

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

Language Arts, Math, Science ***PK3-Grade 8***

Published, September, 2023

Patricia E. Brady, Principal

**1186 Newfield Avenue
Stamford, CT 06905**

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INTRODUCTION

In September of 2022, the Faculty of The Catholic Academy of Stamford embraced the task of examining and updating the current curriculum for the school as one of the major objectives identified in the multi-year Strategic Plan: ***Building Strong Foundations***.

Under the direction of Patricia E. Brady, Head of School and Patrice Kopas, Director of Curriculum and Assessment for the Diocese of Bridgeport, our faculty worked in committee to establish school – level, subject area and grade level curriculum goals. Each grade level or subject area teacher identified the skills and content per grade and per subject that you will find within this document.

Part One of our curriculum update is to present to you as parents the first three subject areas that have been completed and will be used to guide instruction beginning in August of 2023: **Language Arts, Math and Science**. Each faculty member has a copy of this curriculum and uses it to guide the planning and instruction during the course of the school year. Part Two of this process will begin at the start of the 23-24 school year and include the subject areas of Religion, Social Studies, Spanish, Art, Physical Education, and Music.

Included with this curriculum guide is the new document to accompany the curriculum called ***The Catholic Academy of Stamford's Parent Guide to the Curriculum***. This Parent Guide is distributed at the start of each year to parents for the particular grade level their child is entering. The guide is also provided in total for each teacher. We are grateful to the parents on the Strategic Planning domain for Academics with their help on this document.

It is our hope that all who will teach our children this year, and in years to come, will find the curriculum and the parent guide helpful in preparing and planning for instruction and in working as a partner with parents in the education of the children God places in our care at The Catholic Academy of Stamford.

August 28, 2023

Feast of St. Augustine
Patron of the Diocese of Bridgeport

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THE CATHOLIC ACADEMY
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PRE-KINDERGARTEN-3

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THE PLAYFUL PRE-KINDERGARTEN 3-YEAR-OLD

The preschool years are a magical time in the development of your child. Their individual personalities really begin to shine. Developing important social skills is necessary before starting Kindergarten. During your child's preschool years, he/she will learn how to share and cooperate. Children will work together, take turns, and participate in group activities. The preschool 3 student will follow simple directions, and communicate his/her wants and needs. Children are naturally curious beings, the world around them is fascinating to them, and the preschool classroom is an environment that fosters their innate curiosity.

At home, you can reinforce some of the skills learned in your child's preschool classroom by doing basic things such as reading with him/her and by allowing your child to do simple chores around the house. Telling your child a story and then having him/her retell it back to you can be a fun activity, as well. Encourage your child to play with other children by arranging play dates if possible, or just by playing with others at the local park or playground. The preschool 3 child does best when their environment is organized and predictable. Clear and consistent rules and expectations are best for facilitating appropriate behavior in your child.

The preschool years are filled with discovery, play and overall delight.

PRE-KINDERGARTEN 3 LANGUAGE ARTS

SKILLS

Students will be able to:

- Use accepted words for objects, actions and attributes encountered frequently in both real and symbolic contexts
- Begin to use some words that are not a part of everyday conversational speech but that are learned through books and personal experiences
- Communicate about current or removed events and/or objects
- Connects words, phrases, and sentences to build ideas
- Maintain a topic of conversation over the course of several turns
- Answer simple who, what, where and why questions
- Show interest in a variety of books
- Demonstrate comprehension through retelling
- Recognize that print represents spoken words (first name in print, environmental labels)
- Identify some printed words and/or common symbols (bathroom signs) in the context of environment
- Recognize some letters especially those in one's own name
- Recognize rhyming words in songs, chants or poems
- Identify when initial sounds in words are the same
- Write in a manner that is distinct from drawing. Combine scribbles with letter-like forms
- Uses various drawing/art tools with developing coordination

CONTENT

- Language Comprehension
- Vocabulary
- Expression of ideas, Feelings, and Needs
- Language Structure
- Conventions of Conversation
- Language and Interaction
- Interest and Engagement with Books
- Understanding of Stories or Information
- Print Concepts
- Letter Recognition
- Phonological Awareness
- Drawing and Writing

The following are suggestions that you can do with your child to reinforce the Language Arts skills and content:

- Sing a Song Together
- Listen to Nursery Rhymes & Read them together
- Alphabet Games Galore: See, Say, Trace, & Do
- Make Cards of Different Shapes & Colors with the alphabet letter
- Mix up the cards like alphabet soup; pull them from the pile and identify the letter and the sounds.
- Scavenger Hunt:
 - Pull objects from a bin.
 - Identify the object.
 - Ask what initial sound the object begins with ex. Bear is B
 - Repeat the sound together.
 - Pull another object out.
- Sorting Games: Sort the objects you pulled out by any sound. All the D Dolls go together.
- Story Games:
 - Create a story about the objects that you have taken out.
 - Alternate voices; adult starts the story & child finishes the story.
 - Make a puppet character from an old sock; there always seem to be one that got lost in the wash.
 - Role play or mimic a story that you have read.

Family Field Trip suggestions:

- Local Library Activities are ideal for early literacy activities and remain open to the public for scheduled read/sing alongs throughout the year.
 - Ferguson Library, Stamford, Connecticut, Main Campus and Harry Bennett Library, Stamford, Connecticut.
<https://www.fergusonlibrary.org/locations-hours/harry-bennett>
- See a children's show where stories come to life!
 - Westport Country Playhouse, Westport, Connecticut.
https://www.westportplayhouse.org/?gclid=CjwKCAjwq4imBhBQEiwA9Nx1BvgxDxWrFahzstCFSuSx1HBITpqMth7dBjndMBqr6qfUwneQU_85URoCXQwQAvD_BwE
 - Ridgefield Playhouse, Ridgefield, Connecticut. <https://ridgefieldplayhouse.org>
Engage with a Group, Tumble, and Listen to Music
 - My Gym, Stamford, Connecticut. <https://www.mygym.com/stamford/>

PRE-KINDERGARTEN 3 MATH

SKILLS

Students will be able to:

- Say or sign the number sequence up to at least 10
- Count up to at least 5 objects using one-to-one correspondence
- Count out a set of objects up to four
- Recognize written numerals up to at least 5
- Without counting, recognize number of objects in small groups of at least 3 or 4 objects
- Compare sets of 1-5 objects using visual matching or counting strategy and describing the comparison as more, less than, or the same
- Uses size words to describe objects
- Understand that adding to (or taking away) one or more objects from a group will increase (or decrease) the objects in the group
- Recognize measurable attributes such as length, weight, or capacity
- Sort and classify objects into 2 groups, count and compare the quantity of the groups (indicate which is more)
- Sort and classify objects by one attribute into two or more groups (color, size, shape)
- Identify 2 dimensional shapes

CONTENT

- Counting
- Written Numerals
- Recognition of Quantity
- Comparison
- Number Operations
- Measurement
- Data
- Sorting and Classifying
- Spatial Relationships
- Identification of Shapes
- Number Names

The following are suggestions that you can do with your child to reinforce the Math skills and content:

Play Based Math Activities: Make it Fun!

- Count cars.
- Point out the color of things.
- Count how many jumps you can do.
- Point to different shapes in the park.
- Count how many peas are on your plate.
- Look for numbers on mail boxes.
- Count how many times you swing.
- Sing! Clean up, clean up song with categories of toys being put away. Put the tiny dolls in the doll house. Put the tubed, round logs in the log bin. Put the small stuffies on the long shelf.
- Count how many times you go down the slide.
- Put stickers by groups on a poster.
- Create a collage by categories.

Family Field Trip suggestions:

- Play=Learning /Learning = Play!
 - Any public or town park provides place for play!
 - Seasonal fees apply and permits may be obtained through your town's government center.
 - Off seasons are free!
- Enjoy the day collecting shells. How many can did you find? Listed below are just a few local seaside parks to count the hours away:
 - Cove Island Park, Stamford, Connecticut. [Cove Island Park | Visit CT](#)
 - West Beach, Stamford, Connecticut. [West Beach | Parks and Recreation Sites | Stamford, CT](#)
 - Bayley Beach, Norwalk, Connecticut. [Bayley Beach - Official Website of Rowayton 6th Taxing District](#)
 - Weed Beach, Darien, Connecticut. [Welcome to the Town of Darien, Connecticut - Weed Beach](#)
- Use all the senses to develop the mind, body, & spirit

- Stepping Stones Museum, Norwalk, Connecticut.
<https://www.steppingstonesmuseum.org/> You may be visiting this site again; each time brings another discovery!
- The Best Time Ever, Stamford, Connecticut. Make a colorful memory through many art projects; learn the categories of options and mix colors to create a beautiful day with friends and family. <https://www.thebesttimeever.com/>

PRE-KINDERGARTEN 3 SCIENCE

SKILLS:

Students will be able to:

- Intentionally vary actions in order to observe the effect of those actions on materials
- Cite examples to support their ideas
- Compare and contrast basic features of living things (body parts and their uses) between and across groups
- Explore how animals depend upon the environment for food, water, and shelter
- Investigate how objects' speed and direction can be varied
- Observe, record, and note patterns regarding weather and the effects on the immediate environment (rain over a period of days causes flooding, sunny days cause the flower bed to dry out)
- Investigate how humans use design solutions to adapt natural resources to meet basic needs (cut trees to build houses, make applesauce out of apples)

CONTENT:

- Defining Problems
- Investigating
- Using Evidence
- Unity and Diversity of Life
- Living Things and Their Interactions with the Environment and Each Other
- Energy, Force, and Motion
- Effects of Weather and Water
- Earth & Human Activity

The following are suggestions that you can do with your child to reinforce the Science skills and content:

- Keep a daily weather chart with 2 columns. One column states Prediction and the other column is entitled Evidence. Predict the weather and draw a sun or rain or clouds. Compare your prediction to the evidence, the weather of the day.
- Make icecubes and time how long they melt under various temperature and conditions. Place one tray in the sun and the other in the home.

- Kick different size balls in the fields or at a park. Which one goes farthest?
- Take a papercup to the Long Island Sound and scoop up some water. What do you see? You would be surprised at what you find.
- Take a ferry ride to Port Jefferson. Experience the wind in your face. Is there a motor?
- Go to a local farm and pick what is in season- apples or pumpkins?
- Read Eye Spy books. Identify the object on the page.
- Walk through a maze with your family.
- Wrap a present together, using glue or tape. Scissors will need supervision.
- Bake a cake together; crack an egg and mix the contents in the bowl. Observe the baking process of the cake rising under increasing oven temperatures.
- Observe all that goes into your yard. Name the animals that fly or race by. Count them together.
- Touch different fruits with closed eyes. Feel and smell the fruits. Guess what they are, and then enjoy an apple or orange.
- Make stands with different foundations ex. Paper vs. cardboard and predict which one will hold the book that will be placed on top of the medium better.
- Fill 4 buckets with water and take 4 objects to be placed in the bucket. Predict which one will sink or float. Explain why.
- Sing all childhood songs together. Stop the music at a line and have the child sing solo to complete the song.

Family Field Trip suggestions:

- Nature Centers offer diverse experiences and animals and ecosystems. Luckily, local ones are a short drive from CAS.
 - New Canaan Nature Center, New Canaan, Connecticut. <https://newcanaannature.org/>
 - Darien Nature Center, Darien, Connecticut. <https://www.dariennaturecenter.org>

- Farms appeal to all the senses in all the seasons.
 - Silverman Farm, Easton, Connecticut. <https://www.silvermansfarm.com/>
 - Flamig Farm, Simsbury, Connecticut. <https://flamigfarm.com/>

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PRE-KINDERGARTEN-4

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THE PRECIOUS PRE-KINDERGARTEN 4-YEAR OLD

The Pre-Kindergarten 4 year old is another building block in preparation for Kindergarten. Children at this age have a variety of interests, and they can begin to demonstrate preferences for one activity over another. They are playful, and their ability to communicate explodes during this year. The preschool 4 child is able to appropriately communicate not just wants and needs, but feelings and experiences. The 4-year-old child is excited by the world around him/her, and their zest for life is a wonder to watch. During this important year, letters and numbers are introduced. Your child will work a great deal with colors, shapes and sizes. He/she will also begin to understand sequencing (first, middle, last). Pre-reading skills are developed at this time. Students work on rhyming sounds, and they listen to and talk about stories. Many preschoolers can read their own names and some simple words. Early writing and rote counting are also introduced.

As parents, you have a vital role in support of your child's education. Continue to read with him/her. Give your child the opportunity to make simple choices, such as choosing what to wear, what games to play or what snack to eat. Have a steady bedtime and mealtime routine/schedule, and be clear and consistent when disciplining your child. It is very important at this age and going forward to limit television and computer time, or "screen time, to just one to two hours a day. Monitor what your child is watching, and take advantage of parental controls on apps and devices.

The preschool child is a wondrous, joyous creature. Enjoy the world right along with them.

PRE-KINDERGARTEN 4

LANGUAGE ARTS

SKILLS

Students will be able to:

- Understand an increasing variety and specificity of words for objects, actions and attributes encountered in both real and symbolic contexts.
- Understand increasingly complex sentences that include 3-4 concepts
- Use an increasing variety and specificity of accepted words for objects, actions and attributes encountered in both real and symbolic contexts
- Use more complex words to describe the relationships between objects and ideas
- Use basic grammar rules including subject-verb agreement, tenses, regular and irregular past tense, irregular plurals
- Initiate, maintain and end conversations by repeating what other person says and/or by asking questions
- Use language to share ideas and gain information
- Independently choose to “read” books and select a variety of texts including fiction and nonfiction
- With prompting and support, retell familiar stories, including story elements and/or share key details from informational text
- Know how print is read (left to right, top to bottom, front to back)
- Know that books have titles, authors, illustrators or photographers
- Recognize words as a unit of print and that letters are grouped to form words
- Identify some familiar printed words out of context
- Begin to use awareness of letter sounds along with pictures to read words in text
- Recognize and name known letters of the alphabet in familiar and unfamiliar words
- Make some letter-sound connections
- Produce rhyming words or words that have same initial sound
- Recognize which words in a set of words begin with the same sound
- Distinguish syllables in words
- Draw original stories with a beginning, middle and end
- Use early developmental spelling. May use one letter for the initial or final sound to represent whole word

CONTENT

- Word Comprehension
- Language Comprehension
- Vocabulary
- Expression of Ideas, Feelings and Needs
- Language Structure
- Conventions of Conversation

- Language for Interaction
- Interest and Engagement with Books
- Understanding of Stories or Information
- Book Concepts
- Print Concepts
- Letter Recognition
- Phonological Awareness
- Drawing and Writing

The following are suggestions that you can do with your child to reinforce the Language Arts skills and content:

- Write a relative a card.
- Write your name in chalk on a blacktop.
- Take a family weekly trip to the local library to see what's new there.
- Write your teacher a holiday card. Sign your name.
- Listen to limericks together.
- Go caroling.
- Have a tea party; invite a friend with a handwritten invitation.
- Read aloud nightly.
- Create a name bracelet for friends and with a friend.
- Identify the license plate letters on a trip.
- Make a microphone out of tinfoil and sing a favorite song.
- Play games
 - 20 questions with emphasis on the sound of a letter.
 - I see an object with the "B" sound...
 - Pictionary
 - Charades
 - See the Movie & Read the book at the same time.

Family Field Trip suggestions:

- Check for Children's Theatre Performances & Retell the Storyline & Put on your Own Version of the Show
- Ridgefield Playhouse, Ridgefield, Connecticut. <https://ridgefieldplayhouse.org/>
- Westport Country Playhouse, Westport, Connecticut. <https://www.westportplayhouse.org/>
- Disney on Ice and other Storyline Show Events at Total Mortgage Arena, Bridgeport, Connecticut. <https://www.totalmortgagearena.com/>
- Socialize, Put your Signature on the Art, & Share Your Works of Art Verbally
- Hands on Pottery, Darien, Connecticut. <http://www.hopct.com/>
- Happy Hands Art and Pottery, Wilton, Connecticut. <https://www.hhpottery.com/>

PRE-KINDERGARTEN 4

MATH

SKILLS

Students will be able to:

- Say the number sequence up to at least 20
- Count up to 10 using one-to-one correspondence to count accurately
- Count out a set of objects up to five
- Recognize written numerals up to at least 10
- Recognize and name, without counting, the number of objects in collections of up to at least five items.
- Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same.
- Use real world situations and concrete objects to model and solve addition and subtraction problems up through five.
- Compare measurable attributes of two or more objects and describe the comparison using appropriate vocabulary (longer/shorter, same length, heavier/lighter, same weight, holds more/less/same amount)
- Represent data using a concrete object or picture graph according to one attribute
- Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute

CONTENT

- Counting
- Number names
- Written Numerals
- Recognition of Quantity
- Comparison
- Number Operations
- Measurement
- Data
- Sorting, classifying, and patterning
- Spatial Relationships
- Identification of Shapes
- Composition of Shapes

The following are suggestions that you can do with your child to reinforce the Math skills and content:

- Take a Walk in the Park or at the Beach. I met.... describe the people and dogs you meet by stature: color of hairheight & dog breeds.

- Identify the license plate numbers you see along a trip. I noticed... numbers, states, colors....
- Hands on Building: Build a log cabin with lego logs and count the logs after reading the The Three Little Pigs. Can you huff and puff and blow the house down?
- Roll the dice & Count the numbers to total the numbers. Take turns playing the game.
- Draw 6 rectangles on construction paper & insert categories of stickers. Count how many are in each rectangle. The next day, draw circles & glue pompoms by colors into the circles. The next day, draw triangles! Etc. Learn shapes while counting.

Family Field Trip suggestions:

- Count live animals in nature museums and life-size statues of dinosaurs who lived long ago.
- Stamford Nature Museum, Stamford, Connecticut. <https://www.stamfordmuseum.org/>
- Darien Nature Museum, Darien, Connecticut. <https://www.dariennaturecenter.org/>
- Dinosaur State Park, Rocky Hill, Connecticut. <http://www.dinosaurstatepark.org/>
- Take another walk in your local park; count the people you pass. Go to the nearby town and compare how many were in your park vs. the town next door.
 - Calf Pasture Park, Norwalk, Connecticut.
<https://www.norwalkct.gov/2094/Calf-Pasture-and-Shady-Beach>
- Take a walk around your neighborhood and count the squirrels who seem to be busy all four seasons.

PRE-KINDERGARTEN 4

SCIENCE

SKILLS

Students will be able to:

- Define a problem to be solved including details and limitations to be considered
- Engage in collaborative investigations to describe phenomena or to explore cause and affect relationships
- Give evidence from observations or investigations
- Begin to distinguish evidence from opinion
- Group and classify living things based upon features, providing evidence to support groupings
- Provide examples of how animals depend on plants and other animals for food
- Make predictions and conduct simple experiments to change direction, speed and distance objects to move
- Evaluate the appropriateness of a material for a given purpose based upon its properties
- Give examples of ways in which weather variables (hot/cold temperatures)
- Explore how humans' use of natural resources impacts the environment (If we catch all the salmon, this can no longer be a food source. Cutting down trees can cause erosion.)

