapters of the Holy Quran

Specific Objectives:

48	Al-Fatih
47	Muhammad
46	Al-Ahaqaf
45	Al-Jathiah
44	Ad-Dukhan
43	Az-Zukhurf

Islamic Studies – 8th Grade

Textbook:

Title: Living Islam 1, Living Islam Islam Workbook 1

Author: Islamic Services Foundation

Copyright: 2015

Specific Objectives:

1. Islamic etiquette

2. The First pillar of Faith

3. Belief in Angels

4. Prophets and Messengers

5. Belief in the Day of Judgement

6. Belief in Destiny

7. Islamic history

8. Islamic Values and Ethics

9. Interpretation of certain chapters from Quran

10. Learn and understand 20 Ahadith (prophet Muhammad's sayings

Arabic Language – 8th Grade

Textbook:

Title: I Love Arabic Book 8, I love Arabic Workbook 8

Author: Arabian Education Office of Gulf Countries

Copyright: 20151

Specific Objectives:

1. Grammar (noun sentence and verbal sentence)

2. Listening skills

3. Reading stories

4. Writing short stories with Illustrations

5. Dictation

6. Enriching student vocabulary (new vocabulary words)

7. Giving oral presentations that include book reports.

8. Spelling (new and previously taught vocabulary words)

9. Using Arabic dictionary

10. Quran vocabulary