

# Yutan Elementary

*Empowering growth in & beyond the classroom*



## *Curriculum Guide*

## Preschool Learning Objectives

### Social-Emotional

- Regulates own emotions and behaviors
  - Manages feelings
  - Follows limits and expectations
  - Takes care of own needs appropriately
- Establishes and sustains positive relationships
  - Forms relationships with adults
  - Responds to emotional cues
  - Interacts with peers
  - Makes friends
- Participates cooperatively and constructively in group situations
  - Balances needs and rights of self and others
  - Solves social problems

### Physical

- Demonstrates traveling skills
- Demonstrates balancing skills
- Demonstrates gross-motor manipulative skills
- Demonstrates fine-motor strength and coordination
  - Uses fingers and hands
  - Uses writing and drawing tools

### Language

- Listens to and understands increasingly complex language
  - Comprehends language
  - Follows directions
- Uses languages to express thoughts and needs
  - Uses an expanded expressive vocabulary
  - Speaks clearly
  - Uses conventional grammar
  - Tells about another time or place
- Uses appropriate conversational and other communication skills
  - Engages in conversations
  - Uses social rules of language

### Cognitive

- Demonstrates positive approaches to learning
  - Attends and engages
  - Persists
  - Solves problems
  - Shows curiosity and motivation
  - Shows flexibility and inventiveness in thinking
- Remembers and connects experiences
  - Recognizes and recalls
  - Makes connections

## Preschool Learning Objectives

- Uses classification skills
- Uses symbols and images to represent something not present
  - Thinks symbolically
  - Engages in social dramatic play

### Literacy

- Demonstrates phonological awareness
  - Notices and discriminates rhyme
  - Notices and discriminates alliteration
  - Notices and discriminates smaller and smaller units of sound
- Demonstrates knowledge of the alphabet
  - Identifies and names letters
  - Uses letter-sound knowledge
- Demonstrates knowledge of print and its uses
  - Uses and appreciates books
  - Uses print concepts
- Comprehends and responds to books and other texts
  - Interacts during read-aloud and book conversations
  - Uses emergent reading skills
  - Retelling stories
- Demonstrates emergent writing skills
  - Writes name
  - Writes to convey meaning

### Mathematics

- Uses number concepts and operations
  - Counts
  - Quantifies
  - Connects numerals with their quantities
- Explores and describes spatial relationships and shapes
  - Understand spatial relationships
  - Understands shapes
- Compares and measures
- Demonstrates knowledge of patterns

### Science and Technology

- Uses scientific inquiry skills
- Demonstrates knowledge of the characteristics
- Demonstrates knowledge of the physical properties of objects and materials
- Demonstrates knowledge of Earth's environment
- Uses tools and other technology to perform tasks

### Social Studies

- Demonstrates knowledge about self
- Shows basic understanding of people and how they live
- Explores change related to familiar people or places
- Demonstrates simple geographic knowledge

## Preschool Learning Objectives

### The Arts

- Explores the visual arts
- Explores musical concepts and expression
- Explores dance and movement concepts
- Explores drama through actions and language

# Kindergarten

## **Morning Meeting**

- Pledge of Allegiance
- Morning songs
- Weather/Seasons
- Days of the week and Months of the year
- Number Sense and Place Value
- Birthdays
- Graphing

## **Language Arts**

- Rhyming
- Opposites
- Alphabet Recognition
- Letter Sounds
- Blending
- Sight Words
- Journals

## **Writing and Handwriting**

- Handwriting
- Pencil Grip
- Top to bottom
- Left to right
- Using appropriate letter sizing in names as well as sentences
- Grammar
- Writing Process
- Writing Genres