CONTENT:

- Questioning and Defining Problems
- Investigating
- Using Evidence
- Unity and Diversity of Life
- Living Things and Their Interactions with the Environment and Each Other
- Energy, Force and Motion
- Matter and its Properties
- Earth's Features and the Effects of Weather and Water
- Earth & Human Activity

The following are suggestions that you can do with your child to reinforce the Science skills and content:

- Watch the Sunset together. Early birds may watch the sunrises. What happens when the moon disappears?
- Observe flags or wind chimes for movement and wind direction. What colors are on the flags?
- Catch fireflies in a jar with holes and watch them flicker before returning them to nature. Count how many you catch. Why are there so many? So few? Predict how many will fly tomorrow.
- After a rainstorm, count the worms. Pick one up if you wish. How do they wriggle? Why don't they walk like humans?

- Visit a butterfly garden that visits the Maritime Center, or watch the different ones flutter in your yard in spring. Let them land on you, but don't touch. Why?
- Birdwatch together. Blue Jay or Hummingbird? Which one eats birdseed?
- Find a starfish or crab while walking along the beach. Are they alive?
- Go to the fish store. Why do Betas live alone?
- Complete an art project, using safe scissors and various washable mediums (avoid Sharpies).
- What do you envision? Do you want to draw a wild animal or a housepet?
- Create an herb garden inside or out. Nurture the plants, observing their growth. How do they taste- basil vs. oregano, for instance?

Family Field Trip suggestions:

- Try growing your own garden after learning how plants grow from your local Nursery. Eden Farms, Stamford, Connecticut. <https://edenfarmsllc.com/>
- Visit animals you might now see in your backyard. Mead Farm, Stamford, Connecticut. <https://www.meadfarm.com/>
- Farmer's Markets are scheduled often in the summertime. Visit a local one, but check the availability each year. Bring home a vegetable, using your business and math skills, too! Stamford Farmers Market, Stamford, Connecticut, Saturdays 9-1 p.m. Atlantic Street, Landmark Square. <http://stamford-downtown.com/events/stamford-downtown-farmers-ma>
- Visit the Farm Stores on the Farms or the roadside vegetable stands on your roadtrips. Ask the locals how they grow their crops and taste the freshness of some fruits. Compare the prices to your local grocery store and count your change carefully. Lyman Orchard's Farm Store, Middlefield, Connecticut. https://lymanorchards.com/apple-barrel/?utm_source=google&utm_medium=organic&utm_campaign=gmb_listing&utm_id=gmb_listing (Lyman Orchards) (Middlefield, CT)
- How does your garden grow? Does it grow in each season? Botanical Gardens offer seasonal observations of plant growth. Bronx Botanical Gardens is right down the road and across the street from the Bronx Zoo. Park at Fordham University if the lot is full or take the train directly from the Stamford Metro Station to Botanical Garden stop.

Bronx Botanical Gardens, Bronx, New York.

https://www.nybg.org/event/ebony-g-patterson/?gclid=CjwKCAjwq4imBhBQEiwA9Nx1Bu4fTQF7UO1mT1IcKA0I6rU3dOpwgUyAL0pEhuhujq_zNUNbaTvveBoC2poQAvD_BwE

- Visit waterfalls in all the seasons and compare the state of the water.

Mianus River Park, Stamford, Connecticut.

<https://www.friendsofmianusriverpark.org/explore/directions>

Beyond Connecticut

Watermill Museum, Watermill, New York. <https://watermillmuseum.org/>

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THE KINETIC KINDERGARTNER

The Kindergarten year is a year of forming an educational foundation. It is the first step in supporting your child through many years of school and beyond. The most wonderful factor in the learning experiences in Kindergarten is that they are fun. You, as parents, should enjoy this period and share in the fun as you and your child expand his/her world.

Kindergarteners are investigative. They want to know the how and why of things. Therefore, The Catholic Academy of Stamford Kindergartners are exposed to age-appropriate developmental skills that will prepare them for reading, writing and working with numbers.

Kindergarteners are active and often restless. Their classes prepare them to work in cooperative groups. They are curious about their world and frequently ask questions to better understand it. They are genuine in their words and expressions, and the things they say can surprise you at times. They are absorbing both academic and social/relational concepts at a rapid rate during this time.

It is important not to look upon this year as “just Kindergarten”. The habits that your child acquires in Kindergarten will follow him/her throughout his/her education. It is vital to your child’s educational growth that you set routines including an established daily homework time. This period may include reading and/or coloring with your child, and importantly reviewing the day’s activities. The formation of this routine will establish strong study habits. It is also important to establish firm and concrete guidelines and limits for screen time. Excessive time on devices such as ipads and video gaming systems can impact a child’s attention, focus and socialization skills.

For five years you have lovingly raised and nurtured your child. It is now time to let your child pass through the important doorway to Kindergarten. It is natural that you may feel both joy and apprehension.

Kindergarteners are extraordinary individuals who will continually astonish you.

KINDERGARTEN LANGUAGE ARTS

SKILLS

Students will be able to:

- Use pictures and apply prior knowledge to gain meaning from print
- Trace and write letters and words with proper sizing, spacing and letter formation
- Identify letters and their corresponding sounds
- Use knowledge of sound-symbol relationships to form and read words
- Distinguish between concepts of print (letters, words, space between words)
- Communicate their thoughts through inventive spelling in simple sentences
- Listen to grade level stories
- Make predictions and draw conclusions about a story
- Identify grade level sight words
- Follow words from left to right and top to bottom on the printed page
- Identify book concepts (cover, title, author, and illustrator)
- Recognize the sequence of stories (beginning, middle, and end)
- Show appreciation for literature (fiction and nonfiction, fairy tales, poetry)
- Discuss and retell stories from emergent reader books
- Understand proper nouns and plural s endings
- Distinguish between plural and singular nouns
- Understand and use verbs correctly in sentences

CONTENT:

- Writing process
- Book concepts
- Directionality
- Reading purpose
- Reading comprehension strategies
- Beginning, middle and end of stories
- Genre
- Grade level sight words
- Rhyming words and word families
- Phonemic awareness
- Handwriting skills
- One and two step directions
- Grammar rules

The following are suggestions that you can do with your child to reinforce the Language Arts skills and content:


- Take your child to your local public library. Register him/her for his/her own library card. Meet the children's librarian, find the children's picture book section and check out some interesting books.
- Read the story, The Hungry Caterpillar, by Eric Carle. Make a puppet from an old sock. Have your child act out the story with the puppet.
- Check a wordless book out from the library. A wordless book has no text, only illustrations. Some suggestions are Bubble, Bubble by Mercer Mayer, Deep in the Forest by Brinton Turkle, The Snowman, by Raymond Briggs. Also, ask the librarian for additional titles. Let your child "read" the book to you by looking at the pictures and making up a story to accompany the pictures. Encourage your child to use many descriptive words.
- While driving in the car, play "Alphabet I Spy." Take turns telling each other what letter to hunt for and finding it.
- Have your child practice printing his/her first name (capital letter to begin the name and then lower case letters). When he/she has mastered this skill, teach him/her to print his/her last name, then the middle name. Move on to brothers', sisters', even pets' names.
- Practice rhyming with your child. Read rhyming books. (i.e. The Cat in the Hat, The Gingerbread Man, etc.) Make up nonsense sentences. You begin the sentence and your child completes it with a rhyming word. Example:
I have a parrot that likes to eat a _____ (carrot).
My mom made stew; it looked like _____ (glue).
- Play "Color Detective." Have your child find ten blue things in the living room. Vary the room, the color, and the number each time you play.
- Check a storybook with an accompanying tape out from the library. Set aside a time during the day to listen to the tape together as you follow along with the book.
- Have your child make his/her own storybook. Use inventive spelling and have your child illustrate the book.
- Discuss and retell stories from emergent reader books. Ask for details (character names, setting, and include something that happened at the beginning, middle, and end of each story)

- Purchase an inexpensive spiral notebook. Collect samples of environmental print that your child can “read” and glue them to the pages to make a scrapbook. Keep adding to the book. Environmental print is the print that we see all around us: the labels on the cereal or the peanut butter your child loves, the logo on a favorite fast food restaurant, and the stop sign at the corner. It is the print we recognize from the colors, pictures, and shapes that surround it. How many children recognize the red bull’s eye and lettering to say TARGET? This is the initial stage of reading.
- For more storybooks on every subject imaginable, see [A to Zoo Subject Access to Children’s Picture Books](#) by Carolyn Lima.

Family Field Trip suggestions:

- Anywhere becomes a story you can draw and write about!
- Pretend you are a sailor who navigates the seas and who has landed on Sherwood Island after visiting the Long Island Sound Shore Line at Sherwood Island, Connecticut. Enjoy a picnic that you have measured and prepared. .
<https://portal.ct.gov/DEEP/State-Parks/Parks/Sherwood-Island-State-Park>
- Tell all about your time from beginning, middle to end and draw your time in your storybook notebook after you have picked pumpkins at The Pumpkin Patch, CastleFarm, Newtown, Connecticut. <https://www.castlehillfarm.net/>
- March to a lively parade’s music and write a story about your local town’s Memorial Day Parade or St. Patrick’s Parade. Draw the characters you see. Check out your town’s parades date on your local government website.
- Listen to a tale at Storytime at Stepping Stones Museum, Norwalk, Connecticut. <https://www.steppingstonesmuseum.org/about-us-2/storytellers>
- Tour the Lockwood Matthews Mansion for their seasonal stories, including the Holiday Enchantment at the Mansion, Holiday Wonderland at the Mansion, and only for the very bravehearts, Ghostly Sightings Tours. <https://www.lockwoodmathewsmansion.com>

Virtual

- On a Rainy Day or long trip, Check out some StoryTimes on U-Tube
 FRANKLIN's Class Trip READ ALOUD
- Listen and learn with BrainPop Junior.
<https://jr.brainpop.com/science/animals/classifyinganimals/>

KINDERGARTEN MATH

SKILLS:

Students will be able to:

- Identify, describe, and compare shapes
- Recognize the geometric shapes
- Classify and compares shapes
- Create and composes shapes
- Describe measurable attributes of objects
- Classify and count objects
- Count to 100
- Write numbers to 20
- Identify the number of objects
- Compare objects and amount of objects
- Comprehend addition and subtraction
- Comprehend concepts of time and money
- Collect and use simple data
- Survey and record data
- Complete and interpret picture graphs, pictographs, and bar graphs
- Explore fraction concepts
- Explore events more likely, equally likely, or less likely to occur.
- Add numbers with sums to 12
- Subtract using numbers 0-12
- Recognize the value of a penny, nickel, dime, and quarter
- Count on by 1s to find the value of a group of coins
- Trade, compare, add, subtract money amounts
- Solve problems using a model
- Tell time to the hour (digital and analog)

CONTENT:

- Numbers 1-100
- Sort by size, shape, color
- Geometric shapes (circle, square, rectangle, triangle, sphere cone and cube)
- Color pattern and two and three shape patterns
- Position of words and the position of objects
- One-to-one correspondence

- Ordinal numbers 1st-10th to identify position
- Tables, graphs and tallies
- Equal parts, equal halves and equal shares
- Addition
- Subtraction
- Coin denominations
- Time

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Give your child a large supply of old buttons. Have him/her sort them by different properties: size, shape, color, or number of holes.
- Purchase an inexpensive spiral notebook to make a Shape Scrapbook. Divide the notebook into six sections and collect pictures of the six basic shapes: circle, square, rectangle, triangle, oval, and diamond. Have your child look through magazines/newspapers and find pictures of objects that represent each shape. Have your child cut out the pictures and glue them into his/her notebook.
- Make a paper chain with your child. Choose paper of three different colors and cut into one-inch strips. Decide in what order you will connect the links of your chain, and then repeat the patterns, i.e. red, yellow, blue and repeat, blue, blue, red and repeat.
- Count with your child whenever possible. Have him/her help set the table and count the silverware, count the books on a shelf, count toys, cars, beanie babies, etc. Be creative! Just get him/her counting and keep practicing. Practice counting to 20, then 30, then 40, then on and on and on.
- Have your child empty his/her piggy bank and sort the coins. Encourage your child to learn the name and value for each type of coin. Discuss the likenesses and differences of each type of coin (color, size, pictures, front and back).
- Take ten pieces of paper (any size) and write the numerals 1 to 10, one number on each piece of paper. Have your child make sets of objects for each number i.e.: draw the correct number of circles on the sheet that has the number 4 written on it, or using a hole puncher, punch the appropriate number of holes for each numeral. In addition, your child should practice giving you sets of 0-10 objects at your request, i.e. "Please give me 7 buttons."
- Write the numerals 1 to 12 clockwise on a paper plate. Cut hands from stiff paper or lightweight cardboard and attach to the center of the plate with a paper brad. Use this clock to practice "o'clock" times with your child.

- Place a variety of kitchen items (spoons, ladle, spatula, tongs, etc) in a paper bag. Have your child draw out two objects at a time and then determine which is the larger/smaller of each pair. Make a pile of “small objects” and a pile of “large objects.” Try this activity again with new items and compare short/tall or long/short or light/heavy.
- Teach your child to write his/her telephone number.
- Let your child help you fix a meal or snack. Have your child cut as many things as possible into equal pieces.

Family Field Trip suggestions:

- It is time to visit The American Clock and Watch Museum, Bristol, Connecticut. <https://www.clockandwatchmuseum.org/> Clocks come in all shapes and sizes. Do the clocks all tell the same time?
- If you do not want to make a mess in the kitchen, bake at Nora’s Ovenworks, Stamford, Connecticut. <https://www.norasovenworks.com/> Cook and decorate your own cupcakes. *Ask about allergens.
- Visit your local bakery; the sights and aroma can be stimulating to your palate! DiMare Pastry Shop, Stamford, Connecticut and Greenwich, Connecticut locations <http://www.dimarepastry.com/> *Ask about allergens.
- A rainy day offers a trip to a crafts’ store and respite from the sun: Michael’s Arts and Crafts Store, Stamford, Connecticut. <https://locations.michaels.com/ct/stamford>
- Windham Textile and History Museum, Wilhamtic, Connecticut. <https://millmuseum.org/>
- Traveling? Museums in fashion design and costumes are located in most major cities.
- Nature Walks are wonderful ways to observe the natural world to record data.
 - How many trees have the leaves turning in the fall?
 - How many leaves did you collect?
 - Trace a leaf when you get home.
 - Which trees are larger?
 - Count your steps while you walk along the trail and compare those to your hiking partner. Remember: never hike alone!
 - Cranbury Park, Norwalk, Connecticut. <https://www.norwalkct.gov/2093/Cranbury-Park>
 - New Canaan Waveny Park, New Canaan, Connecticut. https://www.newcanaan.info/departments/recreation/facilities_parks_and_permits/waveny_park.php (Waveny Park)

- Special rocks were placed along the forest trails. Can you find them? Count them. Put your own painted one along the wooded trails.
- Shiki Hibachi Restaurant, Stamford, Connecticut.
<http://www.shikistamford.com/Default.aspx> (Shiki Hibachi Restaurant) Experience food all types of food cooked in front of you at a Japanese Hibachi Restaurant
- Take a trip after summer and find unique exhibits and agricultural action for everyone in this upstate Fall fair: The Big E <https://www.thebige.com/>

KINDERGARTEN SCIENCE

SKILLS:

Students will be able to:

- Identify the difference between solid, liquid and gas
- Identify the five senses
- Identify physical changes of water
- Observe and record the weather
- Identify, compare and contrast weather conditions
- Identify push and pull
- Identify how fast or slow something goes
- Recognize the stages of plant life
- Define the basic needs of a plant
- Recognize the stages of the butterfly

CONTENT:

- Properties of Matter
- Liquid, solid and gas
- Smell, taste, touch, sight and hearing
- Weather
- Force and Motion
- Living & Non-living things
- Plant Life Cycle
- Elements needed for seeds to grow (soil, light, water)

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Discuss the number of legs that animals could have. Visit the zoo. As you travel through the zoo keep a list of all the 2, 4, or even zero legged animals that you see.
- Think of all the ways that animals move (swim, fly, crawl, run, hop). Have your child think of 2 to 3 animals that would be examples for each type of movement.

- Explore your backyard for "creepy creatures." Help your child find backyard bugs on plants, flowers, in the ground. Make a "Backyard Bug Book." Have your child draw the pictures. You can add observations about each bug (size, color, number of legs, how it moves)
- Plant flower seeds together in a milk carton. Talk about all of the things needed to make a plant grow (water, soil., sunlight)
- Take your child grocery shopping. Help your child make nutritious food selections. Discuss the difference between healthy and unhealthy foods.
- Pick one of the five senses (sight, hearing, smell, taste, touch). Have your child think of all the ways he/she uses that sense. Make a list.

Family Field Trip suggestions:

- The Science Center, Hartford, Connecticut. <https://ctsciencecenter.org/>
Visit the Discovery Room at the Science Center in Hartford. Spend time interacting with your child and the hands-on displays.
- Beardsley Zoo, Bridgeport, Connecticut. <https://www.beardsleyzoo.org/>
Bring your lunch and enjoy this smaller zoo that rehabs animals.
- Norwalk Maritime Aquarium, Norwalk, Connecticut. <https://www.maritimeaquarium.org/>
- Grade A SuperMarket, Stamford, Connecticut.
<https://www.shoprite.com/sm/pickup/rsid/3000/gradeamarkets/> Take a drive up the road from school to shop and to learn. You might see a CAS friend.
- Rowayton Market has a different vibe than the large grocery store. Compare and contrast offerings at many grocery stores, including Trader Joes and Whole Foods. Gourmet foods and a breakfast place along the river exist here in this smaller local market. Rowayton, Connecticut. <https://rowaytonmarket.com/>
- Communities may grow their own gardens. Take a walk by the Darien Community Garden located off the Boston Post Road in the middle of town in Darien, Connecticut. <https://www.google.com/search?q=darien+vergatvle&oq=darien+vergatvle&aqs=chrome..69i57j0i13i30j0i390i650l5.5267j0j4&sourceid=chrome&ie=UTF-8#rllm=17551327193119522795>

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 1

Published, September, 2023

Patricia E. Brady, Principal

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Stamford, CT 06905**

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THE FASCINATING FIRST GRADER

The first grade represents a year of new beginnings. First graders are exhilarated when they learn something new. In Kindergarten, the foundations of reading were developed. In first grade, students grow those skills to become true readers. They work with numbers, learn about our community and their planet and, most importantly, they expand their knowledge of Jesus. Their enthusiasm is evident and it spreads throughout the classroom and in your family.

First graders are creative. Their ability to imagine stories and invent games is unlimited. Therefore, it is important that you continue to cultivate this sense of wonder in your child. You can assist your child to explore their world in simple ways. Introduce him/her to the joy of learning by accompanying him/her to the library, museums, science center and zoo.

The first grade classroom's students and teacher become a vital part of your child's life. First graders are generous and will share their friendship, thoughts, and feelings with people of all ages. They are eager to succeed and need plenty of encouragement.

Keep in mind that your child is extremely impressionable. It is important that you monitor what your child watches online, on television, at the movies, and in video games.

Your child will astound you with what he/she has been taught, what he/she will observe, and what he/she can do with those tools.

