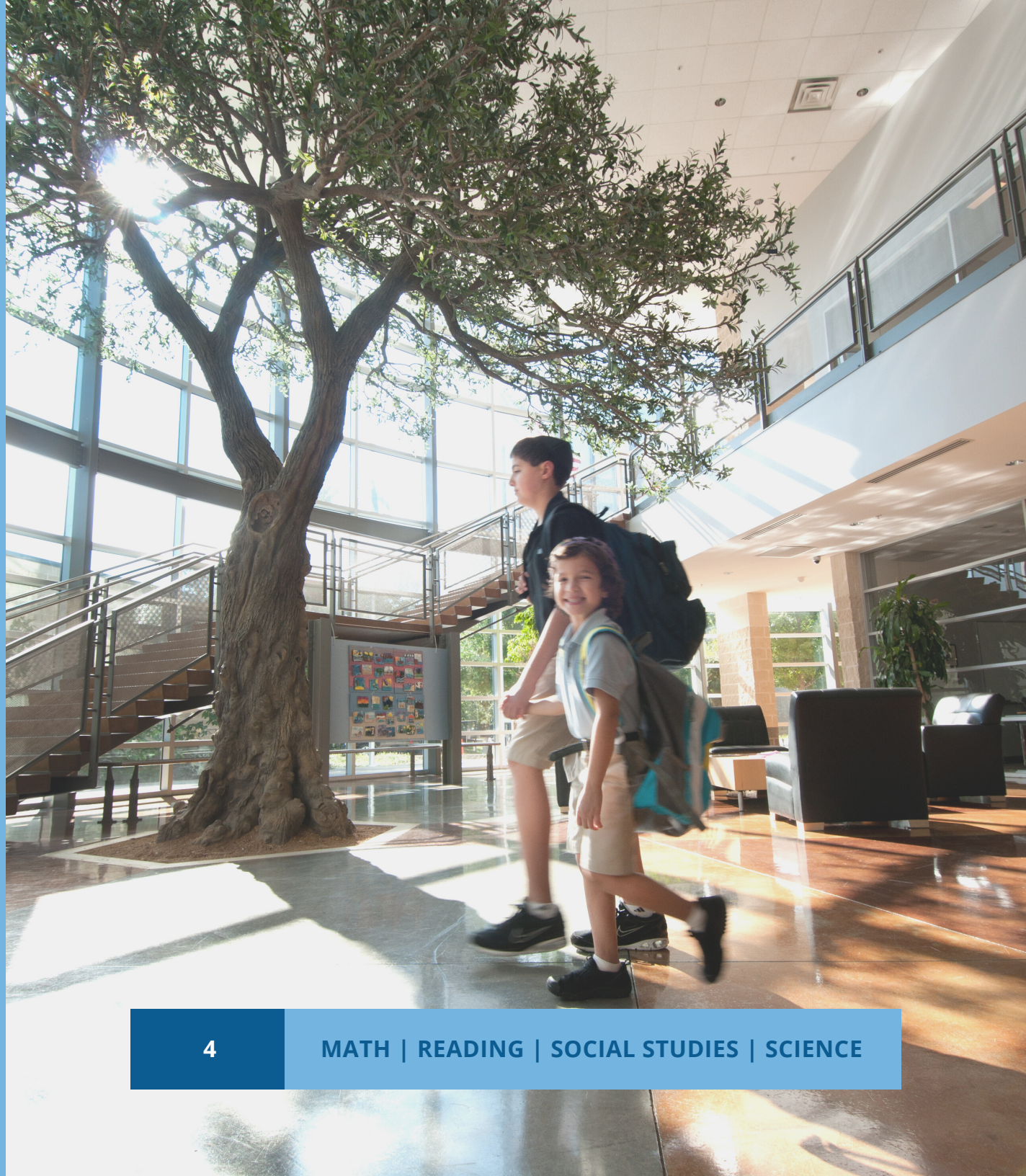
WHAT YOUR CHILD WILL LEARN IN 4TH GRADE

Akiba Yavneh Academy

בית ספר עקיבא יבנה



4

MATH | READING | SOCIAL STUDIES | SCIENCE

Math

Operations and Algebra	Numbers and Computation	Measurement and Data	Geometry

What Your Child Will Learn

Operations and Algebra	Numbers and Computation	Measurement and Data	Geometry
• **Use Operations with Whole Numbers to Solve Problems** • **Factors and Multiples** • **Algebra: Generate and Analyze Patterns**	• **Place Value** • **Add and Subtract Multi-Digit Whole Numbers** • **Multiply and Divide 1-Digit Numbers** • **Multiply 2-Digit Numbers** • **Fraction Equivalence and Ordering** • **Add and Subtract Fraction** • **Multiplication Concept of Fractions.** • **Understand and Compare Decimals**	• **Represent and Interpret Data on Line Plots** • **Find Equivalence in Units of Measure** • **Understand Concepts of Angles and Angle Measurement**	• **Lines, Angles, and Shapes**