# Kindergarten

## **Math**

- Numbers 0 to 5
- Comparing Numbers 0 to 5
- Numbers 6 to 10
- Compare Numbers 0 to 10
- Classify and Count Data
- Understand Addition
- Understand Subtraction
- More Addition and Subtraction
- Count Numbers to 20
- Compose and Decompose Numbers 11 to 19
- Count Numbers to 100
- Identify and Describe Shapes
- Analyze, Compare, and Create Shapes
- Describe and Compare Measurable Attributes

## **Science**

- Needs of Animals and Plants
- Pushes and Pulls
- Sunlight and Weather

## **Social Studies**

- Learning and Working Together
- National and State Symbols
- Work Now and Long Ago
- Geography of the Neighborhood
- Time and Chronology
- Learning About the Past

## **Kindergarten**

### **Centertime**

- Making large and small group choices
- Using proper voice level
- Sharing and cleaning up
- Role playing
- Building and creativity

## First Grade Curriculum

### Calendar

- Days, months, year
- Weather
- Graphing

### Reading

- Consistent Fluency Practice
- Daily 5
- Sight Words
- Phonemic Awareness
- Blending
- Letter Recognition-Sound Isolation
- Syllables and syllable patterns
- Listening comprehension
- High Frequency Words

### Structural Analysis

- inflectional endings s, ing, es, ed
- possessive nouns
- contractions

### Comprehension

- sequence of events
- main ideas and details
- character-setting
- compare and contrast
- predictions
- analyze characters and settings
- context clues
- inference
- classify and categorize
- cause and effect
- distinguish between reality and fantasy
- identify problem and solution
- use illustrations

### Text Features/Study Skills

- photographs
- labels
- book parts
- diagrams
- directions
- signs
- maps
- newspapers/periodicals



- chart
- numerical list
- caption
- picture graph
- headings
- question/answer format/search engines
- media center/internet

### Vocabulary

- words in context
- multiple meaning words
- word parts
- use a glossary for unfamiliar words
- context clues
- syntax and semantics
- inflectional ending –ing, -ed, er, -est
- synonyms and antonyms
- homophones

### Literary Elements

- rhyme
- rhythmic patterns
- word choice
- repetition
- word play

### Grammar

- sentences
- word order
- ? and !
- writing sentences
- nouns
- plural nouns
- Irregular plural nouns
- proper nouns
- days, months, holidays
- Verbs
- present and past tense verbs
- is and are
- contractions
- was and were
- has and have
- go and do
- see and say
- adjectives
- adjectives that compare
- color words number words
- synonyms and antonyms
- subjects and predicates
- Pronouns- I or me

- combining sentences
- compound words
- conjunctions
- using a/an

### Writing

- Daily 5
- sentence formation
- paragraphs
- short stories
- journaling
- mechanics
- proofreading
- Types of Writing: Narrative (oral story, imaginative story, personal), Informational Text (descriptive essay, Research Essay, Procedural Text, Descriptive Essay, Biographical Essay), Poetry (poem), Opinion (opinion letter and essay)

### Spelling

- words with short vowels a, e, i, o, and u
- words with long vowels a, e, i, o, and u
- r blends
- l blends- bl, cl, fl
- s blends- sl, sp
- ending blends- nd, st, nt, nk
- consonant digraphs- ch, tch, wh, sh, th
- triple consonant
- consonant clusters- sc, spr, str
- r controlled vowels- ar, or, ur, ir, er
- vowel diphthongs- ou
- variant vowels- oo (book) oo (food)
- vowel diphthong- au (cause) aw (saw)
- vowel diphthong- oi (oil) oy (boy)

### Handwriting

- Keys to legibility –shape, size, spacing, slant
- writing numbers, letters, and words
- Daily work-neatness

### Math

- Understand addition and subtraction within 10
- Fluently add and subtract within 10
- Addition Facts to 20: Use strategies
- Subtraction Facts to 20: Use strategies
- Work with addition and subtraction equations
- Represent and Interpret Data
- Extend the counting sequence to numbers through 120