FIRST GRADE LANGUAGE ARTS

Skills:

Students will be able to:

- Read and Comprehend text independently and proficiently
- Use a variety of strategies to comprehend, interpret and evaluate text
- Analyze the structure of texts
- Define and apply content related words (memory, high frequency and sight)
- Trace and write letters/words using the correct letter formation
- Assess how a point of view or purpose shapes the content and style of a text
- Use a variety of strategies in written language to communicate effectively
- Produce clear and coherent writing
- Use age appropriate grammar and increasingly complex phrases and sentences
- Identify letter sounds
- Distinguish rhyming elements
- Blend sounds to form words
- Use letter sound knowledge to decode/encode words
- Read text with developmentally appropriate rate and accuracy
- Develop and strength writing by planning, revising, editing and rewriting
- Form upper and lower case letters using proper conventions of print
- Communicate orally using standard English
- Speak clearly and use appropriate volume
- Speak in complete sentences
- Identify the beginning, middle and end of stories
- Make predictions and draw one's own conclusions
- Distinguish between fiction and nonfiction text
- Demonstrate proper size, spacing and letter formation in manuscript writing

Content:

- Writing Process
- Literature
- Grammar
- Phonics
- Spelling
- Handwriting

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Visit the library. Get a library card in your child's name and one for yourself if you do not have one. Check out books for the whole family to read. Be sure to introduce your child to the librarian and ask about special programs the library has for children.
- Write notes to your child and encourage written responses. Have your child help with grocery lists and have him/her help read the items as you shop. Let your child help prepare simple recipes – encourage him/her to follow the proper sequence of the directions.
- Tell your child stories about your parents and grandparents. Reminisce about when you were little. Describe things that happened at school involving teachers and subjects you were studying. Have your child tell you stories like those you have told. Be enthusiastic and responsive. Ask questions.
- Look for weekly spelling words in the newspaper and have your child circle or highlight them. Write spelling words with finger paints and shaving cream.
- Play a game of “Consonant Bingo”. Fold a piece of paper to make 16 boxes. Have your child write a consonant in each box. When the boxes are filled in, say a word that begins with one of the letters and have your child cover that letter with a marker (cereal pieces, raisins, buttons, etc.). The game is over when a row of letters horizontally, vertically or diagonally has been covered.
- When your child draws a picture, help him/her label the things in the drawing or write a title for it. Compile pictures in a binder and occasionally have your child read the pictures to you or a sibling.
- Play “Make a Face” to practice long and short vowel rhyming words. Give your child a piece of paper and crayons or markers. Have your child draw the outline of a face on the paper. Explain that you are going to say a series of word pairs. Have him/her draw a part of the face when the word pair rhymes.
- Practice using opposites by having a special family race in the basement or outside. Tell each family member that everything about his race will be the opposite of what happens in a typical race. For example, the race will begin at the finish line and end at the starting line. The winner will be the person who crosses the line last. Participants should begin when someone yells “Stop”. Think of other appropriate phrases to include in other races.
- Write vocabulary lists on index cards and bind them with a metal ring. Keep a set in the car so your child can flip through them while riding from place to place.

Add new words like family names, names of stores or restaurants, etc. Look for vocabulary words on signs and billboards.

- Schedule a weekly family reading time. Read aloud or with your child any of the following:
 - Frog and Toad by Arnold Lobel
 - Amelia Bedelia by Peggy Parish
 - Nate the Great by Marjorie Weinman Sharmat
 - The Shrinking of Treehorn by Florence Parry Heide
 - The Stories Julian Tells by Ann Cameron
 - Dinosaurs Before Dark by Mary Pope Osborne
 - Amber Brown Is Not a Crayon by Paula Danziger
 - The Giving Tree by Shel Silverstein
 - Horrible Harry in Room 2B by Suzy Kline
 - Owen Foote, Soccer Star by Stephanie Greene

Family Field Trip suggestions:

Close to home:

- The Purple Bus- Stamford Public Library- can come visit the school or take students to and from the library.
- Poe Cottage, Bronx, New York <https://bronxhistoricalsociety.org/poe-cottage>
Learn history and about Edgar A. Poe. This famous author's house remains a national landmark in a bustling Bronx.
- Wave Hill, Bronx, New York <https://www.wavehill.org>
Meditate in these beautiful gardens overseeing the Hudson River. Imagine what the former residents, many of them famous authors, may have seen.
- Waveny Park, New Canaan <https://wavenyparkconservancy.org/visit/> Nestled in New Canaan, the hikes are rich with nature's splendors and art exhibits. Bring your dog!
- Reminder: Your Public Library Shows All the Events for All Ages All the Time! Make the library part of your weekly routine.
- Barnum Museum *Bridgeport*
The Barnum Museum fulfills P.T. Barnum's own mission: to inspire curiosity, creativity and confidence through instructive entertainment. [Barnum Museum website](#)
- Beardsley Zoo *Bridgeport*

More than 300 animals representing primarily North and South American species. Come learn about our many endangered and threatened species, which include the Amur (Siberian) tiger, Andean condor, Ocelot, Red wolf, Andean (spectacled) bear, Maned wolf, and Golden lion tamarin. [Beardsley Zoo website](#)

- Discovery Museum *Bridgeport*
From three floors of hands-on fun with science to daily Planetarium shows, all include with admission to the museum! Add to that our first class educational programs and Connecticut's only Challenger Learning Center and the Discovery Museum is a stop that can't be missed. A variety of programs are available to schools, camps, scout troops or any other group interested in an unmatched experience! [Discovery Museum website](#)
- Housatonic Museum of Art *Bridgeport*
The Museum consists of The Burt Chernow Galleries and a vast collection of works of varied mediums and styles that are displayed throughout the College. This provides a colorful and stimulating landscape and learning environment for our HCC students as well as visiting students from area schools. [Harriet Beecher Stowe Center website](#)
- Mark Twain House & Museum *Hartford*
A museum dedicated to the work, life and times of author Mark Twain [Mark Twain House & Museum website](#)
- Museum of Connecticut History *Hartford*
At the Museum of Connecticut History, you'll find exhibits that trace the growth of the State and its role in the development of the nation. The Museum focuses on Connecticut's government, industrial and military history.

Virtual:

[Mo Willems](#)

[Ivan - Wild Within - Zoo Atlanta](#)

[Storyline Online](#)

FIRST GRADE MATH

SKILLS

Students will be able to:

- Read and write numerals up to 120
- Count, compare, and order whole numbers to 100 with understanding of place value
- Identify equal amounts and unequal amounts between groups of objects and numbers
- Recognize patterns, relationships, and position of numbers to 100
- Add and subtract within 20 using a number line and ten frames
- Memorize math facts 0-20 to fluently add and subtract within 20
- Comprehend relationship between addition and subtraction to solve simple word problems using modeling and problem-solving strategies
- Survey and record information with one to one correspondence and interpret data
- Identify and compose two- and three-dimensional geometric shapes (circle, square, rectangle, triangle, trapezoid, hexagon) and solid figures (sphere, cylinder, cone, cube, pyramid, rectangular prism)
- Distinguish attributes (side, vertex, face, edge, symmetry) of geometric shapes
- Demonstrate reasoning with location, directions and positions of objects (slide, turn, flip, roll, stack)
- Demonstrate understanding of coin denominations, count the value of a group of coins to one dollar, compare money amounts, and make fair trades
- Tell time to the hour and half hour using analog and digital clocks
- Determine time patterns, elapsed time, and estimated time to complete common tasks
- Use a calendar to demonstrate understanding of relationship of days, weeks, and months
- Measure and compare length, capacity and temperature with nonstandard and standard units
- Recognize, partition, and name parts of whole or equal parts of a set (halves, thirds, fourths)
- Add and subtract two-digit whole numbers with and without regrouping

CONTENT

- Numerals and number words
- Place value to 10
- Even and odd numbers
- Skip counting by 2, 5, 10
- Ordinal numbers: 1st to 31st
- Patterns and relationships
- Comparison: equal, greater than, less than
- Addition: sums to 20
- Subtraction: from up to 20
- Word problems and problem solving strategies using addition and subtraction
- Graphs: tallies, bar graphs, picture graphs and pictographs

- Data analysis: range, mode, median
- Geometry: open and closed figures, symmetry
- Money: Coin denominations (penny, nickel, dime, quarter) and the dollar
- Time: to the hour and half hour
- Calendar: days, weeks, months
- Measurement: Nonstandard units (paper clips, unifix cubes); Standard units (inch, foot, cup, pint, quart, liter, pound, kilogram, centimeter, degrees Fahrenheit)
- Whole and Fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$
- Two-digit addition and subtraction with and without models

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Count and record traffic that passes outside your home during a day. Record, on a tally sheet, different types of vehicles-cars, vans, trucks, bicycles, motorcycles.
- Practice counting backwards by observing the digital clock on a microwave as various foods are cooking.
- Play a game of Money Match. The object of the game is to be the first player to earn a set amount (20 or 30 cents is a good amount). The first player rolls a die and gets the number of pennies shown on the die. Players take turns rolling the die to collect additional coins. As each player accumulates 5 pennies, the pennies are traded for a nickel. The first player to reach the set amount wins. This game can also be played with nickels and dimes.
- Help your child look for the numbers 1 - 100 in the newspaper. Cut the numbers out and glue them in order onto a large piece of paper. Try counting by 2's, 5's, and 10's, also.
- Practice a quick mental computation by adding up the numbers on a license plate.
- After a trip to the grocery store, practice estimation with bags full of groceries. Have your child guess how many objects there are in a bag. Ask: *Is it full? Could it hold more? Could it tear if you put more in it? Why do some bags hold more or less than others?*
- Have your child collect information and picture it on a graph. Choose an inherited family characteristic, hair color for example. Count how many people in the family have different hair colors. Make a graph. For example, if 5 people have brown hair, draw 5 heads side by side to show these five people. Do the same for the other hair colors
- Make flash cards for addition and subtraction facts to 12. Play games with the cards to commit the facts to memory.

- Using clay, make circles, triangles, squares and practice dividing them into halves, thirds, fourths. Do the same activity after making a batch of bread or pizza dough with your child. Have him/her measure the ingredients.
- Read aloud to your child any of the following books 'and look for patterns, use of addition and subtraction facts, fractions, geometric shapes, telling time, coins, problem solving:

Amelia's Nine Lives by Loma Balian

The Dog Who Had Kittens by Polly M. Robertus

Can You Imagine...? by Beau Gardner

Sylvester and the Magic Pebble by William Steig

Evan's Comer by Elizabeth Starr

If You Made a Million by David M. Schwartz

The Complete Hickory Dickorv Dock by Jim Aylesworth

Eating Fractions by Bruce McMillan

The Half-Birthday Party by Charlotte Pomerantz

A Million Fish ... More or Less by Patricia C. McKissack

Family Field Trip suggestions:

- **Discovery Museum *Bridgeport***

From three floors of hands-on fun with science to daily Planetarium shows, all include with admission to the museum! Add to that our first class educational programs and Connecticut's only Challenger Learning Center and the Discovery Museum is a stop that can't be missed. A variety of programs are available to schools, camps, scout troops or any other group interested in an unmatched experience! [Discovery Museum website](#)

- **American Clock and Watch Museum, *Bristol***

Step back in time with a visit to the American Clock & Watch Museum, Inc. An authentic early American sundial garden complete with period herbs and flowers adds seasonal beauty to the museum's grounds. The ticking, striking and chiming of the timepieces will be a treat to your eyes and ears. Of particular interest is our gateway exhibit, "Connecticut Clockmaking and the Industrial Revolution," which tells the story of a young man's dream and its impact on the clock industry and the American system of manufacture. One of our visitors' favorite displays is our two-story tower clock that

provides a close-up look at what makes a clock "tick". Recognized as the first museum in America to be devoted to horology, the American Clock & Watch Museum, Inc. houses the finest collection of American manufactured clocks on display. [American Clock and Watch Museum website](#)

- **Danbury Railway Museum *Danbury***

The Danbury Railway Museum is a non-profit organization staffed solely by volunteers. The Museum offers railroad history, tours, train rides, a collection of original and restored rolling stock, and opportunities for hands-on railroad work at "12 inches to the foot" scale. [Danbury Railway Museum website](#)

Beyond CT

- **The Intrepid Museum**

https://www.intrepidmuseum.org/Purchase-Tickets?PartnerID=1343&gclid=CjwKCAjw2K6lBhBXEiwA5RjtCcrXIKhrOYJZpYgFnKbxU1a1gmipXtBORAW_HfCYgWrTVhAz_bO2XWhoCvgIQAvD_BwE

Connections: How many planes did the Intrepid carry, distance traveled, how many men worked the ship.

- **The New York Botanical Gardens: *Numbers in Nature***

https://www.nybg.org/event/ebony-g-patterson/?gclid=CjwKCAjw2K6lBhBXEiwA5RjtCYpjVg_bKnfje-9r41jOXHymCwHiubJeDcOjBic5libM9JR286zUxoCIWsQAvD_BwE

Connections: Fractals, symmetry, patterns, shape, and line

Virtual:

<https://momath.org/visit/>

<https://stressfreemathforkids.com/members-only/virtual-math-field-trips/>

Stress Free Math site has different options for virtual math field trips

FIRST GRADE SCIENCE

SKILLS:

Students will be able to:

- Demonstrate understanding of grade level content
- Describe how the five senses are used to gather information
- Identify how sound is made, describe sounds and use sound
- Observe light and identify uses of light
- Identify how light interacts with different materials
- Observe objects and their patterns of movement in the sky
- Describe how days have different lengths during different seasons
- Identify types of weather and how the weather changes during seasons
- Relate the parts of plants and animals that help them move and survive
- Describe needs of plants and animals
- Identify where plants and animals live
- Describe how parents and offspring are alike and different
- Demonstrate ability to predict, experiment, and record information
- Use materials and resources appropriately to problem solve
- Participate in investigations and discussions

CONTENT:

- Scientific Method
- Experiments
- Scientific Tools: ruler, balance, graduated cylinder, thermometer
- Sound
- Light
- Sky
- Seasons
- Weather
- Animal and Plant Life Cycles

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Find a plant or an animal your child can care for at home. Talk about what a living thing needs to be healthy.

- Cook with your child. Talk about the use of your senses, measuring, and chemical changes of the ingredients.

- Have your child listen to the weather on the radio or television and give a morning weather report to the family. Talk about appropriate clothes for that day's weather. Chart the high and low temperatures for the week. Use the newspaper to find daily temperatures of cities where family or friends live.
- Visit a botanical garden and look for different sizes, shapes and textures of various plant parts-roots, stems, leaves, and flowers.
- Watch and discuss the comings and goings of backyard animals in the four seasons. Look for animal tracks and try to identify what animal made the tracks.
- Consider one of the following magazine subscriptions for a birthday or Christmas gift:

3-2-1 Contact

Children's Television Workshop One Lincoln Plaza
New York NY 10023

Cricket, The Magazine for Children Box5296

Boulder, CO 80322-2961

Ranger Rick

National Wildlife Federation 1412 16th Street NW

Washington, DC 20036-2266

- Read aloud or with your child one of the following:

The Tiny Seed by Eric Carle

Over in the Meadow by Ezra Jack Keats

The Great Kapok Tree by Lynne Cherry

A Seed is a Promise by Claire Merrill

Swimmy by Leo Lionni

Hopper Hunts for Spring by Marcus Pfister

The Seasons of Arnold's Apple Tree by Gail Gibbons Charlie the Caterpillar by Dom DeLuise

Mirandy and Brother Wind by Patricia McKissack

Dolphin's First Day by Kathleen Weidner

Iva Dunit and the Big Wind by Carol Purdy

Endangered Animal by Sylvaine Perols

Solo by Paul Geraghty

Sweets and Treats by Bobbye Goldstein

Family Field Trip suggestions:

- Visit the Zoo and look for animals with different coverings-fur, scales, feathers, shells. Look for body parts that help animals move on land, in the air and in water.
- Visit The Stamford Nature Center and explore the nature trails to see changes in wildlife during each of the seasons. Get on their mailing list for family and child-centered classes and hikes.
- Visit a local farm and learn what different animals eat. Encourage your child to ask questions of the animals' caregivers.

Connecticut

- Stamford Nature Museum, Stamford, Connecticut. <https://www.stamfordmuseum.org>
Rotating festivals outdoors and a natural playground are busy all year long. Animals and the arts coexist peacefully. The night owls may view the stars at the observation deck. Reminder: Nature Centers are located in various towns. Check out your town or city's location.

New Canaan Nature Center, New Canaan, Connecticut

Darien Nature Center, Darien, Connecticut.

Jones Family Farm, Easton, Connecticut.

- **Connecticut Trolley Museum website**

Connecticut Trolley Museum *East Windsor*

It is the nation's oldest incorporated organization dedicated to the preservation of the trolley era. As a non-profit institution, its educational and historical aim is the establishment of a full scale operating street and interurban railroad system with the appropriate accessory equipment and buildings, to recreate an important phase of New England's business and social life from 1890 to 1945.

- **Essex Steam Train & Riverboat Essex**

Share your favorite pictures and memories from the only steam train and riverboat connection in the United States. The Essex Steam Train and Riverboat transports people on exciting excursions through the unspoiled Connecticut River Valley, a place designated as "one of the last great places on earth" by the Nature Conservancy. The steam locomotive pulls vintage coaches through the quintessential New England towns of Deep River and Chester, and the Becky Thatcher riverboat takes visitors past historic landmarks.

Beyond Connecticut

- Muscoot Farm, Katonah, New York <https://www.muscootfarm.org>
Enjoy the drive to Katonah, New York, to free parking and experience free animal and educational trails in this Westchester County Park.
- The Planetarium
- Air & Space Museum, Washington, DC

Virtual Field Trips

- Weather.com: Compare the States' Weather

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 2

Published, September, 2023

Patricia E. Brady, Principal

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THE SENSATIONAL SECOND GRADER

The second grade represents a year of exploration and investigation. The second grader is introduced to special information about Reading, Writing, Arithmetic, Language and thought development. They experience a big jump both in interest and ability. Their introduction to cursive writing becomes a great goal to achieve.

Second graders like to be read to but at the same time like very much to read to you. Being read to and reading to others can help your child to become a more prolific reader. In addition, it is in this grade that your child becomes extremely engrossed in what he/she is doing and seems to absorb almost everything that surrounds him/her.

Home and school now become two different spheres. It is important to keep in mind that your second grader may not be the expansive, communicative, outgoing person he/she was in first grade. It may be necessary to draw out discussions about their school day.

If, as a parent, you recognize that your child is having basic difficulty with reading, math and/or other subjects, it is important to act upon this quickly. Bring your concerns to your child's homeroom teacher. In consultation with the school counselor, he/she will advise you on a plan of action for your child's individual needs.

It is in the second grade that your child is prepared for the reception of the sacraments of Reconciliation and Eucharist. It is with much anticipation that your child and family will share the joy in receiving the graces from these sacraments. In preparation, it is important that you attend and participate in the scheduled parent meetings at your parish for the reception of the sacraments.

The second grader is now equipped to continue his/her academic and spiritual growth.