What Your Child Will Do

Operations and Algebra	Numbers and Computation	Measurement and Data	Geometry
• Students are introduced to multiplicative comparison situations. They use understandings of operations to solve multi-step problems. • Students represent, analyze, and classify numbers using understandings of multiplication. • Students generate and analyze patterns that grow or repeat in predictable ways.	• Students expand their place value understandings from numbers to 1,000 (Grade 3) to 1,000,000 (Grade 4). • Students create and explore strategies for performing multi-digit calculations that involve breaking numbers apart using place value. • Students use models and mathematical procedures to understand, recognize, and generate equivalent fractions. • Students use their understanding of unit fractions to add and subtract fractions with like denominators and multiply a fraction by a whole number. • Students learn the meaning of a decimal number by connecting to their understanding of fractions. • They compare decimals using models and number sense.	• Students represent data visually using line plots. Some data involve fractions and mixed numbers. • Students make measurement conversions within the same measurement system. • Students develop an understanding of angles. They use unit angles to measure and draw angles, and to add and subtract angle measures.	• Students classify two-dimensional shapes by their sides and angles. They analyze and draw shapes with line symmetry.

Math

Operations and Algebra	Numbers and Computation	Measurement and Data	Geometry

What You Will See

Operations and Algebra

- Relate multiplication equations to multiplicative comparison
- Distinguish multiplicative comparison from additive comparison
- Multiply to solve word problems involving multiplicative comparison
- Divide to solve word problems involving multiplicative comparison
- Solve multi-step word problems.
- Assess the reasonableness of answers to multi-step word problems
- Use algebraic equations to represent multi-step word problems
- Find factor pairs
- Recognize that a whole number is a multiple of each of its factors
- Determine whether one number is a multiple of another
- Identify prime or composite numbers
- Generate a number pattern that follows a given rule
- Generate a shape pattern that follows a given rule
- Describe features of a pattern

Numbers and Computation

- Recognize that a digit in one place represents ten times what it represents in the place to its right
- Read and write numerals and number names for multi-digit numbers
- Use expanded form for multi-digit numbers
- Compare two multi-digit numbers and use the symbols >, =, and <
- Round multi-digit whole numbers to any place
- Add and subtract multi-digit whole numbers using the standard algorithm
- Multiply up to a four-digit number by a one-digit number
- Multiply two two-digit numbers
- Divide up to four-digit dividends by one-digit divisors
- Recognize and generate equivalent fractions
- Compare two fractions with different numerators and different denominators and use the symbols >, =, or <
- Interpret addition and subtraction of fractions
- Add and subtract mixed numbers with like denominators
- Solve word problems involving addition and subtraction of fractions with like denominators
- Multiply a fraction by a whole number
- Understand a fraction a/b as a multiple of 1/b
- Solve word problems involving multiplication of a fraction by a whole number
- Express a fraction with denominator 10 as an equivalent fraction with denominator 100
- Use equivalent fractions to add two fractions with respective denominators 10 and 100
- Use decimal notation for fractions with denominators 10 or 100
- Use decimal notation to describe length
- Show decimals on a number line
- Compare two decimals to hundredths and use the symbols >, =, and <

Measurement and Data

- Know relative sizes of measurement units within one system of units
- Know relative sizes of units of length, mass liquid volume and weight
- Know relative sizes of units of time
- Convert from larger units to smaller units
- Make a table of measurement equivalents
- Solve word problems involving distances, time, and money
- Use the four operations to solve measurement word problems involving simple fractions
- Represent measurement quantities on number line diagrams
- Use the area formula for rectangles
- Use the perimeter formula for rectangles
- Understand how angles are formed
- Understand concepts of angle measurement
- Relate angle measurement in degrees to circles
- Relate one-degree angles to n-degree angles
- Measure angles using a protractor
- Sketch angles of specified measure
- Recognize angle measure as additive
- Solve addition and subtraction problems to find unknown angles on a diagram