- Understand place value
- Compare 2 digit numbers
- Use models and strategies to add tens and ones within 100
- Use models and strategies to subtract multiples of 10 within 100
- Measure lengths using non standard units
- Time and money
- Reason with shapes and their attributes
- Equal shares of circles and rectangles

## Science

### **Plants and Animal Defenses:**

- Body parts that help them survive
- How animals survive using their body parts (structures)
- Camouflage
- Animals and their offspring (looks and defenses)
- Students develop models to show structures used in survival
- Explain animal defenses
- Vocabulary

### **Light and Sound:**

- Light Sources
- Cause and effect relationship between light source and brightness
- Shadow- making a dark area where it bright
- What makes bright, medium bright and dark areas
- Light passing through materials
- Sound sources
- Vibration causes every sound
- Vocabulary

### **Spinning Earth:**

- We live in daily cycles: tied to the sun's position
- Observations of daytime and nighttime sky
- Collecting data
- Draw conclusions
- Earth as observed from space
- Earth is round
- Organize data to explain daytime and nighttime
- Daytime-Nighttime changes
- Explain moonrise and moonset
- Repeated sun patterns
- Earth spinning causes patterns
- Hours in nighttime and daytime during different seasons
- Modeling sky and horizons
- Vocabulary

## First Grade Curriculum

### Social Studies

#### Forms and functions of government

- Rules
- Resolving conflict
- Identify authority figures in a school community

#### Civic Participation

- Model and communicate citizenship skills
- Analyze patriotic symbols, songs, actions, celebrations and holidays
- Communicate historical background and significance of national holidays
- Work with historical and current government figures

#### Economics

- Spending/Saving
- Good and Services
- Human and natural resources
- Making choices (gaining and giving up)

#### Geography

- Location and place
- Four cardinal directions
- Identify and describe locations in schools and homes (reasoning)
- Create and use maps
- Continents and oceans

#### Regions

- Explore places and regions
- Physical features (by their landforms)
- Identify and differentiate human features (cities, farms, towns)
- How places change over time

#### Human and Environmental Interactions

- Look at impact of environment
- Natural resources
- Adapting to our physical environment

#### Culture

- Identify cultural traits
- Describe characteristics of individual culture
- Compare/contrast family traditions across culture

#### Geospatial skills

- Making a map of home and school

- Making connections

## History

- Compare/contrast family life past to present
- List and describe life events over time
- Describe historical people, events and symbols
- Identify symbols of the U.S.
- Describe how objects help us understand the past
- Develop questions about family history
- Identify and cite books used for information
- Gather and communicate through pictures and posters about family

## Veteran's Day

- Veteran's service/letter writing
- 1<sup>st</sup> grade celebration with Veterans

## 2<sup>nd</sup> Grade Curriculum Guide

### Language Arts

*Into Reading* - Houghton Mifflin Harcourt :

Foundational Skills - Explicit, systematic instruction grounded in the science of learning for all the critical foundational skills, including phonological awareness, phonics, fluency, high-frequency words, and spelling.

Comprehension Skills & Strategies - Whole group instruction and small group differentiated instruction are used to introduce, develop, and master a multitude of comprehension skills as well as various decoding strategies. Vocabulary instruction and word work is used to help broaden students' understanding of language itself.

Writing & Grammar - Focus on a particular writing mode and form for a three-week module, guiding children through all the steps of the writing process. Use of mentor text for real-world application of the focused writing craft. Grammar instruction and conventions are integrated throughout the writing process.

Cross curricular and social-emotional themes, containing the above described instruction, are explored throughout the modules. These include citizenship, matter, teamwork, fantasies, leadership, weather, individuality, plants, habitats, cultures, non-fiction text, and literary texts.