SECOND GRADE LANGUAGE ARTS

SKILLS:

Students will be able to:

- Read and comprehends texts independently and proficiently
- Use a variety of strategies to comprehend, interpret, and evaluate text
- Analyze the structure of texts, including how sentences, paragraphs, and larger portions of a text relate to each other and the whole
- Define and appropriately apply content-related vocabulary words, high frequency, and sight words
- Assess how point of view or purpose shapes the content and style of a text
- Analyze how two or more texts address similar themes of topics
- Use a variety of strategies in written language to communicate effectively to different audiences for different reasons
- Plan, revise, edit, rewrite, or try a new approach to strengthen writing
- Produce clear and coherent writing
- Draw evidence from texts to support analysis, reflection, and research
- Demonstrate proper size, spacing, and letter formation in manuscript writing
- Begin to use cursive lettering
- Communicate orally using Standard English
- Speak clearly and use appropriate volume
- Develop active listening skills
- Participate in a range of conversations, expressing ideas clearly
- Present information such that listeners can follow the line of reasoning
- Demonstrate command of the conventions of grammar and usage when speaking or writing
- Demonstrate command of the conventions of capitalization and punctuation when writing
- Comprehend and apply the sound-symbol relationship
- Correctly spell content-related vocabulary and sight words
- Understand and apply phonics and word analysis skills to decode/encode words

CONTENT:

- Grammar (sentence type and structure), nouns, verbs, adjectives, adverbs, conjunctions, homophones, regular and irregular plurals,
- Spelling using phonemic awareness
- Decode and apply all second grade phonics skills (ex-short/long vowels, r-controlled vowels, vowel diphthongs and digraphs, consonant digraphs, blends, silent consonants, suffixes, and prefixes)
- Grade level vocabulary
- Manuscript writing with a focus on legibility (shape, size, spacing, slant)
- Cursive writing with a focus on formation and legibility (shape, size, spacing, slant)

- Context clues
- Recognize plot (problem and solution; beginning, middle, end)
- Comprehension strategies including predicting, picturing, text features, answering questions about a text, main idea and supporting details, cause and effect
- Identify lessons taught by a story, play, or fable. Identify between genres (fiction, nonfiction, realistic story, fantasy, poetry, directions)
- Sequencing events
- Use the writing process to plan, draft, revise, edit, and publish a story or report.
- Dictate or write expository, narrative, or informational texts, opinion pieces, persuasive opinions, and poems.
- Read with natural phrasing, accuracy, expression, appropriate stress, with proper pitch and volume, and at an appropriate rate. They will observe punctuation and use typographical clues.

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Purchase Frank Schaeffer's basic sight words flash cards (beginning and second level).
- To encourage sequencing, have your child tell about vacations using photos and adding sentences for additional detail.
- Practice Zaner-Bloser manuscript and cursive writing copying things such as shopping lists and recipes. Supplemental books are available online.
- Dramatize stories that your child reads by creating puppet shows and plays.
- As you travel, read billboards and signs together. Play a game like hunt for the letter "A". Keep score. Change the hunt according to short/long vowels.
- Using Dr. Seuss' Green Eggs and Ham, challenge your child to read parts of the book and replace all "I will not's..." with contractions.
- Begin reading early chapter books. Keep a family journal of favorite episodes.

Family Field Trip suggestions:

- Visit your local branch library, acquire a calendar of events and participate in selected activities. Visit the library on a regular basis. Model your own enjoyment of reading for your child by reading together daily.
- Poe Cottage, Bronx, New York <https://bronxhistoricalsociety.org/poe-cottage>
Learn history and about Edgar A. Poe. This famous author's house remains a national landmark in a bustling Bronx.
- Reminder: Your Public Library Shows All the Events for All Ages All the Time!
Make the library part of your weekly routine.

- **Barnum Museum *Bridgeport***

The Barnum Museum fulfills P.T. Barnum's own mission: to inspire curiosity, creativity and confidence through instructive entertainment. [Barnum Museum website](#)

- **Beardsley Zoo *Bridgeport***

More than 300 animals representing primarily North and South American species. Come learn about our many endangered and threatened species, which include the Amur (Siberian) tiger, Andean condor, Ocelot, Red wolf, Andean (spectacled) bear, Maned wolf, and Golden lion tamarin. [Beardsley Zoo website](#)

- **Discovery Museum *Bridgeport***

From three floors of hands-on fun with science to daily Planetarium shows, all include with admission to the museum! Add to that our first class educational programs and Connecticut's only Challenger Learning Center and the Discovery Museum is a stop that can't be missed. A variety of programs are available to schools, camps, scout troops or any other group interested in an unmatched experience! [Discovery Museum website](#)

- **Housatonic Museum of Art *Bridgeport***

The Museum consists of The Burt Chernow Galleries and a vast collection of works of varied mediums and styles that are displayed throughout the College. This provides a colorful and stimulating landscape and learning environment for our HCC students as well as visiting students from area schools.

[Harriet Beecher Stowe Center website](#)

Mark Twain House & Museum *Hartford*

A museum dedicated to the work, life and times of author Mark Twain.

[Mark Twain House & Museum website](#)

- **Museum of Connecticut History *Hartford***

At the Museum of Connecticut History, you'll find exhibits that trace the growth of the State and its role in the development of the nation. The Museum focuses on Connecticut's government, industrial and military history.

Virtual:

<https://storylineonline.net>

https://zooatlanta.org/virtual-experience/ivan-wild-within/?gclid=CjwKCAjw52mBhB5EiwA05YKo1rtDiiSrrjcp639l4gESf4JIvMOfV1aBL8vOli6OBe8uHLkyqvmRoCNqAQAvD_BwE

<https://kids.nationalgeographic.com/>

SECOND GRADE MATH

SKILLS:

Students will be able to:

- Comprehend place value and compare two and three digit numbers
- Fluently add and subtract within 100
- Comprehend relationship between addition and subtraction and can use modeling to solve word problems
- Demonstrate understanding of patterns and relationships
- Recognize shapes based on angles and faces
- Draw shapes based on attributes
- Partition shapes into equal shares
- Tell and write time to the nearest 5 minutes
- Identify and solve problems involving money
- Represent and interpret data in charts and graphs
- Measure, estimate, and compare length in standard units
- Relate addition and subtraction to length
- Draw conclusions about equal groups as a foundation for multiplication

CONTENT:

- Mental addition and subtraction within 20
- Strategies to solve one and two step problems
- Place value and comparison of two-digit numbers
- Addition and subtraction problems (with multiple steps)
- Fluently add and subtract within 100
- Inverse operations and fact families
- Commutative property
- Number sentences to represent relationships
- Growing and repeating patterns
- Number sentences to represent relationships
- Place value to add and subtract within 1000
- Addition up to 4 two-digit numbers
- Addition and subtraction of multiples of ten
- Even and odd numbers
- Skip Counting by 2s, 5s, 10s, 25s, 50s, 100s
- Addition to find the number of objects in an array
- Measurement (Standard and Metric)
- Capacity, weight, and temperature
- Whole numbers as lengths from zero on a number line
- Time to the nearest five minutes on a digital and analog clock
- Extend understanding and use of calendar and correctly write and read the date
- Money

- Line plots, picture, and bar graphs
- Surveys and data
- Angles and faces
- Fractions: Describe parts using halves, thirds, and fourths
- Shapes (two and three dimensional)

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Buy or make flashcards for addition and subtraction. Keep the ones your child needs work on someplace convenient (in the car, the kitchen, someplace you are with your child everyday) and drill these facts with your child.
- Use pennies, dimes, and dollars when helping your child with place value (ones, tens, and hundreds).
- Keep a change jar on the counter. Empty it once a week and have your child count it.
- Give your child \$100 in "pretend" money and do some catalog or online shopping. Help him/her subtract the amounts spent until the money is gone.
- Have your child tell you what time it is. Start with easy ones and move on as skills improve. Also often ask: "How long till ... ?" (lunch, bedtime, etc)
- Challenge your child to see who can find the most of a particular geometric shape around the house. Start easy ("How many rectangles in the kitchen?") Move on through squares, triangles, circles, etc.
- Empty out a bag of M&M's, skittles or jellybeans. Have your child sort the candies by color; then estimate how many there are in each group, count them and make a graph.
- Measure things. With a ruler, tape measure, or yardstick measure the length of the living room, the width of the TV, etc. Also, let your child measure ingredients when you cook.

Family Field Trip suggestions:

Close to Home

- **The The Glass House**
<https://fieldtripdirectory.com/destinations/connecticut/new-canaan/glass-house/>
Connections: Geometry, Symmetry, Shape, Line
- **Connecticut Air and Space Center** <https://www.ctairandspace.org/>
Connections: Distance, symmetry, shape
- **American Clock and Watch Museum, Bristol**

Step back in time with a visit to the American Clock & Watch Museum, Inc. An authentic early American sundial garden complete with period herbs and flowers adds seasonal beauty to the museum's grounds. The ticking, striking and chiming of the timepieces will

be a treat to your eyes and ears. Of particular interest is our gateway exhibit, "Connecticut Clockmaking and the Industrial Revolution," which tells the story of a young man's dream and its impact on the clock industry and the American system of manufacture. One of our visitors' favorite displays is our two-story tower clock that provides a close-up look at what makes a clock "tick". Recognized as the first museum in America to be devoted to horology, the American Clock & Watch Museum, Inc. houses the finest collection of American manufactured clocks on display. [American Clock and Watch Museum website](#)

- **Danbury Railway Museum *Danbury***

The Danbury Railway Museum is a non-profit organization staffed solely by volunteers. The Museum offers railroad history, tours, train rides, a collection of original and restored rolling stock, and opportunities for hands-on railroad work at "12 inches to the foot" scale. [Danbury Railway Museum website](#)

Beyond CT

- **The Intrepid Museum**

https://www.intrepidmuseum.org/Purchase-Tickets?PartnerID=1343&gclid=CjwKCAjw2K6lBhBXEiwA5RjtCcrXlKhrOYJZpYgFnKbxU1a1gmipXtBQRAW_HfCYgWrTVhAz_bO2XWhoCvgIOAvD_BwE

Connections: How many planes did the Intrepid carry, distance traveled, how many men worked the ship.

- **The New York Botanical Gardens: *Numbers in Nature***

https://www.nybg.org/event/ebony-g-patterson/?gclid=CjwKCAjw2K6lBhBXEiwA5RjtCYpjVg_bKnfnje-9r41jOXHymCwHiubJeDcOjBic5libM9JR286zUxoCIWsQAvD_BwE

Connections: Fractals, symmetry, patterns, shape, and line

Virtual:

<https://momath.org/school-groups/online-field-trips/>

SECOND GRADE SCIENCE

SKILLS:

Students will be able to:

- Demonstrate understanding of grade-level content
- Demonstrate ability to predict, experiment, and record information
- Use materials and resources appropriately to problem solve
- Participate in investigations and discussions
- Tell the difference between a solid, liquid, and gas
- Describe matter by its properties
- Describe Earth's surfaces
- Identify different bodies of water
- Describe what can cause land to change (quickly & slowly)
- Describe some plant and animal life cycles
- Explain that plants need sunlight, water, air, space, and nutrients
- Explain that animals need food, oxygen, water, and shelter
- Identify ways some animals can help plants reproduce

CONTENT:

- Properties of matter
- Scientific Method
- Technology
- Landforms
- Bodies of water
- Weather and erosion
- Plant life cycle
- Tadpole life cycle

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- When learning about weather, create a chart to make a log of weather and graph weather patterns.
- Visit a local Science Center and keep a log about all the interesting things you see.
- Take a trip to the airport and watch planes take off. Discuss the way planes work. Contact the airport for a possible tour.

- Watch the Discovery Channel together to learn about animals and their habitats. Visit a local Zoo.
- As a family, discuss good nutrition, cut out pictures of foods from magazines and glue them onto a Food Pyramid chart. It's also a good idea to observe food labels.
- Have your child plant and care for seedlings. Perhaps he or she could have a special section of the garden.
- Purchase a human body video (second grade level) to explain how the heart and lungs work.
- Observe the moon and stars at night, draw pictures and make notes of what child observes. (Visit a local planetarium)

Family Field Trip suggestions:

Tri-State

- Muscoot Farm, Katonah, New York <https://www.muscootfarm.org>
Enjoy the drive to Katonah, New York, to free parking and experience free animal and educational trails in this Westchester County Park.
- Stamford Nature Museum, Stamford, Connecticut. <https://www.stamfordmuseum.org>
- Rotating festivals outdoors and a natural playground are busy all year long. Animals and the arts coexist peacefully. The night owls may view the stars at the observation deck. Reminder: Nature Centers are located in various towns. Check out your town or city's location.
 - New Canaan Nature Center, New Canaan, Connecticut
 - Darien Nature Center, Darien, Connecticut.

Adventuring Beyond the Tri-State?

- The Planetarium
- Air & Space Museum, Washington, DC

Virtual Field Trips

- Weather.com: Compare the States' Weather

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 3

Published, September, 2023

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THE THRILLING THIRD GRADER

The third grade is a year of discovery. Third graders delight in problem solving and look upon each new area to be learned as an adventure. They are eager to learn and grow. Your child's remarkable capacity to live, learn and love is bottomless. Students in this grade often display a desire to lead and to investigate new things. This is also a critical time to build upon and strengthen the skills learned in prior grades.

Third graders strive to be the best they can be, and therefore, your constant encouragement is a special ingredient to your child's determination to achieve.

Third graders are exuberant about their peers, their teacher, their school, and their church. They are gracious with others and seek many friendships with people of all ages. It is at this age that your child will begin to develop close one-on-one friendships.

Students at this age are honest both in compliments and complaints. They express their opinions freely without hesitation. Encourage your child to continue to feel free to express him/herself and to develop and enjoy the flights of their imagination.

Third graders are ready to grow academically and creatively.

THIRD GRADE LANGUAGE ARTS

Skills:

Students will be able to...

- Read and comprehend text independently and proficiently
- Use a variety of strategies to comprehend, interpret, and evaluate text
- Analyze the structure of texts, including how sentences, paragraphs, and larger portions of the text relate to each other and the whole.
- Define and appropriately apply content-related vocabulary words, high frequency and sight words.
- Analyze how point of view or purpose shapes the content and style of a text
- Analyze how two or more texts address similar themes or topics.
- Use a variety of strategies in written language to communicate effectively to different audiences for different reasons.
- Develop and strengthen writing by planning, revising, editing, rewriting, or trying new approaches.
- Produce clear and coherent writing
- Draw evidence from texts to support analysis, reflection and research
- Communicate orally using standard English
- Speak clearly and use appropriate volume
- Present information such that listeners can follow the line of reasoning
- Participate in a range of conversations expressing ideas clearly and persuasively
- Demonstrate command of the conventions of grammar and usage when speaking or writing
- Demonstrate command of the conventions of capitalization and punctuation when writing
- Achieve proficiency in manuscript writing
- Demonstrate proficiency in writing cursive lettering
- Comprehend and apply the sound-symbol relationship
- Correctly spell content-related vocabulary and sight words
- Understand and apply phonic and word analysis skills to decode/encode words

Content

- Grammar (sentences (types and structure), subjects, predicates, nouns, verbs, pronouns, contractions, adjectives, adverbs, prepositions, articles, homophones)
- Spelling using phonemic awareness
- Cursive writing with a focus on legibility (shape, size, spacing, slant)
- Manuscript writing
- Five-step writing process
- Grade level vocabulary
- Vocabulary Strategies: context clues, figurative language, prefixes, synonyms, idioms, antonyms, root words, suffixes, and Greek and Latin roots

- Comprehension strategy: visualization, make, confirm & revise predictions, reread, summarize, ask, and answer questions,
- Comprehension Skills: Character, setting, plot, sequence, problem and solution, theme, point of view, author point of view, cause, and effect, compare and contrast, text structure.

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Visit the library together and participate in activities there such as the Summer Reading Program and Storytelling Hour.
- Write letters to friends and family members.
- After watching a movie or television program together, ask your child what the story was about. (Main idea)
- Encourage your child to keep a journal of his/her thoughts and feelings. Journal during family vacations.
- Give your child a practice spelling test at home before the weekly test.
- During car-rides, create “On the Spot Stories”. One person begins a story with an opening sentence such as “On the Fourth of July, the family went to the Stamford Parade.” Take turns adding sentences until an entire story is created. Encourage your child to be creative and descriptive.
- Read with your child daily. Take turns being the oral reader.
- Attend plays and musicals presented for children.
- Some suggested authors for Third Grade Readers are:

Judy Blume
 Beverly Cleary
 Roald Dahl
 Paula Danziger
 Kack Prelutsky
 Jon Scieszka
 Maurice Dendak
 Shel Silverstein
 Chirs VanAllsburg
 E.B. White

Family Field Trip suggestions:

In Connecticut:

[Sound Waters Sail](#)

Ask your child about some of the vocabulary words used on the sail. What vocabulary strategies can they use for new words? Ask them to describe their favorite parts of the sail or have them write a journal entry to remember their experience.

[Stamford All School Musical](#)

The All-School Musical is a unique, afterschool musical theater program that brings together Stamford public and private school students/residents from area schools. Each year, we mount a full-scale, professional-level musical under the guidance of theater professionals, educators, and dedicated volunteers. After the show, ask your child to summarize the story.

[Weir Farm](#)

Visit Connecticut's only National Park and the home and studio of America's most beloved Impressionist, J. Alden Weir. Walk in the footsteps of generations of world-class artists. Set amidst more than 60 acres of painterly woods, fields, and waterways, you'll soon see why Weir described his home as the "Great Good Place." Weir's farm is a national legacy to American Impressionism, the creative spirit, and historic preservation.

Outside Connecticut:

[World Awareness Children's Museum](#)

The museum space is divided into 7 exhibit areas; World Gallery, Home & Family Life, Animal Preserve Research Center, World Music, Textile Marketplace, World Fashion, and Art Studio & Gallery. Carefully prepared discovery guides to make your tour fun and informative. Create your own travel adventure, design a unique craft to take home, play games, hear stories, participate in puppet shows, dance, shop and so much more!

[The Color Factory](#)

Color Factory is a celebration for your senses. Tap into the joy of color through the expression of art to create experiences that make people of all ages smile, connect, remember, and feel like kids again. Expand your boundaries of perception, indulge you in play and discovery, and engage your senses in unexpected ways and have conversations with your child about their experience through it all.

[Sloomoo Institute](#)

Did you know slime can increase your child's ability to pay attention? The more senses involved when your child plays, the more connections their brains are making. Get all the benefits of slime while avoiding the mess of making it. Visit the Sloomoo Institute in NYC. Have your child sequence the events of the experience to help make those ELA connections.

Virtual:

[National Constitution Center](#)

THIRD GRADE MATH

SKILLS:

Students will be able to...

- Comprehend properties of place value to perform multi-digit arithmetic
- Identify patterns and relationships
- Comprehend the relationship between and solve problems including the four operations
- Fluently multiply and divide within 100
- Represent problems involving multiplication and division using algebraic symbols
- Compare two fractions with the same denominator 2, 3, 4, 6, 8
- Draw shapes based on attributes
- Demonstrate the ability to partition shapes
- Identify polygons based on categories and attributes.
- Develop an understanding of fractions as numbers
- Identify decimal place value

CONTENT:

- Place Value to the hundred thousands
- Estimation
- Comparing numbers
- Rounding numbers
- Addition – estimation, and adding three-digit numbers with and without regrouping
- Subtraction – estimation, and subtracting three-digit numbers with and without regrouping
- Multiplication properties
- Division Properties
- Measurement: Metric and Standard
- Time: To the hour, minute, quarter-hour, half-hour, and elapsed time
- Geometry: Identify lines, rays, and angles, Shapes: circles, polygons, and triangles
- Perimeter, Area, and Volume
- Multiplication: One, two, and three-digit numbers by one digit with and without regrouping
- Division: multi-digit quotients with and without remainders
- Graphs: pictographs, bar graphs, line graphs, line plots, and circle graphs
- Probability
- Range, Median, Mode, and Mean
- Fractions - terms, equivalent fractions, simplest form, estimating, comparing and ordering fractions, add /subtract like denominators
- Write mixed numbers in standard and word form
- Decimals: fractions as decimals. Subtract, add, multiply, divide, compare, and order decimals. Identify the hundredths place and write decimals greater than one

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Purchase and view Musical Multiplication with your child. The video is available online.
- Purchase any of the following audio tapes (depending on your family's music taste): *Multiplication Rock, Multiplication Country, Multiplication Rap*. All of the above can be found online.
- Purchase and play *Twenty-Four Math Games*.
- With your child, measure, log, graph the size of various rooms in your home. Log measurements in customary and metric measurement.
- Play *Multiplication Bingo*.
- Give your child \$25, escort him/her to the grocery store and have him/her plan budget, and develop a menu for your family's dinner.
- Bake cookies with your child using a favorite recipe; have your child compute the ingredients to double the recipe. On another day make the same recipe and have your child reduce the ingredients by half.
- Play flash card games for reinforcement of math facts (addition, subtraction, multiplication and division).
- Read aloud with your child:

Starry Messenger: A Book Depicting the Life of a Famous Scientist, Mathematician, Astronomer, Philosopher, Physicist, Galileo Galilei by Peter Sis

Family Field Trip suggestions:

MM2GO was created by the **National Museum of Mathematics (MoMath)**- an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum's innovative exhibits will engage visitors of every age, from 1 to 100! School Visit information on fractions and shapes can be found [here](#).