Geometry

- Solve problems involving addition and subtraction of fractions by using measurement data in line plots
- Make a line plot to display measurements involving halves, fourths, and eighths of a unit
- Draw and identify points, lines, line segments, and rays
- Draw and identify parallel and perpendicular lines
- Draw and identify angles
- Draw and identify right, acute, and obtuse angles
- Use parallel or perpendicular lines to classify figures
- Use angle measure to classify figures
- Categorize and identify right triangles
- Understand line symmetry
- Identify line-symmetric figures
- Draw lines of symmetry

Reading/Writing - Making Meaning - Being a Writer

Reading Comprehension	Vocabulary/Spelling	Writing Craft	Language Skills and Conventions

What Your Child Will Learn

Reading Comprehension	Vocabulary/Spelling	Writing Craft	Language Skills and Conventions
• **The Reading Community** • **Recognizing Text Features** • **Questioning Analyzing** • **Text Structure Making** • **Inferences Making Inferences** • **Analyzing Text Structure** • **Determining Important Ideas and Summarizing** • **Novel Reading**	• **Context to determine word meanings** • **Use Dictionary, glossary, or thesaurus** • **Words with multiple meanings** • **Word parts used for understanding**	• **The Writing Community** • **The Writing Process** • **Personal Narrative** • **Fiction Expository** • **Nonfiction Functional Writing** • **Opinion Writing** • **Poetry**	• **Grammar rules** • **Procedures for proofreading** • **Writing skills and conventions** • **Sequence, completeness, accuracy, and clarity**

What Your Child Will Do

Reading Comprehension	Vocabulary/Spelling	Writing Craft	Language Skills and Conventions
• Use text features to find and understand information • Use questioning to think about expository texts • Use schema to think about all they know about a topic • Explore narrative text structure through discussions of plot, setting, character, and conflict. • Use questioning to think about narrative texts. • Explore first- and third-person points of view • Make inferences to understand narrative text and poetry. • Make inferences and visualize to understand poetry. • Make inferences to understand narrative and expository texts • Make inferences to explore causal relationships in narrative and expository texts • Analyze expository text structure • Explore ways in which articles and functional texts are organized • Explore the use of sequence of events and compare/contrast relationships in textbooks. • Distinguish between important and supporting ideas in texts • Use important ideas to summarize	• Recognizing synonyms • Recognizing antonyms • Using the prefixes in- and mis- to determine word meanings • Using the suffixes -er and -ly to determine word meanings • Using Greek and Latin roots to determine word meanings • Using context to determine word meanings • Recognizing idioms • Recognizing adages and proverbs • Recognizing shades of meaning • Recognizing words with multiple meanings • Using a print and online dictionary to determine word meanings • Using a print and online thesaurus to determine word meanings • Using an online thesaurus to determine word meanings • Using a glossary to determine word meanings	• Using sensory details • Using transitional words and phrases • Writing engaging openings • Writing endings that draw a story's events to a close • Identifying effective keywords for an Internet search • Taking notes and organizing information by subtopic • Using transitional words and phrases • Writing interesting introductions and endings • Writing author biography sections and tables of contents • Identifying effective keywords for an Internet search • Employing facts and examples related to the topic • Using transitional words and phrases • Writing author biography sections and bibliographies • Generating ideas for poems • Using simile and personification • Using onomatopoeia and repetition of words and sounds • Identifying the audience and purpose of opinion writing • Using transitional words and phrases to connect opinions and reasons • Using descriptive details to convey setting • Writing endings that bring a story's events to a close • Identifying audience, purpose, and tone for letter writing • Checking directions for sequence, completeness, accuracy, and clarity	• Identify complete sentences • Identify compound sentences • Identify complex sentences • Identify sentence fragments • Identify run-on sentences • Use singular, plural, and possessive nouns • Use subject and object pronouns • Use possessive pronouns • Use relative pronouns • Explore noun-pronoun agreement • Explore commonly misused • Explore verbs • Explore simple verb tenses • Explore progressive and perfect verb tenses • Explore modal auxiliary verbs • Use subject-verb agreement • Explore formal and informal English • Explore adjectives and order of adjectives in sentences • Explore adverbs • Explore relative adverbs • Explore prepositions and prepositional phrases • Explore proper nouns, proper adjectives, and titles of address • Use commas in letters • Use commas and quotation marks in dialogue and direct quotations

Reading/Writing - Making Meaning - Being a Writer

Reading Comprehension	Vocabulary	Writing Craft	Language Skills and Conventions

What You Will See

Reading Comprehension

- The students will learn to connect what they know from their own experiences to texts before, during, and after a read-aloud.
- They also make connections between texts.
- The students will visualize to make sense of figurative language and deepen their understanding and enjoyment of poems and stories.
- The students will wonder and ask questions before, during, and after a read-aloud to make sense of a text.
- The students will identify features of expository texts and use those features to help them understand the texts.
- The students will make inferences to think more deeply about both narrative and expository texts.
- The students will explore which ideas in texts are important and support their thinking with evidence from the texts.
- The students will use story elements to help them think about stories.
- The students will use text structure to help them think about both narrative and expository texts.
- The students will informally synthesize to form opinions and make judgments about texts.