### Mathematics

*EnVisions 2.0* - Pearson : Numeric Relationships; Operations; Algebraic Relationships, Concepts, and Applications; Geometry Characteristics; Coordinate Geometry; Measurement; Data Representations, Analysis & Applications; Probability

Add/Subtract Within 20; Work with Equal Groups; Add/Subtract Within 100 Using Strategies; Fluently Add/Subtract within 100; Problem Solving with Addition and Subtraction; Time & Money; Numbers to 1,000; Add/Subtract Within 1,000 Using Models and Strategies; Measuring Length; Shapes and Their Attributes; Graphs and Data

### Social Studies

*myWorld* - Pearson : Forms & Functions of Government; Civic Participation; Economic Decision Making; Financial Literacy; Exchange and Markets; National/Global Economy; Geographical Locations, Place, Regions; Human-Environment Interaction and Movement; Geographical Skills and Literacy; History Changes, Continuity, and Context; Multiple Perspectives; Historical Analysis and Interpretation; Historical Inquiry and Research

Families Today and in the Past; People, Places and Nature; Government; Goods & Services; Making a Difference; American Culture

### Science

*AmplifyScience* - Amplify Education : Plant & Animal Relationships; Properties of Materials; Changing Landforms

# THIRD GRADE CURRICULUM

## SOCIAL STUDIES

**Curriculum:** Social Studies is taught using the *Scott Foresman: Communities* series. This program involves all strands of Social Studies, specifically geography, citizenship, government, technology, culture, economics, and history. The curriculum is broken down into the following units:

- Our Community
- People in Communities
- Where are Communities?
- History of Communities
- Communities at Work
- Governments

**Components:** Social Studies instruction is as varied as the topics. We integrate direct instruction (whole class), small group activities, and a variety of projects.

## MATHEMATICS

**Curriculum:** Mathematics is taught using the *Scott Foresman-Envision math* Series. This program offers direct instruction in order to provide a strong foundation for sequential math learning. Third graders focus on fact families in addition, subtraction, multiplication, and division. They continue developing strategies for multi-digit addition and subtraction problems. Learning multiplication facts through the 10s is a goal this year. Practical application of measurement skills includes weight and capacity with customary and metric units. They continue to study telling time and geometry.

**Components:** We utilize direct instruction, guided practice, and independent practice. We emphasize practicing skills, applying skills to real-life situations, and communicating mathematical results. We use the online program Reflex Math and IXL for basic math fact practice and strategies.

- Numeration
- Time and Temperature
- Adding whole #'s
- Congruence & Symmetry
- Subtraction
- Number sense
- Understanding Fractions
- Multiplication Meaning/Facts
- Decimals & Money
- Division Meanings/Facts
- Measurement
- Pattern & Relationships
- Metric Measure
- Solids & Shapes
- Perimeter, Area, & Volume

## SCIENCE

**Curriculum:** Amplify Science

Amplify Science is a highly engaging, phenomena-based program that integrates the latest practices in science teaching and learning, as well as interactive digital tools and hands-on activities, to teach students how to think, read, write, and argue like real scientists and engineers.

**Components:**

**Balancing Forces**

**Environments and Survival**

**Inheritance and Traits**

### ACCELERATED READER

Students are required to read and test on Accelerated Reader books each quarter. Books should be at the student's independent reading level, should be enjoyable for the student, or have been read aloud to the class by the teacher. Each student and their teacher will work together to set and reach goals in the areas of reading comprehension, time spent reading, and earning points.

### LANGUAGE ARTS

#### **Curriculum:**

Language Arts is taught using the *Into Reading* Series by Houghton Mifflin Harcourt Publishing Company.

Language Arts includes reading, writing, grammar, spelling, speaking and listening. This series is the core of our language arts program. This balanced program of instruction includes phonics, comprehension strategies, vocabulary development, as well as a means to experience reading for enjoyment. Our program emphasizes many different strategies, types of text, and purposes for reading. Writing will correlate with the reading program. Grammar skills are taught in a sequential manner and are demonstrated in the reading selections. Spelling words are taken from the reading series as well as from other curricular areas.