In Connecticut:

[Lutz Children's Museum](#) Lutz Children's Museum invites groups to explore culture, history, and the sciences through fun exhibits, programs, and more. STEAM education activities are also available.

[The Aldrich Contemporary Art Museum](#)

The Aldrich Contemporary Art Museum is one of the oldest contemporary art museums in the United States. Art and Math require the ability to recognize patterns and spatial reasoning.

[Bowlero](#)

Use a rainy day to head to the local bowling lanes. Ask your child to use both addition and subtraction to come up with the score for each frame before they return back to the waiting area.. Quiz them on how strikes or spares can change the score. Ask them what a 'perfect' game scores like (answer: it's $(10+10+10) \times 10 = 300$).

Outside of Connecticut:

[National Museum of Mathematics](#)

MoMath, the National Museum of Mathematics, is an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum's innovative exhibits will engage visitors of every age, from 1 to 100!

[Caramoor](#)

Caramoor Center for Music and the Arts is a destination for exceptional music, captivating programs, spectacular gardens and grounds, and wonderful moments with friends and family. It enriches the lives of its audiences through innovative and diverse musical performances of the highest quality. Its mission also includes mentoring young professional musicians and providing educational programs for young children centered around music.

[Legoland New York](#)

Take a class with a master builder. Legos can encourage creativity and experimentation, which is what STEM is all about.

Virtual:

[Manufacturing the Future of Aviation](#)

THIRD GRADE SCIENCE

SKILLS:

Students will be able to...

- Demonstrate understanding of grade-level content
- Demonstrate the ability to predict, experiment, and record information
- Use materials and resources appropriately to problem solve
- Participate in investigations and discussions
- Observe, measure, and use patterns to predict an object's motion
- Identify the forces acting on an object & use evidence to explain how balanced and unbalanced forces affect an object's motion
- Relate the causes and effects of electric forces between objects and describe factors that affect magnetic forces between objects
- Explain how water affects weather, demonstrate how to stay safe in severe weather, and describe the weather conditions for each season
- Describe factors that affect climate, the ways in which climate can change, climate in different parts of the world, and explain how global climate is changing.
- Describe how all life cycles follow the same pattern, explain how living things inherit many characteristics from their parents, and how the environment can influence the characteristics of living things.
- Relate the characteristics of a plant/animal to how well it can survive, list that some animals form groups to help them survive, and explain how plants and animals respond to changes in the environment.
- Describe what a fossil is and some ways they form.
- Use fossil data to give evidence of organisms and environments that existed long ago and to argue how some living things have responded to climate changes.

CONTENT:

- Motion & Forces
- Electricity
- Magnetism
- Weather
- Climate
- Life Cycles & Traits
- Adaptions & Survivals
- Fossil Evidence

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Visit a local Zoo.

- Working with your child, take apart an old appliance and identify the simple machines incorporated in it.
- When visiting an amusement park, try to identify the simple machines on each ride.
- Using raw materials such as dowels, paper towel rolls, paper clips, rubber bands, etc., create compound machines.
- Visit the Aviation and Structure Galleries at a local Science Center
- Start a rock collection and identify the rocks. Classify the rocks according to rock types.
- Visit a local Botanical Garden. Observe the different groupings of plants and flowers.
- Read Exploration in Earth Science by Lawrence Lowery with your child.
- Purchase "Murphy's Minerals," a computer software simulation of over 100 minerals.

Family Field Trip suggestions:

In Connecticut:

[Connecticut Science Museum](#)

With more than 165 hands-on exhibits, a state-of-the-art 3D digital theater, four educational labs, plus daily programs and events, the Connecticut Science Center offers endless exploration for children, teens, and adults. From physics to forensics, geology to astronomy, visitors have the sciences at their fingertips.

[Yale Peabody Museum](#)

The Peabody Museum of Natural History at Yale University is one of the oldest, largest, and most prolific university natural history museums in the world. It was founded by the philanthropist George Peabody in 1866 at the behest of his nephew Othniel Charles Marsh, an early paleontologist. (Reopens in early 2024)

[Mystic Aquarium & Institute for Exploration](#)

Mystic Aquarium, one of America's leading aquariums, showcases the living collections, science and conservation work of Sea Research through exhibits, demonstrations and educational programs, emphasizing hands-on, interactive, live animal contact experiences for all ages. Hosting more than 750,000 visitors annually, the Aquarium is open year-round and is Connecticut's largest non-casino attraction. Mystic Aquarium is one of the few in North America housing Beluga whales and other rare and remarkable sea creatures.

Outside Connecticut:

[Thomas Edison National Historical Park](#)

Step back in time to Thomas Edison's home and laboratory, when machines were run by belts and pulleys and music was played on phonographs. Discover where America's greatest inventor changed our world forever.

[Lake George Kayak Company](#)

Kayaking uses Newton's second and third law of motion. While CAS students may not have made this observation yet, they study motion and forces in third grade. Kayaking is a great way for them to see it in action.

[Port Jeff Ferry](#)

What many passengers don't realize is that the ferry is also part of a research project to study the movements of seabirds and shorebirds through the Sound. On the roof of the P.T. Barnum is a newly-installed antenna that picks up information transmitted from birds wearing special tracking devices called nanotags. This information is downloaded to a computer, where scientists collect and analyze the data. Check out the wildlife and check out the birds being tracked [here](#)

Virtual:

[Nickelodeon Slime in Space](#)

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 4

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THE FABULOUS FOURTH GRADER

The fourth grade represents a year of transition for your child. Academic independence begins to emerge as instruction is not solely teacher directed.

The move to fourth grade represents a quantum academic leap. Fourth grade work demands a new kind of thinking, abstracting and applying information that up until now had been more or less memorized. The work demanded of the fourth grader is geometrically, not just arithmetically, more difficult than the work demanded of the third grader.

Your child's teachers are acutely aware of the demands of fourth grade and will accommodate those demands. They will spend time teaching organizational skills, the use of appropriate online platforms, the set-up of a notebook, the coordination of materials that are needed when students change class, and time management skills. It is the teacher's responsibility not only to instruct but, also, to guide their pupils on the road to independence and divergent thinking.

Although the teachers recognize the extra requirement that fourth grade makes of students, many parents are not aware or prepared for it. Many times they are surprised when their child, successful in school up until now, suddenly runs into unexpected difficulties.

You can assist your child by developing home schedules and predictable routines (mealtimes, homework areas and times, bedtimes). Assist your child in packing his/her backpack the evening before and placing it by the door. This helps every morning to flow more smoothly.

Fourth graders are spirited individuals with an enthusiasm for life and for learning. Their academic exposure will be broadened this year and they will begin to apply the knowledge that has been directed to them in previous years.

They are proud of their accomplishments and want to succeed. Many times throughout this year your child will be given projects to complete (book reports, research papers, creative writing assignments). You can assist your child by helping him/her in developing a timeline for completion well before the due date. Assist your child by taking him/her to the library or to a friend's house (or allowing other students to come to your home) if it is a group project. Give him/her direction and guidance during the project, but never complete it for him/her, as this will only serve to prevent your child from feeling the satisfaction of a job well done.

Your fourth grader is ready to learn and grow with your direction.

FOURTH GRADE LANGUAGE ARTS

SKILLS:

Students will be able to:

- Read and comprehend complex texts independently and proficiently
- Use a variety of strategies to comprehend, interpret, and evaluate text
- Analyze the structure of fiction texts; determine central ideas or themes and analyze their development; summarize the key supporting details and ideas; analyze the use of literary devices
- Read informational texts to acquire new information and to respond to the needs and demands of society
- Read a variety of genres closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text to build an understanding of the many dimensions of the human experience
- Define and appropriately apply content-related vocabulary words to enrich comprehension and communication skills; clarify the meaning of unknown words by using context clues
- Assess how point of view or purpose shapes the content and style of a text
- Analyze how two or more texts address similar themes or topics to build knowledge or to compare the approaches authors take
- Evaluate electronic information sources and make decisions about the accuracy and relevance of such information; become responsible digital citizens
- Demonstrate an understanding of the personal choices and moral consequences in literature and apply these to their own life; read to learn more about his/her relationship with God, their faith, and traditions
- Use a variety of strategies in written language to inform, persuade, explain, and to share real or imagined experiences in order to communicate effectively to different audiences for different reasons
- Understand and use proper grammar and usage conventions in all written expression
- Develop and strengthen writing by prewriting, drafting, revising, publishing, and presenting
- Gather relevant information from multiple sources, including the internet; assess the credibility of each source and integrate the information while avoiding plagiarism; use technology to produce and publish writing and to interact and collaborate with others; become responsible global citizens

- Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content
- Produce clear and coherent writing whereby development, organization, and style are appropriate to task, purpose, and audience
- Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured sequences
- Write persuasively to support positions on relevant topics or texts, using valid reasoning and sufficient evidence
- Communicate orally using Standard English
- Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric
- Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally
- Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively
- Present information, findings, and supportive evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience
- Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations
- Listen with courtesy and reverence and participate actively during liturgy and prayer time
- Demonstrate command of the conventions of Standard English grammar and usage when speaking and writing
- Demonstrate command of the conventions of Standard English capitalization and punctuation when writing
- Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening
- Understand the importance of correct spelling
- Understand and apply the sound-symbol relationship
- Correctly spell content-related vocabulary and sight words
- Apply spelling skills across the curriculum
- Understands that legible handwriting is a tool of communication and a courtesy to those who are expected to read it
- Achieve proficiency in manuscript and cursive writing to enable written communication
- Demonstrate proficiency in writing cursive and reading lettering

CONTENT:

- Grammar (sentences (types and structure), subjects, predicates, nouns, verbs, pronouns, adjectives, adverbs, prepositions, articles, homophones)
- Spelling using phonemic awareness
- Cursive writing with a focus on legibility (shape, size, spacing, slant)
- Five-step writing process
- Research, prepare, and present on an assigned topic
- Grade level vocabulary
- Context clues
- Comprehension strategies including predicting; wondering; picturing; noticing; figuring out; ask and answer questions; main idea and supporting details; cause and effect
- Figurative language
- Character and themes in literature
- Author's purpose: entertain, inform, persuade
- Sequencing events

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Help your child create a "Story Island" as a wall mural or special bulletin board. Give names to its forests, mountains, rivers, hills, and villages. Invent characters for "Story Island"; include people, animals and imaginary creatures. When your story island is finished, use it by having your child tell stories about the adventures of the characters that live in the setting you have created together.
- A letter is a good way to share the news with someone else. Help your child select a friend or relative he/she could write to on a regular basis. Make sure your child proofreads the letters, and make suggestions as to what kinds of information should be included in the letter. Help with addressing the envelope, and then mail the letter together.
- Take advantage of all that your local library offers. Many libraries offer regular activities and special events. Go with your child to these events and enjoy them together. Discuss what has been presented. Don't forget to leave the library with several books for each of you. Let your child see you read, too. Get in the habit of "sustained silent reading" for pleasure, on a regular basis, and you will find the quiet time as rewarding for you as for your child. Children learn by example.
- Make a list of twenty verbs. Have your child write a list of each verb in past, present, and future tense.

- Have your own spelling “pre-test” at home. Each week there is usually a test. Say the word, use the word in a sentence, and then repeat the word. Give your child time to write each word, then, check the paper together. Good practice.
- Help your child write a descriptive paragraph about his/her room. Tell him/her that details and accurate descriptions using lots of adjectives and adverbs should be included. Have your child proofread his/her work and then share the paragraph with the family. Children love to write about the things that they know best.
- With the help of your local librarian, obtain a current list of the latest Caldecott and Newberry Award winners for children’s books. Have your child locate them on the library shelves, and check them out. Read them together. Everyone enjoys having a good story read to them, so take turns – you read to your child, then have your child read to you.
- Have your child pretend that he/she is the youngest person ever to travel into space. Tell him/her to imagine that he/she is going to spend a week in the space shuttle. Write a journal entry for each day. Answer the following questions: What kinds of things are you doing? What is it like to live in the shuttle? Be creative!
- Help your child select a famous person to read and write about. Use encyclopedias, biographies, Encarta (or other computer reference tools) to research and obtain information and then have your child write a biography about this person. Be sure to proofread.
- Write a haiku. A haiku is a Japanese poem of three unrhymed lines. The first and third lines have five syllables each. The second line has seven syllables. Help your child write a haiku about how he/she thinks it feels to fly

Family Field Trip suggestions:

In Connecticut:

[Palace Theatre](#)

Theatre is a key component in the evolution of literacy. It helps in the development of effective communication skills. They become active listeners, react and critique performances. It incorporates language into the arts.

[Museum of Contemporary Art](#)

The Westport Arts Center, which has been a cornerstone of the Westport Arts Community for 50 years, has undergone a significant expansion in order to bring even more rich and diverse programming to Westport. As you move through the museum, ask questions about the exhibits.

[Fort Griswold Battlefield State Park](#)

Fort Griswold is the site of the largest Revolutionary War battle fought in Connecticut. Take a tour and consider creating your own timeline, ask your children what questions they would ask Benedict Arnold or other historical figures from the battle.

Beyond Connecticut:

[Ellis Island](#)

Take a tour of Ellis Island. Have you been? Discuss feelings and challenges immigrants faced when deciding on a new settlement.

[PowerHouse on 8th](#)

Every Sunday morning, there's an activity-packed storytime, often starring local kid-lit authors reading their work or Brooklyn musicians playing their songs. The shop also hosts a monthly book club for tweens and young teens.

[Intrepid Sea, Air & Space Museum](#)

The Intrepid Sea, Air & Space Museum is dedicated to the exhibition and interpretation of history, science and service as related to its home aboard the aircraft carrier *Intrepid*, a National Historic Landmark. As you explore the Museum you will be able to examine original artifacts, view historic video footage and explore interactive exhibits.

Virtual:

[Colonial Williamsburg](#)

FOURTH GRADE MATH

SKILLS:

Students will be able to:

- Generalize and use place value of multi-digit numbers as a foundation for multi-digit arithmetic
- Perform multi-digit arithmetic
- Solve problems involving the four operations
- Identify factors and multiples
- Represent problems involving multiplication and division
- Extend previous understanding of fractions as numbers
- Compare fractions with different numerators and denominators (fractions with the denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100)
- Solve problems involving fractions
- Understand decimal notation for fractions and compare
- Extend understanding of place value to add and subtract decimals
- Generate and analyze patterns
- Measure and know relative sizes of measurement units within a single system
- Solve problems involving distance, volume, and mass
- Solve real world problems involving area and perimeter of polygons
- Solve problems involving time and money
- Generate, represent, and interpret data
- Measure angles
- Classify 2 dimensional figures based on lines and angles
- Draw geometric figures
- Identify lines of symmetry

CONTENT:

- Numbers and operations in base 10
- Addition Properties
- Expressions and Variables
- Place values to the millions
- Estimation
- Comparing Numbers
- Rounding Numbers
- Multiplication Properties

- Division: 1 digit quotients; 2 digit quotients; 3 digit quotients
- Mean
- Division: 2 digit dividends; greater quotients
- Fractions - terms, equivalent fractions, simplest form, comparing and ordering fractions, add / subtract like and unlike denominators
- Improper / mixed fractions, decimals to tenths, and hundredths, decimals and fractions, add / subtract decimals, divide decimals
- Problem solving strategies such as logical reasoning, make a table or list, working backwards, interpreting the remainder, using more than one step, finding a pattern, drawing a model, using simpler numbers
- Probability
- Multiples
- Geometry, identify lines, rays, and angles, shapes: circles, polygons - quadrilaterals - triangles; coordinate geometry
- Perimeter and Area
- Solid Figures
- Volume of solid figures
- Graphs: pictographs, bar graphs, line graphs, line plots, circle graphs

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Play Multiplication Bingo with your child.
- Play flash card games for reinforcement of math facts (addition, subtraction, multiplication and division).
- Use a menu from a local restaurant, choose selections for each member of the family and total up the bill. Give your child a budget that he/she has to work within.
- Plan a trip to some unfamiliar destination. Using a map and the map scale, calculate the total miles for the trip. Figure out the hours it will take if you are traveling 55 miles per hour.
- Name at least five sports that are played with spheres. Give some properties of spheres that would explain why they are used in so many sports. Choose one of the spheres to play a game with.
- Make a “Multiplication Frisbee”. Staple together two paper plates. Write multiplication problems on them and play Frisbee by answering the problems as you catch the Frisbee.

- Use a clock with a second hand to time how high each member of the family can count in one minute. Then record the highest number each counter can reach. Divide to find out how many numbers each person would say in a second.

Family Field Trip suggestions:

MM2GO was created by the **National Museum of Mathematics (MoMath)**- an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum's innovative exhibits will engage visitors of every age, from 1 to 100! School Visit information on fractions and shapes can be found [here](#).

In Connecticut:

[The Glass House](#)

Built by architect Philip Johnson in 1949, the Glass House is an essay in minimal structure, geometry, proportion, and the effects of transparency and reflection.

[Hartford Yard Goats](#)

Record statistics, calculate batting averages and enjoy a game at the Hartford Yard Goats game.

[Ridgefield Playhouse](#)

Did you know that listening to music increases activity in the part of the brain that processes reasoning skills? Research has shown that music helps students develop mathematical skills. Catch a concert at the Ridgefield Playhouse.

Outside of Connecticut:

[National Museum of Mathematics](#)

MoMath, the National Museum of Mathematics, is an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum's innovative exhibits will engage visitors of every age, from 1 to 100!

[Legoland Discovery Center](#)

Discover the learning philosophy of LEGO Education in the thrilling atmosphere of LEGOLAND Discovery Center, offering an engaging introductory hands-on STEAM solution that encourages students to discover physical science in action.

[Bon Bon](#)

Take a tour of the Bon Bon chocolate factory. Ask your tour guide how Math is used and how Math mistakes could affect the final product.