Vocabulary

- Take weekly spelling or vocabulary tests
- Using the prefixes dis- pre- -un and -inter to determine word meanings
- Using the suffixes -er, -ous, -ly, less, -ful, -tion, and -ment to determine word meanings
- Using context to determine word meanings
- Recognizing shades of meaning
- Recognizing idioms
- Recognizing adages
- Using a print and online dictionaries to determine word meanings
- Using a print and online thesaurus to determine word meanings
- Using a glossary to determine word meanings
- Build their speaking and listening skills
- Recognize proverbs

Writing Craft

- Writing about single events from students' own lives
- Exploring Q&A and other nonfiction formats
- Selecting a country to research and write about
- Doing pre-research writing and narrowing research focus
- Employing facts and examples related to the topic
- Doing pre-research writing and narrowing research focus
- Taking notes and organizing information by subtopic
- Exploring the length of lines, number of lines and stanzas, placement of words on the page, and shapes of poems
- Exploring text features (e.g., maps and diagrams)Exploring sound, imagery, and form in poems
- Writing poems about topics of interest
- Exploring strong openings and conclusions that restate the opinion
- Writing about personal opinions
- Writing clear statements of opinion
- Using reasons to support opinions
- Adding facts and details to reasons
- Describing settings that work within a story
- Developing characters through speech and thoughts
- Writing endings that bring a story's events to a close
- Writing friendly letters and thank-you notes
- Identifying audience and purpose for functional writing
- Writing directions for recipes, cartoon drawings, and games

Language Skills and Conventions

- Generate alternatives for overused words
- Look for confusing or extraneous information in their drafts
- Proofread their writing for correct spelling, punctuation, grammar, and capitalization
- Identify and correct commonly misused words (its/it's; to/too/two)
- Recognize and correct sentence fragments
- Recognize and correct run-on sentences
- Use interesting adjectives
- Explore pronouns and first- and third-person points of view
- Punctuate speech and punctuate for effect
- Capitalize languages, religions, and holidays
- Recognize and correct sentence fragments
- Use modal auxiliaries, such as can, may, and must
- Identify and indent paragraphs
- Explore how poets follow or intentionally break punctuation and capitalization rules for poetic effect
- Use their word banks and proofreading notes to proofread their writing

Social Studies

History	Geography	Civics	Economics

What Your Child Will Learn

History	Geography	Civics	Economics
• **The First Texans** • **Exploring and Settling Texas** • **The Mexican Era in Texas** • **The Texas Revolution** • **The Republic of Texas** • **Texas Joins the United States** • **The Civil War**	• **Map Skills** • **The regions of Texas** • **The Western Front** • **Life in Texas today**	• **The 28th State** • **The Government and Us**	• **The Growth of the Texas Economy**

What Your Child Will Do

History	Geography	Civics	Economics
• People come to North America • People of the Coastal Plains • Buffalo Hunters of the Plains • Native Americans of the mountains and basin regions. • Spanish and French explorers. • Native Americans and the Spanish • Spanish Colonies in Texas • The last days of Spanish rule. • Mexico wins Independence • Austin starts a colony in Texas • Americans come to Texas • Tensions under Mexican rule • Texas goes to war • Victory at San Jacinto • A new nation • Life in the Republic • Joining the United States • A growing Texas • Texas in the 1930's and 1940"s • Explain the effects of Word War II on Texas.	• Students learn how to read, understand and create maps. • The geography of Texas • The Coastal Plains • The North Central Plains • The Great Plains • The Mountains and Basins • Whose land • Cattle kingdoms and farms • The new frontier • The call for reform • Ranchers and Farmers • City life • The culture of Texas	• The new Sate Government • The war with Mexico • Travelers to Texas • Governing our Nation • Texas Government today • Local Government	• Industry takes off • Oil's big impact • The growth of cities • Texas' New Business