**Components:** Shared Reading (whole class) involves a common text and is beneficial for teacher modeling of literacy behaviors, skills, and strategies. Guided Reading (small group) involves text at instructional levels and is beneficial for direct teaching of skills and strategies.

#### **English and Grammar**

-Language and Usage Literature and Writing

-Nouns

-Verbs

-Adjectives

-Adverbs

-Capitalization

-Punctuation

-Sentences Writing

-Letters

-Pronouns

-Research Reports

-Composition Strategies

#### **Reading**

**Comprehension:** character, setting, plot, main idea and details, problem and solution, summarize, fantasy and reality, fact and opinion, Author's Purpose, making inferences, cause and effect, sequence, theme, make judgments, draw conclusions, make and confirm predictions, fluency

**Vocabulary Strategies:** antonyms, synonyms, unfamiliar words, homophones, dictionary, multiple-meaning words, prefixes, Greek roots, suffixes

Word parts: compound words, homographs, plural endings, context clues, definitions, word clues, idioms, contractions, endings with er and est

**Text Features/Literary Elements/Study Skills:** bar graphs, time lines, rhythmic patterns and imagery, photos with captions, italics, headings, pronunciations, bold and colored type, internet article, alliteration and repetition, parts of a book, charts, directions, interviews, using a library, consonance and metaphor, functional documents, personifications, moral, diagrams, search engines, rhyme scheme, rules, encyclopedia article

**Writing:** Personal Narrative, Letter, Descriptive Essay, Story, Persuasive Letter, Expository Essay, Opinion Essay, Research Report, Poem, Imaginative Story, Persuasive Essay, and Biographical Essay



## **Spelling**

**Curriculum:** Spelling words are taken from the reading series (See Language Arts curriculum descriptor). Words are grade-level appropriate, grouped by phonetic similarities, and correlate with the reading passages. Students receive instruction in phonics and vocabulary. Students should study for their weekly test at home. Lists come home on the first day of the week. Final tests are on the last day of the week.

**Components:** Students are pre-tested two times per week on the words from the reading series. If the student can spell all of the words correctly on either pre-test, they will not have to take a final test for that week. Typically the first pretest is on Monday, and a list for the week will also come home then. The second pretest is typically on Thursday, and the final test is typically on Friday.

## **Handwriting**

**Curriculum:** Students receive direct instruction in the *Zaner-Bloser* method of handwriting. We begin with a review of manuscript writing. After our review is complete, the students will begin to learn cursive.

**Components:** Each student completes handwriting exercises. Handwriting is also assessed in other curricular areas. On daily work, legibility – NOT letter formation, is the emphasis.

# **FOURTH GRADE CURRICULUM DESCRIPTORS**

## **MATHEMATICS**

**Curriculum:** Mathematics is taught using the *enVision* Series by Pearson Education. This program offers direct instruction in order to provide a strong foundation for sequential math learning. We also use the Reflex Math program to build and develop automaticity in multiplication and division facts.

**Components:** We utilize direct instruction, guided practice, and independent practice. Our focus is on problem-based learning and visual learning to result in a deep understanding of each concept. We also use the online program Reflex Math for basic math fact practice.

## **LANGUAGE ARTS (READING, SPELLING, GRAMMAR, & WRITING)**

**Curriculum:** Language Arts is taught using the *Into Reading* Series by Houghton Mifflin Harcourt Publishing Company.

**Components:**

- Skills/strategies to comprehend text
- Writing skills/strategies to communicate
- Speaking /listening skills and strategies
- Skills/strategies to identify, locate & evaluate information in a variety of formats

## SCIENCE

**Curriculum:** Amplify Science

**Components: Energy Conversions** - The electrical system, our nation's network for producing and delivering electricity from suppliers to consumers, is essential to our lives and increasingly in the news. Understanding this critical system provides a unique context for students to learn about how energy is converted from one form to another, how it can be transferred from place to place, and the variety of energy sources that exist.