Virtual:

[Amazon Robotics Fulfillment Center](#)

FOURTH GRADE SCIENCE

SKILLS:

Students will be able to:

- Demonstrate understanding of grade-level content
- Demonstrate the ability to predict, experiment, and record information
- Use materials and resources appropriately to problem solve
- Participate in investigations and instructions
- Investigate and identify the relationships among energy, speed and moving objects
- Construct electric circuits and explore how currents move through circuits
- Learn the connection between natural resources and energy
- Identify sources of renewable and nonrenewable energy
- Identify wave characteristics such as how waves move and transfer energy
- Model waves using patterns in wave properties
- Identify characteristics of rocks and examine how they form
- Explore chemical and physical weathering and evaluate the relationship between weathering and erosion
- Explore the causes and effects of tectonic hazards including earthquakes, volcanoes, and tsunamis
- Investigate and design possible solutions to minimize the impact of natural hazards
- Study the anatomy of some internal plant structures and connect those structures with how the plant survives and reproduces
- Investigate the many internal structures of animals that help them survive in their environments
- Explore how human body systems are organized by cells, tissues and organs
- Investigate the different systems of the human body and explain the functions of each part of the system

CONTENT:

- Energy and Motion: Energy speed and moving objects
- Collisions; Energy transfers
- Electric circuits
- Human uses of energy: Energy conversions
- Renewable and Nonrenewable Energy sources
- Environmental Impacts of energy use

- Waves and Information: Property and Patterns of Waves
- Patterns of Earth's Features
- Rocks, Minerals, and Soil
- Weathering and Erosion
- Earth's Natural Hazards
- Internal and external functions of plants and animals
- Plant and animal responses to the environment
- Human Body Systems (circulatory, respiratory, skeletal, digestive, nervous, reproductive, skin)

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Give your child the opportunity to plant his/her own seeds and be responsible for maintaining the plants. Experiment with the plants' environment to see what works best for them.
- Have your child interview family members about memorable weather events that have occurred in their lifetime.
- Take your child on an indoor and outdoor tour of your home. Notice the features that protect your home from rain, snow, intense heat, or intense cold. Compare the climate outside and inside your home.
- Become electrical detectives! Go into your kitchen and identify the electrical appliances and devices you find there. See if you can identify what material is used to insulate each appliance or device. Check all the cords for cracks and peeling.
- Visit a local Zoo. Check out all of the exotic animals and be sure to examine their habitats. Read [Strange Creatures](#) by Seymour Simon to prepare for your zoo trip.

Family Field Trip suggestions:

In Connecticut:

[Connecticut Science Museum](#)

With more than 165 hands-on exhibits, a state-of-the-art 3D digital theater, four educational labs, plus daily programs and events, the Connecticut Science Center offers endless exploration for children, teens, and adults. From physics to forensics, geology to astronomy, visitors have the sciences at their fingertips.

[Yale Peabody Museum](#)

The Peabody Museum of Natural History at Yale University is one of the oldest, largest, and most prolific university natural history museums in the world. It was founded by the philanthropist George Peabody in 1866 at the behest of his nephew Othniel Charles Marsh, an early paleontologist. (Reopens in early 2024)

[Kellogg Environmental Center](#)

As part of the Connecticut Department of Energy & Environmental Protection, the Kellogg Environmental Center offers workshops, exhibits, nature activities, and lectures for the general public. Through hands-on programs, families can enjoy learning about nature and the environment. Throughout the year, the Center offers special weekend programs, nature walks, and family workshops.

Out of Connecticut:

[DNA Learning Center](#)

The DNA Learning Center is a genetics learning center affiliated with the Cold Spring Harbor Laboratory, in Cold Spring Harbor, New York. It is the world's first science center devoted entirely to genetics education.

[The Botanical Gardens](#)

What relationships can you find in the plant world? Look for patterns amongst different species of plants.

[Bronx Zoo](#)

Check out the more than 700 species of animals that span the 265 acre zoo right in the heart of the Bronx. Pay close attention to each animal's habitat and make notice of any physical characteristics that assist the animals in their habitats.

Virtual:

[Human Body Virtual Tour](#)

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 5

Published, September, 2023

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THE FANTASTIC FIFTH GRADER

The fifth grade represents a year of dichotomy. The fifth grade student is suddenly aware of his/her independence; yet, is not quite fully matured and equipped to accept the full responsibility of independence. They will delight you with their naiveté and astound you with their maturity. They are adventurous, yet, they are cautious. Their cautiousness sometimes precedes rather than follows their actions. However, they are quicker at this stage to recognize their errors.

Their sense of independence often propels them into a competitive arena. Since the fifth grader often works in groups it is essential that their competitiveness be channeled into the realm of cooperation.

Many of the skills introduced in the fourth grade are sharpened. Their step from concrete to abstract thinking challenges and increases their self-worth.

You, as the parents of a fifth grade student, can help to reinforce responsibilities that your child will encounter. It is important that you channel your child's excitement about trying new and challenging activities. Your child may be overwhelmed by the multiple tasks expected of him/her. As the primary educator, you can and must give the needed support of encouragement.

This is a time when the social demands of being at pre-teen often increase, which is particularly complicated by online communication tools such as phones, iPad and the use of social media apps. Students are impacted by the actions of their peers around them. It is important to have consistent guidelines in your home regarding acceptable online behavior and limits to use of social media.

Communication between you and your child is vital at this time. Your child is never too old for you to ask: "Name three exciting things you did in school today." Perhaps these discussions can be incorporated into your family dinner conversations.

It is up to you to constantly reinforce commitments to your child's ideas, friends, family and religion.

FIFTH GRADE LANGUAGE ARTS

SKILLS:

Students will be able to:

- Engage effectively in a range of collaborative discussions (one on one, partner, group or teacher led) with diverse patterns on topics/texts, building/expressing their own clearly
- Use general academic/ domain specific words and phrases
- Describe characters in a story
- Use specific words/phrases/sensory details to convey experiences and events
- Produce complete sentences recognizing/correcting inappropriate fragments/run ons
- Reading and comprehending various types of texts fiction/non-fiction
- Demonstrate understanding of figurative language, word relationships in word meanings
- Use narrative techniques, such as dialogue, description and pacing to develop experiences or events to show the responses of characters in a situation
- Pose and respond to specific questions
- Quote accurately using text evidence when drawing inferences
- Understand figurative language used in short stories and poetry
- Develop topics with facts, definitions, concrete details
- Write routinely over extended time frames (research/revision/reflection)
- Produce clear and coherent writing with the development / organization of paragraphs
- Begin annotating for analyzing/identify authors purpose

CONTENT:

- Writing: building expressions, connecting to passages, detail, drawing inferences, narrative, informational writing □ restating the question,
- Grammar: figurative language, homophones, subjects, predicates, compound words, run on sentences, common/proper nouns, single/plural nouns, action verbs, possessive pronouns, pronouns/antecedents, independent and dependent clauses,
- Spelling: short vowels, long vowels, r controlled, words with (er, ir, ur), variant vowels, plurals, inflectional endings, prefixes, suffixes,
- Reading: leveled readings, whole group readings, annotations, poetry
- Informational text/ fiction readings

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Journals are very popular learning tools. They encourage daily writing in a non-threatening format. The best way to reinforce writing as a life skill is to model this behavior for your child. Use a plain spiral notebook and begin a Shared Journal with your son/daughter. Take turns with him/her making entries in this journal. Keep the entries simple, only a few lines. The topics are endless. You could recall a past activity that you shared with your child, praise him/her for one of his/her successes, report what you did at work or what you did while your child was at school. This activity will not

only reinforce your reading and writing skills but it will also serve as a valuable communication tool between you and your child.

- Children enjoy receiving their own mail. Write letters to your child and mail them from work or when you are out doing errands. What will begin as a reading activity for your child, will over time, develop into a writing activity as your child begins to respond to your letters.
- Where the Sidewalk Ends by Shel Silverstein contains some great poetry for reading aloud to your child. This collection of poetry is a favorite of children. Encourage your child to write his/her own poetry modeled after some of the poems you have read in this book.
- To reinforce parts of speech, purchase a booklet of Mad Libs and complete the selections with your child. Mad Libs are a collection of stories with key words omitted. In place of the omitted word, your child will have to insert a requested part of speech. When read back the stories are amusing. The Mad Lib books are inexpensive and can be purchased at most toy stores or online.
(<http://www.eduplace.com/cgi-bin/template/hmco/school/tales/friendsfor.shtml>)
- Post-It-Notes are available in a variety of colors and sizes are available at discount and office supply stores. Have your child write his/her spelling words on separate notes and stick them in conspicuous places around the house. Throughout the week, encourage your child to stop, look at, and spell these words every time he/she comes across one.
- Reading to your child, no matter what his/her age, is a simple but invaluable activity. It is enjoyable, entertaining and relaxing. It sharpens listening skills that are important to your child's success in all areas of school. It also models correct oral reading skills of pace, expression, and inflection. It helps to expose your child to vocabulary that he/she may not be able to tackle independently at this time. It models to your child that you consider reading to be a valuable activity. Most importantly it allows you to spend quiet, one-on-one time with your child. It is time that you will both cherish in later years.
- Listed below are books that your fifth grade child would enjoy. Read these books together.

Four Ancestors: Stories, Song and Poems from Native North America told by Joseph Bruchac

Blubber by Judy Blume

Shiloh by Phyllis Reynolds Naylor

Emi

The Watsons Go to Birmingham – 1963 by Christopher Paul Curtis

Celebrate America in Poetry and Art edited by Nora Panzer

You're Invited to Bruce Lansky's Poetry Party by Bruce Lansky

The I Hate Mathematics! Book by Marilyn Burns

Kids With Courage: True Stories About Young People Making a Difference by Barbara A. Lewis

Family Field Trip suggestions:

In Connecticut:

[Mark Twain House and Museum](#)

Bring your child to visit the house where Huck, Tom and Jim were born! Through a variety of interactive, inquiry-based tours and programs led by our expert guides, students in grades K-12 can explore the beautiful rooms where Twain worked and raised his family, learn about the social and cultural issues that shaped his writing, and even do a little storytelling themselves. It's the perfect way to bring learning to life!

[Mashantucket Pequot Museum and Research Center](#)

Take the opportunity to read the information text provided at the museum while seeing artifacts first hand right in our home state.

[Sherwood Island State Park](#)

The Sherwood Island Nature Center is located between East Beach and the salt marsh nature trail. DEEP staff, assisted by interns and docents, have planned summer nature walks, bird watching, and learning activities for adults and children.

Outside Connecticut:

[The Tour at NBC Studios](#)

Check out the 4K theater located in the Shop at NBC Studios before the tour begins. Get a view of the fully restored and spectacular Art Deco Rotunda, the NBC Production Gallery, visit at least two NBC studios and the Tour Studio where you create your own show!

[The Metropolitan Museum of Art](#)

Let your kids choose the pace of the tour or sign up for a guided tour. Encourage "I notice" language to help your child communicate and think about the art they see.

[Ground Zero Tour](#)

Hear firsthand accounts from guides who remember 9/11. Learn about the new World Trade Center and the 9/11 Memorial and Museum. Take a moment to honor the lives lost and to see and celebrate New York City's resilience.

Virtual:

[Change Makers in Action](#)

FIFTH GRADE MATH

SKILLS:

Students will be able to:

- Read and write numbers to the billions and to the thousandths place value
- Add/subtract and compare/order large whole numbers
- Multiply 1 - 6 digits
- Divide whole numbers, money and decimals 1-2-digit divisors
- Use prime factorization
- Find the greatest common factor, least common multiple and least common denominator
- Solve fractions into simplest form
- Convert improper fractions to mixed numbers and mixed numbers to improper fractions
- Compare and order fractions on a number
- Add/subtract fractions
- Find the probability of simple/combined events
- Find mean, median, mode, range for the data set
- Identify decimal place values
- Multiply/divide decimals with exponents
- Understand measurement, units of length, capacity and weight
- Find the area, surface area, volume of basic shapes
- Understand basics of ratios/proportions/ expressions/equations

CONTENT:

- Add, subtract, multiply, divide of 2 to 6-digit numbers
- Add, subtract, multiply, divide and order fractions
- PEMDAS, beginning of exponents
- GCF, LCM, LCD
- Add, subtract, multiply, divide and order decimals
- Distributive property (equations)
- Number line
- Area, perimeter & volume
- Associative, distributive and commutative property

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Look for examples of different kinds of graphs in the newspaper, in magazines and in books. Have your child explain what the graph means.
- Have your child construct a Metric Monster using geometric shapes to create body parts. Find the circumference of the circular parts; find the area and perimeter of the rectangular and triangular parts.

- Collect data about cars that pass by your house in a 5-minute period. Then, based on your information, formulate word problems that will use each of the four operations: addition, subtraction, multiplication and division.
- Using a protractor and a ruler, take turns drawing angles and estimating their size. Using a protractor, measure the angles and record the actual size; then, label the angles as right, acute, or obtuse.
- Acquire the following books to use with your child:
 1. Math Squared: Graph Paper Activities for Fun and Fundamentals by David P. Stern.
 2. Getting Older and Older, Faster and Faster from The Tales of Trickery from the Land of Spooof (math puzzles and problem-solving skills).
 3. Mystery Story Problems: Mixed Multiplication and Division Facts by David Clark Yaeger.

Family Field Trip suggestions:

In School:

MM2GO was created by the **National Museum of Mathematics (MoMath)**- an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum’s innovative exhibits will engage visitors of every age, from 1 to 100! School Visit information on fractions and shapes can be found [here](#).

In Connecticut:

[The Aldrich Contemporary Art Museum](#)

Challenge your family to use Math vocabulary to describe the art you see. Look for patterns in shapes and color while paying close attention to the use of space.

[Connecticut Sun](#)

Calculate shooting averages while taking in a WNBA game.

[Norwalk Cove Marina Miniature Golf](#)

Norwalk Cove Marina Mini Golf has provided Fairfield County with summertime entertainment for over 50 years. Our 18-hole course offers demanding play with true “pro golf” style mini golf. It is a place where people of all ages and skill levels can enjoy a round of miniature golf while taking in the wonderful waterfront views of Calf Pasture Beach and the Long Island Sound.

Outside of Connecticut:

[National Museum of Mathematics](#)

MoMath, the National Museum of Mathematics, is an award-winning museum that highlights the role of mathematics in illuminating the patterns and structures all around us. Its dynamic exhibits, galleries, and programs are designed to stimulate inquiry, spark curiosity, and reveal the wonders of mathematics. The Museum's innovative exhibits will engage visitors of every age, from 1 to 100!

[Cathedral Church of St. John the Divine](#)

The Geometry Tour and Workshop at the Cathedral of St. John the Divine gives students a chance to understand first hand how geometry impacts architecture. On the tour, students will discover geometric shapes and principles within the Cathedral's design and examine the importance of mathematical relationships that create stability and beauty throughout the building.

[Spyscape](#)

At SPY HQ you'll explore hidden worlds, break codes, run surveillance and spot liars - while a system developed with MI6 experts reveals your personal spy role and profile.

Virtual:

[Louvre](#)

Leonardo Da Vinci created the Mona Lisa using the golden ratio. Check out a virtual tour to see for yourself.

FIFTH GRADE SCIENCE

SKILLS:

Students will be able to:

- Observe and measure properties of matter
- Identify materials based on their properties and identify the differences in the three states of matter
- Use evidence to show that matter is conserved during a physical change
- Explain how temperature can affect a physical change
- Use evidence to show that matter is conserved during a chemical change
- Explain what happens when different substances are mixed
- Explain how to slow down or speed up the dissolving process when mixing materials in water
- Describe what makes up the geosphere/biosphere/atmosphere/hydrosphere
- Describe how Earth's systems interact with each other
- Explain parts of the water cycle/recognize that the ocean is an important part of the water cycle
- Identify that most of the Earth's freshwater is in glaciers/ice caps/underground/lakes/rivers/wetlands/atmosphere
- Describe Earth's natural resources
- Use models to describe the energy in an animal's food was once energy from the sun
- Describe how plants make food using sunlight, air, water and materials in soil
- Explain how animals use the energy they get from food and identify where energy on Earth comes from
- Explain how human activities affect Earth's resources and environments & describe ways to protect Earth's resources and environments
- Recognize that many stars are big/bright as the sun
- Describe inner planets of Mercury, Venus, Earth and Mars and identify common characteristics
- Describe the outer planets of Jupiter, Saturn, Uranus, Neptune and identify common characteristics
- Demonstrate that Earth's gravity pulls objects toward the center of Earth and demonstrate that night and day are caused by the rotation of Earth around its axis once a day
- Demonstrate why the sun, moon and stars appear at different times.
- Create a model of the solar system
- Describe the components of an ecosystem and describe how organisms use matter/describe relationships between organisms in an ecosystem
- Identify the characteristics of a healthy ecosystem/describe how change affects an ecosystem
- Model the movement of matter among organisms and the environment

CONTENT:

- Properties of Matter: observing, modeling & the properties of matter.
- Changes in Matter: physical, chemical & mixtures/solutions.
- Earth's Systems: geosphere, biosphere, hydrosphere & atmosphere. Interaction among earth's systems.
- Human impacts on earth's systems: natural & energy resources.
- Patterns in space: earth's gravitational forces, movements in space and patterns over time.
- Solar system: brightness of the sun/stars, inner, outer solar system
- Energy & food: energy in food, how plants make food & how animals use food.
- Matter & energy in ecosystems: ecosystems, organisms/change within ecosystems and matter transfer with ecosystems.

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Create a "Plant System Salad" Go food shopping with your child. In the produce section try to classify the vegetables according to plant systems that you can eat! (leaves, fruits, stems, roots) Make a salad containing at least one vegetable from each plant system; share it with the family.
- To reinforce "Structure of Living Things--Cells and How They Work," visit a pet store. Challenge your child to classify all of the animals there into groups that scientists use.
- Take a trip to the Zoo, an animal farm, the Natural History Museum, or an Aquarium.
- Make a model of the planets. Draw them or build models out of play dough.
- Research and report on space probes and satellites.
- Have your child identify the noisemakers in your home. Have him/her think of ways to make them quieter.
- Visit a natural landform near you, (lake, cave, river, mountain, hill etc.) Ask your child to explain some Earth processes that may account for the presence of this landform.
- Rent or borrow from a library nature videos to watch with you child. Consider topics such as earthquakes, volcanoes, dinosaurs, etc.
- Collect rocks or shells along a river, lake, or ocean shore. Ask your child to speculate what might happen to them over the next 10, 100, or 1,000 years. How might weathering, erosion, or climate affect them?
- Suggested books to read with your child:

Footprints in the Swamp by Marie Halum Block

Glaciers: Ice on the Move by Sally M. Walker

Family Field Trip suggestions:

In Connecticut:

[Sacred Heart University Discovery Science Center and Planetarium](#)

The Discovery Science Center and Planetarium is a hands-on science museum and planetarium. At the Center, visit exhibits, the Discovery's Challenger Center where visitors are immersed in a mock space station and mission control simulation experience and see a planetarium show. Engage in a Learning Lab designed to support learning with the Next Generation Science Standards.

[Leitner Family Observatory & Planetarium](#)

See planetarium shows, learn about the history of astronomy research at Yale, and view astronomical instruments at the Leitner Family Observatory & Planetarium.

[Connecticut Science Museum](#)

With more than 165 hands-on exhibits, a state-of-the-art 3D digital theater, four educational labs, plus daily programs and events, the Connecticut Science Center offers endless exploration for children, teens, and adults. From physics to forensics, geology to astronomy, visitors have the sciences at their fingertips.

Outside Connecticut:

[Ecotarium](#)

The EcoTarium museum of science and nature in Worcester, Massachusetts, offers an indoor-outdoor experience to visitors of all ages. Guests are encouraged to explore three floors of indoor interactive exhibits, live animal habitats, daily Science Discovery programs, hikes through forest and meadow nature trails, outdoor imaginative play, and a train ride (seasonal) around the 45+ acre campus.