Social Studies

History	Geography	Civics	Economics
What You Will See			
• Create a story with characters that lived in Early Texas and what their life was like • Describe the culture of their Texas historical figure • Students will design a flag that represents their Texas historical figures • Prepare an interview with an important leader in Texas History. • Students will prepare mini-debates on both sides of a scenario about Texas they choose • Write a Texas Senator on a current issue they are concerned about • Graph the number of immigrants to Texas • Write a biography of a famous Texan	• Students will create a map of each region of Texas showing a variety of themes • Students will write a profile about the city their Texas historical figure had a historical event • Map out a cattle drive and railroads on a map of Texas • Plot data that shows products produced in Texas	• Write a Texas Senator on a current issue they are concerned about • Create a timeline of your Texas historical figures important accomplishments	• Show oil fields in Texas using the cattle and railroad maps

Science

Scientific Process Skills	Systems and Subsystems in Life Science	Models, Patterns, and Properties	Causes and Effects

What Your Child Will Learn

• **Scientists help us understand the world around us.** • **Scientists do experiments and make observations.** • **They use evidence to support their ideas.**	• **Plant and Animal Structures** • **Senses and the Nervous System**	• **Earth surface and Erosion** • **Renewable and non-renewable energy** • **Earthquakes, Volcanoes and Tsunami's** • **Rock Layers and Earth's past Landscapes**	• **Energy: Light, Sound and Heat** • **Energy: Transfer** • **Waves (sound)** • **Light Travel and Reflection**

What Your Child Will Do

• Students will observe and conduct investigations. • Students will discover and record data. • Learn lab safety procedures • Learn how to use technology and science equipment. • Verbalize science inquires and conclusions	• Students research animal or plant structures and present an argument based on evidence as to the function of a structure. • Students design and redesign gliders using inspiration from bird structures (biomimicry) to improve its function Perform the Ruler Drop • Experiment to model how the brain receives information from the senses and responds with an action • Evaluate the concepts presented in the video and class, and develop explanations through whole class discussion and small group discussions	• Students investigate and analyze the different changes in Earth's surface and the environment due to weathering and erosion. • Conduct research on the different types of energy generation devices can do, and the environmental impacts of those devices • Describe the science behind the formation of earthquakes, volcanoes, and tsunamis and the solutions used to help mitigate their impact on humans • Test the effectiveness of different engineering designs used to protect people from volcanoes and earthquakes • Students observe rock and fossil evidence that supports an explanation that a high desert/plains landscape was once under the sea • Students research rock and fossil evidence to help them understand the history of their own landscape	• Observe a variety of different types of energy being transferred from place to place by sound, light, heat, and electric currents • Use what they have learned about energy transfer to imagine ways to convert one type of energy to another • Make predictions based on their understanding of cause and effect relationships • Design water wheels that generate their own energy • Write and draw explanations of design strategies • Students interpret diagrams of transverse and longitudinal waves. • Think about the human eye and brain and how these structures help us see and process information • Explore the human sense of sight • Explore, compare and utilize different ways that humans have used patterns to transfer information past and present • Explain how patterns in symbols can be used to transfer information using computers

Science

Scientific Process Skills	Systems and Subsystems in Life Science	Models, Patterns, and Properties	Causes and Effects

What You Will See

• Chart of Safety Rules and Symbols • Will make Graphic Organizers • Develop graphs, tables, and charts of data Keep a science folder or journal	• Students recognize parts of a plant or animal's entire body as having functions that help it survive in its environment. • Describe the sensory network involved in receiving, transmitting, and responding to input from senses	• Students identify the pattern or sequence of events for weathering, erosion and deposition. • Students identify if weathering or erosion caused an observable change in Earth's surface and explain how this change affects the environment over time. • Explain reasons for constructing water wheels in particular ways and what effect different designs have on the water wheels themselves • Understand what causes natural hazards and the effect they have on people to evaluate the different engineering designs used to protect people from harm • Students observe rock layer patterns and learn about how the relative ages of those layers help us explain the history of the landscape. • Students learn about the Law of Superposition—undisturbed rock layers form consistent patterns that reflect the relative age of the rock (oldest to most recent, bottom to top) throughout history and in any location on Earth.	• Recognize that energy transfer is occurring all the time in different places in their world • Observe energy transfer through motion, heat, and sound • Discuss what types of energy devices are used in their initial functions, what transformed energy is, and what it is used for • Students observe and compare wave patterns for transverse and longitudinal waves. • Students explore how changes in energy influence wave patterns. Explore the cause and effect relationship between light and vision. • Use, create, and recognize patterns of dots and dashes and numbers to transfer information • Observe and test out devices engineered to transfer information using scientific concepts related to light, electricity, sound and vision