**Vision and Light** - Over the course of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to understand a realistic fictional problem with a real organism.

**Earth's Features** - In the role of geologists, students investigate how a dinosaur fossil found in the fictional Desert Rocks National Park formed, which serves as the anchor phenomenon for the unit. Students make inferences about the history of the park based on the fossil itself and the rock layers in which it is embedded. Investigating how the fossil formed leads students to learn about sedimentary rock formation.

**Waves, Energy, and Information** - Scientists all over the world seek to explain the patterns that different animals use to communicate. To learn about important characteristics of sound and how sound travels through materials, students engage with several models of sound waves. These models, including an interactive digital simulation, physical models, and visual representations, support discovery and understanding of how dolphins use sound to communicate.

## SOCIAL STUDIES

**Curriculum:** Social Studies is all about Nebraska in fourth grade. Our textbook is *The Nebraska Adventure*. While emphasizing our state, all strands of Social Studies are taught, specifically geography, citizenship, government, technology, culture, economics, and history.

**Components:** Social Studies instruction is as varied as the topics. We integrate direct instruction (whole class), small group activities, and a variety of projects.

## ACCELERATED READER

Students are required to read and test on Accelerated Reader books each quarter. Students will take Accelerated Reader tests on books at their independent reading level as determined by the STARS Assessment. In addition the books should be enjoyable for the student or have been read aloud to the class by the teacher. The student and teacher will work together to set and reach goals in the areas of reading comprehension, time spent reading, and earning points.

## FIFTH GRADE CURRICULUM

**READING/LANGUAGE ARTS** Language Arts is taught using the *Into Reading* Series by Houghton Mifflin Harcourt Publishing Company.

**Reading LA 5.1** Students will learn and apply reading skills and strategies to comprehend text: novel studies, poetry, literacy circles, student-selected reading materials.

**Writing LA 5.2** Students will learn and apply writing skills and strategies to communicate: weekly reading journal, letter writing, poetry writing, descriptive writing.

**Speaking/Listening LA 5.3** Students will develop and apply speaking and listening skills and strategies to communicate for a variety of purposes: Book Talks, whole group presentations, literacy circles.

**Multiple Literacies LA 5.4** Students will apply information fluency and practice digital citizenship.

## **Math**

- Whole numbers, decimals, fractions (place value, operations, problem solving)
- Measurement with customary and metric units
- Geometry and geometric measurement (plane figures, perimeter, area, circumference, and volume)
- Percent and Probability
- Algebra (equations and functions)
- Coordinate Graphing

## **SCIENCE (using the Amplify program)**

### **SC.5.3 Structure and Properties of Matter**

SC5.3.1 Gather, analyze, and communicate evidence of structure and properties of matter.

### **SC.5.8 Matter and Energy in Organisms and Ecosystems**

SC.5.8.2 Gather and analyze data to communicate understanding of matter and energy in organisms and ecosystems.

### **SC.5.11 Space Systems: Earth's Stars and Solar System**

SC.5.11.3 Gather and analyze data to communicate understanding of space systems: Earth's stars and solar system.

### **SC.5.13 Earth's Systems**

SC.5.13.4 Gather and analyze data to communicate understanding of Earth's systems (the water cycle).

## **Social Studies: Building Our Nation**

- Early Life in the Eastern and Western Hemispheres
- Exploration and Settlement of the Americas
- Thirteen Colonies
- American Revolution
- Forming a Government
- Growth of our Nation
- Civil War and Reconstruction