[Hayden Planetarium](#)

Hayden Planetarium Space Theater is at the heart of the Rose Center for Earth and Space is an 87-foot-diameter sphere that appears to float inside a glass cube. No need to settle for just looking at the stars - this \$210 million planetarium is a virtual joyride through the universe.

[New York Hall of Science](#)

Here, you won't just learn how to see the science all around us, you'll have the chance to solve problems, ask new questions, and learn through discovery. You'll head home with new understanding gained through fun experiences that meet you where you are.

Virtual:

[Stellarium Web Kids](#)

Through Stellarium Web, kids can explore over 60,000 stars, locate planets, and watch sunrises and solar eclipses. If you enter your location, you can see all the constellations that are visible in the night sky in your corner of the world.

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 6

Published, September, 2023

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THE SPIRITED SIXTH GRADER

The sixth grade represents a year of transition into middle school. The sixth grader suddenly becomes aware of his/her emergence into adolescence and may display resentment when he or she perceives that they are being treated as a child. Sixth graders fiercely strive to be independent; yet, at the same time their need for peer approval is evident. This can be seen in their development of small, close peer groups.

Your child now has five core teachers and three specials teachers. This is the first year that they consistently move from classroom to classroom for their core subjects. This can, in the beginning, be overwhelming. You, as parents, can assist your child during this transition by checking his/her online Google Classroom account before and after completing assignments. Over time, encourage your child to become more independent and monitor Google Classroom on his/her own with you, as parents, only checking in sporadically.

While it is true that your adolescent is entering into the world of adulthood, it is in this period of his/her life that there is a special need for parental guidance and example. Giving your child freedom is important but middle schoolers necessitate clear and reasonable guidelines from their parents about acceptable behaviors in the home and outside of the home.

The Middle School provides the sixth grader the ability to make choices. Their sense of independence is strengthened by additional freedoms and choices which are afforded the middle school student. They are given a break time mid-morning that allows them time to socialize and regenerate for the challenges of the day.

Your sixth grader is at an exciting stage as he/she begins a journey from childhood to adolescence.

SIXTH GRADE LANGUAGE ARTS

SKILLS:

Students will be able to

- Close Read and annotate with the intent of analyzing and identifying author's purpose & audience
- Use vocabulary and its different modalities to increase comprehension and word knowledge for speaking and writing skills
- Conduct discussions within a group setting/present using proper standards of English
- How to participate in meaningful conversations with each member having a job and using rules to ensure they occur
- Use proper standards of grammar and mechanic in writing and speaking
- Identify the various themes in literature/poetry
- Close Read and annotate informational text to analyze for evidence/bias
- Use evidence from all reading types to write short/essay writing pieces
- Identify/create thesis statements understand their importance in the writing process
- Differentiate between Primary & Secondary sources
- Maintain an ELA notebook
- Write responses to prompts from various texts
- Use organizational skills to prepare for class, complete homework and projects in a specific timeframe

CONTENT:

- Writing for editing/final copy and completion
- Daily Language activity
- Weekly vocabulary; using synonyms/antonyms, words in context , meaning, part of speech
- Texts/short stories/poetry/ elements to acknowledge how literature differs from piece to piece
- Informational text to differentiate between writer style and purpose
- Informational text to use primary and Secondary sources to substantiate evidence found in text
- Independent questions from all types of text for activities on read material
- Cornell Notes, Sketch-noting, other notetaking material

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Have your child select a favorite story that he/she has read. Have your son/daughter design and write a travel brochure for the place in which the story is set.
- Create a “Found Poem.” Thumb through magazines and newspapers. Cut out words and phrases that appeal to you. Then select related words and phrases and arrange them in a poem.
- Have your child create his/her own imaginative books using a variety of processes. Contact area school of the arts for class schedules in papermaking, offset printing, and bookbinding.
- Read the following suggested books with your child:

Heroes and Monsters of Greek Myth by Bernard Erslin

The Girl Who Loved Wild Horses by Paul Goble

Don't You Turn Back by Langston Hughes

Family Field Trip suggestions:

Connecticut



- Print Shop. Stamford, Connecticut.
- The Barker Character: Comic and Cartoon Museum. Cheshire, Connecticut. Comic strip, cartoons, wester, T.V., and advertising memorabilia from Herb and Gloria Barker wait for you. So do the Roy Rogers’ Lunch Box and the Mickey and Minnie Hand-Car. Create your own comic after seeing this museum.
- Nature’s Art Village. Oakdale, Connecticut. <https://naturesartvillage.com/>
The Genius Museum is a village of progress with an original printing press, manufacturing steam engines, and more. All ages will also enjoy the 60-acre adventure park with life-sized dinosaurs. And, Mystic Connecticut and Aquarium is just 20 minutes away!

Beyond Connecticut

- Queens Public Library, Queens, New York. <https://www.queenslibrary.org/>
- Come to New York and see the Langston Hughes Exhibit.

- Poets House, New York, New York. [Poets House](#)
The Poets House is a national library of literary and poetry works. Poetry Readings and workshops and events are available for all ages.
- The Printing Office of Edes and Gill. Boston, Massachusetts.
<https://www.bostongazette.org/> See the printing process in action in modern times.

Virtual

- International Printing Museum. Carson, California.
 [International Printing Museum Tour: The Gutenberg Press](#) Video of the history of printing from its Chinese inventions through the 19th century.
- Newspaper Printing.  [The Republic Newspaper Printing Press Tour](#)

SIXTH GRADE GRADE LEVEL MATH

SKILLS:

Students will be able to:

- Solve decimal calculations
- Solve fraction and mixed number calculations
- Use order of operations to write, simplify and/or evaluate expressions that include decimals and fractions
- Identify parts of an algebraic expression
- Use the distributive property in expressions
- Write fraction and decimal equivalents
- Write and solve one-step algebraic equations that include decimals and fractions
- Write, solve and graph on a number line one-step algebraic inequalities that include decimals and fractions
- Compare and order integers and rational numbers
- Plot points in all 4 quadrants of coordinate grid
- Write ratios three different ways
- Write equivalent ratios

CONTENT

- Add, subtract, multiply, divide, estimate and round decimals
- Add, subtract, multiply, divide and estimate fractions
- Decimal and fraction relations
- Calculations with money
- GCF, LCM; equivalent fractions and simplified fractions
- PEMDAS; “exponent forms”
- Associative, Commutative, and Distributive Properties
- Terms, coefficient, and constant
- Properties of Equality
- Inequalities symbols
- Number lines
- Absolute Value
- Coordinate plane
- Ratios, rates, and unit rates

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Play Math Bingo with your child. Math Bingo can be purchased at any of the local school supply stores.

- Play “Percent Shopping Spree.” Shop with your child and calculate the sales price and regular price of items and compare the difference.
- When eating out at a restaurant with your family, have your son/daughter compute the tip for the servers at 20% of the total bill.
- Have your child look through the newspapers and magazines to find articles or illustrations that use metric units of measurement.
- Have your child create a file for coupons. Have him/her categorize the coupons. Express the value of each coupon as a decimal.
- Have your child record the number of hours and minutes that he/she spends on the following activities each day: school, homework, play, TV, computer, sleeping. Create a chart recording each activity as a fraction with a denominator of 24 and reduce to lowest terms. Find the average daily amount of time spent on each of these activities for a one-week period.
- Using a road or city street map that expresses the scale in inches, have your child estimate the distance in miles between cities or streets. Use a ruler, the map scale, and your child’s knowledge of multiplication, to find the actual distances.

Family Field Trip suggestions:

Connecticut

- Merwinsville Hotel Restoration, Gaylordsville, Connecticut.
Located along the Housatonic Railroad, the hotel reveals what it was like over 163 years ago when the passengers made their way by rail from Bridgeport, Connecticut to Pittsfield, Mass. Take note of how the rail system stops have changed and review how many passengers are riding the rails via Metro North or Amtrak in current times. Compare today’s maps with times before. Create a then and now chart and see the bustling commuters changing travels of present day.
- Silver Sands State Park, Milford, Connecticut.
Measure your time there in feet and convert to metrics when you get home. Apparently, Captain Kidd may have buried his treasure here. Draw a map of where you went in the park or take the existing park’s map and see the scale of a cartographer vs. the path you have walked.
- Shopping time! Use your coupons on a trip to your local supermarket. Document how much you have saved vs. the original market price. Watch the decimals when you are adding and subtracting.

- Collis P. Huntington State Park, Redding, Connecticut.
Count the life-like sculptures of bears and wolves that welcome you as you mark how long and how far you have walked in the fields and in the forest. Do not forget to include the tenths of a mile.

Beyond Connecticut

- NBC Studio Tour, New York, New York [NBC Studio Tour](#).
Look at all the time spent into producing the 1 hour of news your family may watch. How many minutes are relegated to each newsbite? You may look at a show differently next time you sit in front of the television.

Virtual

The National Museum of Mathematics showcases online events by grades each year.
<https://momath.org/upcoming-events/>

SIXTH GRADE ADVANCED MATH

SKILLS:

Students will be able to:

- Solve decimal calculations
- Solve fraction and mixed number calculations
- Use order of operations to write, simplify and/or evaluate expressions that include decimals and fractions
- Identify parts of an algebraic expression
- Use the distributive property in expressions
- Write fraction and decimal equivalents
- Write and solve one-step algebraic equations that include decimals and fractions
- Write, solve and graph on a number line one-step algebraic inequalities that include decimals and fractions
- Compare and order integers and rational numbers
- Solve calculations with integers
- Plot points in all 4 quadrants of coordinate grid
- Write ratios three different ways
- Write equivalent ratios
- Write a percentage as a fraction and as a decimal
- Complete basic percent problems
- Solve perimeter, area, and volume problems with fractions and decimals
- Solve circumference and area problems for circles when given formulas
- Calculate the mean, median, and mode of whole number data

CONTENT

- Add, subtract, multiply, divide, estimate and round decimals
- Multiply and divide fractions
- Decimal and fraction relations
- Calculations with money
- GCF, LCM; equivalent fractions and simplified fractions
- PEMDAS; “exponent forms”
- Associative, Commutative, and Distributive Properties
- Terms, coefficient, and constant
- Properties of Equality
- Inequalities symbols
- Add, subtract, multiply, and divide integers with number lines and integer chips
- Coordinate plane
- Absolute Value
- Ratios, rates, and unit rates
- 100 square to represent percents; percent equation
- Perimeter, area, volume, surface area and circumference formulas
- Measures of Central Tendency and graphs

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Play Math Bingo with your child. Math Bingo can be purchased at any of the local school supply stores or online.
- Play “Percent Shopping Spree.” Shop with your child and calculate the sales price and regular price of items and compare the difference.
- When eating out at a restaurant with your family, have your son/daughter compute the tip for the servers at 20% of the total bill.
- Have your child look through the newspapers and magazines to find articles or illustrations that use metric units of measurement.
- Have your child create a file for coupons. Have him/her categorize the coupons. Express the value of each coupon as a decimal.
- Have your child record the number of hours and minutes that he/she spends on the following activities each day: school, homework, play, TV, computer, sleeping. Create a chart recording each activity as a fraction with a denominator of 24 and reduce to lowest terms. Find the average daily amount of time spent on each of these activities for a one-week period.
- Using a road or city street map that expresses the scale in inches, have your child estimate the distance in miles between cities or streets. Use a ruler, the map scale, and your child’s knowledge of multiplication, to find the actual distances.

Family Field Trip suggestions:

Connecticut

- Florence Griswold Museum. Old Lyme, Connecticut.
See the restored Florence Griswold house, along with its gallery which features education and landscape centers, a restored artist’s studio, gardens, and a half-mile nature trail. Measure your steps in kilometers and convert miles.
- Harry C. Barnes Memorial Nature Center. Bristol, Connecticut.
The center hosts nature displays and looping hiking trails, including a diorama of New England habitat of live reptiles, amphibians, and fish. Read the map, estimate your time, and count your footsteps to the next trailhead.

Beyond Connecticut

- Studio Museum in Harlem. Harlem, New York. <https://studiomuseum.org/cartography>
Surround yourself with maps and geography.

- The Brooklyn Bridge, New York, New York 10038.
<https://www.viator.com/tours/New-York-City/Brooklyn-Bridge-Bike-Tour/d687-3156BIKE03>

Look up the bridge's measurements before you go. Take a picture of the whole family under the bridge and then see vibrant neighborhoods and landmarks by bike.

Virtual

- A day at the National Museum of Measurement.
<https://metricviews.uk/2015/08/07/a-day-at-the-national-museum-of-measurement/>
- Learn more about the standard of measurement and how it is getting more accurate.
<https://www.pbs.org/video/measure-the-metric-system-explained-uzna1f/>

SIXTH GRADE SCIENCE

SKILLS:

Students will be able to:

- Identify and use standard laboratory safety practices in the Science classroom.
- Conduct research and develop experiments based on observations, gather and analyze data, and explain results.
- Identify and compare the physical and chemical properties of matter.
- Model the particle arrangement and describe the behavior of each of the three main states of matter, including reactions to temperature change, and the relationship to pressure and volume at the particle level.
- Understand the nature and role of energy in our world and demonstrate how energy is transferred and transformed.
- Explain the relationship between temperature, thermal energy, transfer of heat energy, and changes in states of matter.
- Recognize and understand the interactions between Earth's systems.
- Recognize the direct relationship between weather and climate, the effect of water in the atmosphere, and the movement of air masses on the weather.
- Create models to demonstrate and explain Earth's layers.
- Identify the processes that form Earth's rocks and minerals.
- Identify and evaluate evidence of plate motion and the impact of plate tectonics on Earth's surface over time.
- Describe the causes of erosion and deposition and how these two processes change Earth's surface.
- Explore living things and identify how and why they are classified as well as how different organisms impact humans.

CONTENT:

- Science Lab Safety: Guidelines for safe performance of experiments. Knowledge of safety equipment.
- Scientific Method: Observation. Creating effective experiments. Developing Hypotheses. Research. Data collection and analysis. Explaining and publishing results.
- Introduction to Matter: Describing and Classifying Matter. Measuring Matter. Changes in Matter.
- Solids, Liquids, and Gases: States of Matter. Changes in State. Gas Behavior.

- Energy: Energy, Motion, Force, and Work. Kinetic & Potential Energy. Other Forms of Energy. Energy Change and Conservation.
- Thermal Energy: Thermal Energy, Heat, and Temperature. Heat Transfer. Heat and Materials.
- Introduction to Earth's Systems: Matter and Energy in Earth's Systems. Surface Features in the Geosphere. The Hydrosphere.
- Weather in the Atmosphere: The Atmosphere Around You. Water in the Atmosphere. Air Masses. Predicting Weather Changes. Severe Weather and Floods.
- Minerals and Rocks in the Geosphere: Earth's Interior. Minerals. Rocks. Cycling of Rocks.
- Plate Tectonics: Evidence of Plate Motions. Plate Tectonics and Earth's Surface. Earthquakes and Tsunami Hazards. Volcanoes and Earth's Surface.
- Earth's Surface Systems: Weathering and Soil. Erosion and Deposition. Water Erosion. Glacial and Wave Erosion.
- Living Things in the Biosphere: Living Things. Classification Systems. Viruses, Bacteria, Protists, and Fungi. Plants and Animals.

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Purchase a field guide from a local bookstore and start a rock collection. Identify and label each sample.
- Observe the moon through one complete cycle. Draw a picture of the moon in each phase.
- Research and identify several different constellations in the night sky. Visit a planetarium at a local science center
- Stay current with NASA and space expeditions.
- Discuss the land formations and climates of the various places you have visited as a family. Point out the "science" behind time zones, mountain ranges, vegetation, etc.
- Design and plant a garden including annuals, biennials, and perennials.
- Visit a local Botanical Garden. Take a tour and/or sign up for a class as a family.

Family Field Trip suggestions:

Connecticut

- Star Gazing at the Leitner Family Observatory and Planetarium. New Haven, Connecticut. <https://leitnerobservatory.yale.edu/> This is just one of many designated places in Connecticut in which to stargaze. Hone your map reading skills and see where else you may see the stars.
- Cherry Lawn Park. Darien Connecticut. <http://www.darienct.gov/content/28025/28545/28831/40295/default.aspx> Bring a blanket or sit on a bench and see the small garden.
- National Weather Service Outreach Tours in Your Local Weather Station. <https://www.weather.gov/pub/toursOutreach>

Beyond Connecticut

- New York Botanical Gardens. <https://www.nybg.org/visit/> The grounds reveal beautiful gardens to explore year-round.
- NASA Tram Tours, Houston, Texas. <https://www.nasa.gov/johnson/exploration>
Learn all about NASA while seated on the tram.

Virtual

- <https://eol.jsc.nasa.gov/ESRS/HDEV/> (NASA LIVE CAM)
Video from the International Space Station is streamed live. Do you see what they see?
- USGS. <https://www.usgs.gov/search?keywords=earthquakes>
View what the government is monitoring for earthquake activities.

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 7

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THE SENSITIVE SEVENTH GRADER

The seventh grade represents a year of academic and emotional challenges. Your child has entered the stage of full-fledged adolescence. It is here that he/she develops strong bonds of friendship yet, may display less overt affection to you.

Seventh graders struggle with a sense of identity as they enter an often confused, yet exploratory phase...exploring their cognitive abilities and sense of self.

Seventh graders do not like to be held to a rigid schedule. They prefer variety and stimulation. The Catholic Academy of Stamford amply supplies each student with many opportunities to participate in various activities and encourages students at this age to begin to develop leadership qualities with an emphasis on service to God and service to others. This quality will be built upon during the eighth grade year.

It is wise for your seventh grader and you to begin to explore and investigate various high schools. Choices for secondary education should be investigated in the seventh grade. Attendance at fall high school nights and high school open houses in November will be advantageous in decision-making

The seventh grade equips your child with the academic skills and the courage to explore.

SEVENTH GRADE LANGUAGE ARTS

SKILLS:

Students will be able to:

- Develop a deeper understanding of author character development (flat/static/round)
- Recognize and understand conflicts created within short stories/novels/poetry that are created by the author (internal, external, societal, technology)
- Use ELA skill set to engage more thoroughly in all subject areas
- Understand the importance and use of MLA format in writing
- Participate in advanced and independent group activities, based on all types of text exposure
- Understand, identify, and use independent and dependent clauses in the thesis process and how to use transition words to write a proper thesis statement
- Understand use of word connotation and denotation and how to apply in the spoken and written word
- Complete more advanced and independent group activities using all types of text
- Use Close Read and annotating to compare and contrast various types of text

CONTENT:

- Daily Language activity
- Self-editing for projects and writing
- Peer editing in writing
- DBQ Documents (from Social Studies)
- Different forms of essays in writing and short response
- Novel study
- Poetry/ Short Stories
- Methods of notetaking
- Organizational skills

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Read a legend from the book The Native American Legends and Activities by Mari Lu Robbins. Create with your child an art project to symbolize the legend.
- Attend with your child a live performance at the Stamford Center for the Art's Palace Theater.

- Visit a local Art Museum to view mythical art and learn about myths and mythology on a tour.
- Attend a production at a local children's theater: Crystal Theater in Norwalk, Northeast Children's Theater in Westport, Wilton Children's Theater in Wilton, and Downtown Cabaret Children's Theater in Bridgeport are some suggestions.
- In the spring go with your family to visit the Connecticut Story Telling Center in New London, CT.