## Sixth Grade Curriculum

### Reading / Language Arts: Into Reading-2020 Houghton Mifflin Harcourt Publishing

- **Central Ideas and Details** | Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.
- **Author's Craft** | Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.
- **Knowledge and Ideas** | Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.
- **Range of Reading and Level of Text Complexity** | Read and comprehend complex, grade-level informational text independently and proficiently.
- **Vocabulary Acquisition and Use** | Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.
- **Vocabulary Context and Connotation** | Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.
- **Production of Writing** | Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.
- **Modes of Writing** | Write in a variety of modes for a variety of purposes and audiences across disciplines.
- **Comprehension and Collaboration** | Communicate effectively and appropriately in collaborative activities for a variety of tasks, purposes, and audiences to express ideas, share knowledge, and generate new understandings.
- **Presentation of Knowledge and Ideas** | Present information, findings, and supporting evidence in which the organization, development, and style are appropriate to the discipline, audience, and/or context.

### Math: Self Paced-2016 Envision Math

- Whole Numbers (comparing, rounding, adding, subtracting, multiplying, dividing)
- Integers (comparing, absolute value, adding, subtracting, multiplying, dividing)
- Fractions (divisibility rules, factors, primes, LCM, GCF, equivalents)
- Decimals (comparing, rounding, word problems, multiplying, dividing)
- Algebraic Thinking (expressions, variables, equations, multi-step problems)
- Ratios, Proportions, Percent's (unit rates, equivalent ratios, proportions, percent's)
- Geometry (points, lines, rays, planes, angles, polygons, nets, symmetry, transformations)
- Perimeter, Area, and Volume (Triangles, prisms, quadrilaterals)
- Probability and Statistics (Central tendency, pictographs, bar, line, circle graphs, stem-and-leaf)
- Measurement (customary and Metric)

### Science -2018 Amplify Science

- **Microbiomes** - learn about single-celled organisms and analyze data in order to make explanations about the role that bacteria play in the human microbiome. Students learn that organisms in the microbiome require resources to thrive and that competition between different species of bacteria causes changes in the microbiome.
- **Metabolism** - use models to explain how body systems work together to bring molecules to our bodies' cells. They use models to describe how these molecules are used in cellular respiration (which takes place in the mitochondria inside each cell) as well as for growth and repair. They also read about sensory receptors.
- **Traits and Reproduction** - use models and construct explanations about the causal mechanisms of trait variation. They conduct investigations and analyze evidence as they connect ideas about genes, proteins, traits, and sexual reproduction in order to build an understanding of variation.
- **Thermal Energy**- use models and construct explanations about temperature changes at the molecular level. They conduct investigations and analyze evidence as they connect ideas about energy and temperature in order to build a molecular understanding of the difference between temperature and thermal energy.
- **Ocean, Atmosphere, and Climate** - use models to explain how prevailing winds and ocean currents affect air temperature and the regional climates at various locations around Earth. They use models to explain how the amount of energy transferred from the sun to Earth's surface depends on distance from the equator. Their models

also describe how energy is transferred between the ocean and air and how the movement of ocean currents is determined by prevailing winds.

- Weather Patterns - use models and construct explanations about the causal mechanism involved in producing a warm weather rainstorm. They conduct investigations and analyze evidence as they connect ideas about energy transfer, water vapor, air temperature, and wind in order to build an understanding of rainstorms.
- Earth's Changing Climate - use models to explain how increases of carbon dioxide and methane in the atmosphere, as a result of human activities, have caused an increase in global average temperature since about 1880. This includes a focus on how population and per-capita combustion of fuels and keeping of livestock contribute. Students read about some consequences of this warming, including an increase in extreme weather. They investigate possible solutions to this climate change. Students also investigate other factors, including changes in solar radiation and volcanic eruptions, that can affect global climate and other instances of climate change from Earth's history.
- Life Science (DARE, Planet Earth) Physical Science (Mind Games)

### **Social Studies: Growth of our Nation-2019 Savvas Learning/Pearson**

- Civil War and Reconstruction
- Expanding West and Overseas
- Industry and Immigration
- Struggle for Reform
- Good Times and Hardships
- World War II
- The Cold War
- America Changes
- Our Nation and the World Today