Family Field Trip suggestions:

Connecticut

- Sterling Theatre, Stamford Connecticut. <https://sterlingtheaters.com/>. Cross the street from CAS and enjoy live local theater performances of all genres year-round.
- Bruce Museum, Greenwich, Connecticut <https://brucemuseum.org>. The newly renovated art museum showcases beautiful pieces and thematic rooms.
- Mashantucket Pequot Museum. Mashantucket, Connecticut. [Mashantucket Pequot Museum](#). See your Native American literature come alive with historical facts on Native American history.
- Wood Memorial Library and Museum. South Windsor, Connecticut. [Wood Memorial Library](#). Visit a replica of one of the many tribes that settled in Connecticut.
- The Ballard Institute of Museum of Puppetry (BIMP) Storrs, Connecticut. <https://bimp.uconn.edu/> Remember when you were a child and loved playing with puppets? Revisit that time and make it your middle school experience. Create a storyline or poem after visiting the puppets from around the world and from those created from the University of Connecticut.

Beyond Connecticut

- Poe Cottage, Bronx, New York. <https://bronxhistoricalsociety.org/poe-cottage> Learn language and the history surrounding Edgar A. Poe. This famous author's house remains a national landmark in a bustling Bronx.
- John Jay Homestead. <http://johnjayhomestead.org/visit/education/> History comes alive in person on the grounds or on virtual field trips.

- The Classical Theatre of Harlem. Harlem, New York. [The Classical Theatre of Harlem](#)
Classics are revived in this vibrant neighborhood, an integral part of New York City historical and present-day contributions to the arts.

Virtual

- Museum of Indian Arts and Culture. [Online Exhibitions | Museum of Indian Arts & Culture | Santa Fe, New Mexico](#)
- National Museum of Natural History. <https://naturalhistory.si.edu/visit/virtual-tour>

SEVENTH GRADE GRADE LEVEL MATH

SKILLS:

Students will be able to:

- Calculate absolute values
- Complete integer calculations
- Complete rational numbers calculations
- Complete order of operation problems with rational numbers
- Write, simplify, and evaluate expressions with rational numbers
- Plot points (making polygons) on the coordinate plane
- Solve two-step equations with rational numbers
- Solve two-step inequalities with rational numbers and plot on number line
- Use laws of exponents to simplify expressions
- Write numbers in scientific notation
- Use ratios, rates, similarity, and scale factors to solve problems with unit rates and proportions
- Use proportions and percent equation formula to solve percent problems
- Produce graphs (line, bar, and scatter plot) based on given data
- Interpret graphs for outliers and measures of central tendency
- Use the Pythagorean Theorem
- Measure interior and exterior angles of polygons using a protractor
- Calculate measures of angles within transversals
- Use knowledge of total number of degrees in angles of triangles and quadrilaterals to solve problems
- Solve volume and surface area problems of 3 dimensional figures (prisms and cylinder)

CONTENT:

- Absolute value
- Add, subtract, multiple, and divide integers with integer chips
- Add, subtract, multiply, and divide integers with number lines
- Add, subtract, multiply, and divide rational numbers
- Terminating and repeating decimals
- TI 34 calculator or similar calculator
- PEMDAS; exponents and grouping symbols
- Coordinate plane
- Property of Equality
- Inequality symbols
- Scientific notation
- Ratios, rates, “cross products”, similarity, scaling, conversion factors
- Percent equation, percent function on calculator; sales tax, discounts, markups
- Graphing project with measures of central tendency

- Pythagorean Theorem; perfect squares and square roots
- Protractor
- Transversals
- Volume and surface area formulas

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- With your child, compute how much time each of you has spent watching TV in your lifetime. Discuss with your child how you should approach this problem. What computations will each of you have to do in order to solve this problem?
- Work with your child to design his/her idea of an ideal classroom (bedroom, den, kitchen). Think about the ways you would change this room, keeping it realistic. Work with the arrangement of furniture and space and other features to make the room use better. With your child make a scale drawing of the new room. In your drawing be sure to indicate the size of the room and identify all of its contents.
- Visit a local bowling alley; learn how to keep score in bowling. With your family make a poster illustrating how the scoring of bowling works.
- Go to a local semi-professional or professional baseball game. Keep a scorecard during the game using the appropriate symbols for the scoring. Choose five players (at least one pitcher); find their ERA (earned run average) and RBI (runs batted in). Compute what the ERA and RBI's of the players were at the game you attended.
- Using a camera, walk around your neighborhood with your child and take pictures of geometrical figures. Find two examples of each of a polygon, rectangle, square, circle, trapezoid, triangle and other multisided shapes. With your child create a scrapbook, display, or poster. Label the pictures as to the shape that was found.
- Read with your son/daughter Money Doesn't Grow on Trees. Try to implement some of the suggestions on keeping a budget.
- Share your household budget with your child. Help your son/daughter understand what expenses you have and how you are planning for the future.
- Encourage your son/daughter to establish some long term financial goal for themselves (new bike, dream tennis shoes, etc.), and develop a plan for earning enough money to make this goal a reality.

Family Field Trip suggestions:

Connecticut

- Bass Pro Shop, Bridgeport, Connecticut.
https://stores.basspro.com/us/ct/bridgeport/1-bass-pro-dr.html?y_source=1_MzAxMTU1Mi03MTUtbG9jYXRpb24ud2Vic2l0ZO%3D%3D Bowling, arcades, and all things outdoors can be an adventure in one stop. Who is keeping score at this site?
- Ethan Currier, Newton, Connecticut. <https://www.ethancurrierart.com/>
Enjoy sculpture gardens and artists' applications for building sculptures, merging nature and stones while mindful of mathematical perspective.
- Huntington State Park, Redding, Connecticut.
https://www.stateparks.com/huntington_state_park_in_connecticut.htm
Enjoy the ambience and local artists' nature sculpture garden.

Beyond Connecticut

- The Guggenheim Museum. New York, New York. [Cubism | The Guggenheim Museums and Foundation](#) Perspectives and measurement of angles in art can be seen in cubism.
- Wall Street Insider Tour with a Finance Professional. New York, New York.
https://www.tripadvisor.com/AttractionProductReview-g60763-d11451134-Wall_Street_Insider_Tour_with_a_Finance_Professional-New_York_City_New_York.html Take a tour with a finance professional and learn about Wall Street.
- Finance Crisis Tour. New York, New York.
<https://www.thewallstreetexperience.com/financial-crisis-tour/> Learn how the 2008 collapse unraveled.

Virtual

- https://www.youtube.com/watch?v=lcw_79bFYpo Watch how Math and pythagorean theorem builds stairs and observe math's role in building a house.
- Rayward House, Tirranna. Savewright.org.
<https://savewright.org/building/rayward-house/> Frank Lloyd Wright's "Tiranna" is for sale! New Canaan, Connecticut. Learn how one famous architect's understanding of human nature is displayed in his mathematical designs for building.

SEVENTH GRADE MATH PRE-ALGEBRA

SKILLS:

Students will be able to:

- Calculate absolute value
- Complete integer calculations
- Complete rational numbers calculations
- Complete order of operation problems with rational numbers
- Write, simplify, and evaluate expressions with rational numbers
- Plot points (making polygons) on the coordinate plane
- Solve multi step equations that include combining like terms and using the distributive property with rational numbers
- Solve two step inequalities with rational numbers and plot on number line
- Use laws of exponents (including negative exponents) to simplify expressions
- Write numbers in scientific notation
- Complete multiplication and division work with Scientific Notation
- Use ratios, rates, similarity, and scale factors to solve problems with unit rates and proportions
- Use dimensional analysis to solve measurement problems
- Use proportions and percent equation formula to solve percent problems
- Produce graphs (line, bar, and scatter plot) based on given data
- Interpret graphs for outliers and measures of central tendency
- Use the Pythagorean Theorem
- Measure interior and exterior angles of polygons using a protractor
- Calculate measures of angles within transversals
- Use knowledge of total number of degrees in angles of polygons to solve problems
- Solve volume and surface area problems of 3 dimensional figures (prism, cylinder and cone)
- Calculate theoretical and experimental probability

CONTENT:

- Absolute value
- Add, subtract, multiple, and divide integers
- Add, subtract, multiply, and divide rational numbers
- Terminating and repeating decimals
- TI 34 calculator or similar calculator
- PEMDAS; exponents and grouping symbols
- Coordinate plane; reflections and translations
- Combining “like terms”
- Property of Equality and Distributive Property

- Inequality symbols
- Scientific notation
- Ratios, rates, “cross products”, similarity, scaling, conversion factors
- Percent equation, percent function on calculator; taxes, discounts, markups, percent change, simple interest
- Graphing project with measures of central tendency
- Pythagorean Theorem; perfect squares and square roots
- Protractor
- Transversals
- Volume and surface area formulas

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- With your child, compute how much time each of you has spent watching TV in your lifetime. Discuss with your child how you should approach this problem. What computations will each of you have to do in order to solve this problem?
- Work with your child to design his/her idea of an ideal classroom (bedroom, den, kitchen). Think about the ways you would change this room, keeping it realistic. Work with the arrangement of furniture and space and other features to make the room use better. With your child make a scale drawing of the new room. In your drawing be sure to indicate the size of the room and identify all of its contents.
- Visit a local bowling alley; learn how to keep score in bowling. With your family make a poster illustrating how the scoring of bowling works.
- Go to a local semi-professional or professional baseball game. Keep a scorecard during the game using the appropriate symbols for the scoring. Choose five players (at least one pitcher); find their ERA (earned run average) and RBI (runs batted in). Compute what the ERA and RBI's of the players were at the game you attended.
- Using a camera, walk around your neighborhood with your child and take pictures of geometrical figures. Find two examples of each of a polygon, rectangle, square, circle, trapezoid, triangle and other multisided shapes. With your child create a scrapbook, display, or poster. Label the pictures as to the shape that was found.
- Read with your son/daughter Money Doesn't Grow on Trees. Try to implement some of the suggestions on keeping a budget.
- Share your household budget with your child. Help your son/daughter understand what expenses you have and how you are planning for the future.
- Encourage your son/daughter to establish some long term financial goal for themselves (new bike, dream tennis shoes, etc.), and develop a plan for earning enough money to make this goal a reality.

Family Field Trip suggestions:

Connecticut

- **Private Historic Yale Self-Guided Walking Tour.**
https://www.tripadvisor.com/AttractionProductReview-g33851-d25463470-Private_Historic_Yale_Smart_Phone_Self_Guided_Walking_Tour-New_Haven_Connecticut.html
Visit a college while taking an historic tour around New Haven's architectural sites. Get out the camera and measure the angles of buildings through your smart phone. Learn the stories behind the scenes, including the Inventors of the Hamburger.
- Bowlero, Norwalk, Connecticut. <https://www.bowlero.com/> Who will keep score?
- Connecticut Historical Society Museum. Hartford, Connecticut.
<https://www.connecticutmuseum.org/>
Compare the past and connect with the present. Think about history and a world without calculators. How did the different eras and cultures measure, create, do business, and live?
- New York Yankees Game. The bleachers can get rowdy!
https://www.mlb.com/yankees/tickets/single-game-tickets?mlbkw=ds-g-p30551135331&gclid=Cj0KCQjwqs6lBhCxARIsAG8YcDi_pGh8FGWeZUNUztWvC3uix5fniGaWOL-PcMUNLTz4XR5Oph2ChqoaAiAnEALw_wcB&gclsrc=aw.ds
- New York Mets Game. How about those Mets?
https://www.mlb.com/mets/tickets/single-game-tickets?mlbkw=ds-g-p27915153047&gad=1&gclid=Cj0KCQjwqs6lBhCxARIsAG8YcDi0o0TMzECHgPgEEW7Ox9Qgh0zZof7Cxa7vE9lfkW5RraaWOvhNmIaAn8IEALw_wcB&gclsrc=aw.ds

Beyond Connecticut

- 5 Wits Erie. Erie, Pennsylvania. <https://5-wits.com/erie/>
An immersive experience challenges you with Five Wits puzzles and games. Five Wits are in a variety of locations.
- Independence Seaport Museum, Philadelphia, Pennsylvania.
<https://www.explorableplaces.com/places/independence-seaport-museum>
Self-guided field trips for Grades K-12 show students the basics of how engineers navigate and calculate distance. See compasses, maps, and navigation objects from the colonial era.

- The Fabric Workshop and Museum. Philadelphia, Pennsylvania.
<https://www.explorableplaces.com/places/the-fabric-workshop-and-museum>
Apply your math lessons while you measure, cut, and craft fabric. Create and design using Math.
- Fairmont Waterworks. Philadelphia, Pennsylvania.
<https://www.explorableplaces.com/places/fairmount-waterworks>
Learn about calculations and aquatic microbiology.

Virtual

- <https://www.youtube.com/user/MuseumOfMathematics> Hear how math is applied to real world situations.
- <https://us.kitchenplanner.net> Create your own kitchen online.

SEVENTH GRADE SCIENCE

SKILLS:

Students will be able to:

- Identify and use standard laboratory safety practices in the Science classroom.
- Conduct research and develop experiments based on observations, gather and analyze data, and explain results.
- Use models to recognize cell structures and their functions.
- Demonstrate the interactions among several of the body's systems.
- Recognize the importance of environmental factors in the growth of all living things, including human beings.
- Identify the connections among features of an ecosystem, human and natural events, and the overall health of an ecosystem, including the availability of resources.
- Understand that biodiversity is essential for sustaining life on Earth.
- Explore the use of Earth's natural resources including minerals and water.
- Identify ways that a growing human population affects Earth's air, land, and water and ways to mitigate the human impact.
- Recognize the properties of the many forms of waves encountered daily, as well as ways in which electromagnetic waves are relevant to our lives and to the technologies we use every day.
- Investigate the interactions between electricity and magnetism.
- Understand and recognize the advantages and disadvantages of digital and analog signals.

CONTENT:

- Science Lab Safety: Guidelines for safe performance of experiments. Knowledge of safety equipment.
- Scientific Method: Observation. Creating effective experiments. Developing Hypotheses. Research. Data collection and analysis. Explaining and publishing results.
- The Cell System: Structure and Function of Cells. Cell Structures. Obtaining and removing Materials. Cell Division. Photosynthesis. Cellular Respiration.
- Human Body Systems: Body Organization. Systems Interacting. Supplying Energy. Managing Materials. Controlling Processes.
- Reproduction and Growth: Patterns of Reproduction. Plant Structures for Reproduction. Animal Behaviors for Reproduction. Factors Influencing Growth.
- Ecosystems: Living Things and the Environment. Energy Flow in Ecosystems. Cycles of Matter.

- Populations, Communities, and Ecosystems: Interactions in Ecosystems. Dynamic and Resilient Ecosystems. Biodiversity. Ecosystem Services.
- Distribution of Natural Resources: Nonrenewable Energy Resources. Mineral Resources. Water Resources.
- Human Impacts on the Environment: Population Growth and Resource Consumption. Air Pollution. Impacts on Land. Water Pollution.
- Waves and Electromagnetic Radiation: Wave Properties. Wave Interactions. Sound Waves. Electromagnetic Waves. Light.
- Electricity and Magnetism: Electric Force. Magnetic Force. Electromagnetic Force. Electric and Magnetic Interactions.
- Information Technologies: Electric Circuits. Signals. Communication and Technology.

The following are suggestions that you can do with your child to reinforce the above Science skills and content:

- Write menus for what you would consider ideal breakfasts, lunches, and dinners for four days. Prepare a healthy meal for the family that includes all six important nutrients.
- Visit the DNA Zone at a local Science Center.
- Research a cell researcher (Rosalind Franklin, Camillo Golgi, Sir Hans Krebs, Rudolf Virchow, James Watson, Francis Crick) and trace the development and impact of technology on modern science.
- Stay current with the scientific research/studies at local universities.
- Make your own memory game using science vocabulary words and definitions.
- Follow the physical training schedule of favorite sports players/Olympiads. Investigate how the organ systems work together to achieve maximum athletic performance.

Family Field Trip suggestions:

Connecticut

- Mill River Park, Stamford Connecticut. <https://millriverpark.org/>
A newly built education center offers an array of educational and family events that recognize the importance of ecosystems and sustainability. Ride a carousel after the walk.

- The Danbury Railway Museum. Danbury, Connecticut. <https://www.danburyrail.org/>
On weekends, all can take a ride on historic trains and research the influences of how railroading has impacted the New England region. Contrast how technology and railroad signals have changed and remained the same over time.
- Cove Island Park. Stamford, Connecticut.
<https://www.stamfordct.gov/Home/Components/FacilityDirectory/FacilityDirectory/120/507>
See marine life from Stamford's local ecosystem along the Long Island Sound and visit the Wildlife Sanctuary tucked in the back of the parking lot.

Beyond Connecticut

- The Paley Center for Media, New York, New York.
<https://www.paleycenter.org/visit-visitny/> Learn about media, radio broadcasting and how it is made available to the public.
- New York Hall of Science. New York, New York. [New York Hall of Science](#)
Modern technology shows the history of New York. Your phone's Snapchat Camera can show the power that fuels New York City.

Virtual

- The Nature Conservancy.
<https://www.nature.org/en-us/about-us/who-we-are/how-we-work/youth-engagement/nature-lab/virtual-field-trips/> Informational videos of ecosystems' strengths and challenges; you might wish to visit a site another time in the future.
- The Hoover Dam. <https://www.youtube.com/watch?v=I6gSEsftPVU>
Examine the powerful structure of bridges and man-made dam that offers a hydro-electric powerplant that has withstood time since its formation in The Great Depression. Its purposes are multi-faceted, sending water supplies to Southern California and Los Angeles and offering flood control and irrigation for surrounding ecosystems.

THE CATHOLIC ACADEMY OF STAMFORD

PARENT GUIDE TO THE CURRICULUM



THE CATHOLIC ACADEMY
OF STAMFORD

GRADE 8

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THE EXUBERANT EIGHTH GRADER

The eighth grade represents a year of self-recognition. Eighth graders become more self-assured with their academics. They are confident in applying divergent thinking skills. It is at this point in their education that they emerge as leaders. Establishing goals as a class in early fall helps them recognize their potential.

They move easily and freely among their peers and rarely seem to be at a loss for friends. However, it is important that you, as parents, become acquainted with your child's friends, encouraging him/her to make wise choices.

Structure and limits on your child's outside activities will act as an assurance for their safety. They are not too old for you to ask: "Where are you going? Who will you be with? Will their parents be home? Etc." Networking with your child's friends is an important factor to your child's safety. Monitoring your child's online activity including text messages, apps, and websites visited is another essential part of assuring your child's health and safety.

One of the eighth graders' most outstanding characteristics is his/her enthusiasm. Becoming involved in a wide variety of interests can excite them. Their enthusiasm generates the spirit of the school. Participating in parent activities will act as a positive example.

Equally, their enthusiasm about high school urges them to channel their energies to excel in academics. It may be for the first time that he/she recognizes the effect of his/her actions on long-range educational opportunities. They look upon their entrance into high school as an adventurous exciting journey.

During this eighth grade year they will prepare for the reception of the sacrament of Confirmation. This too, is an exciting time for them as it signals the completion of the sacraments of initiation and their choice to be confirmed in the commitment to their faith that began at the time of their baptism.

EIGHTH GRADE LANGUAGE ARTS

SKILLS:

Students will be able to:

- Close Read and annotate using higher level text
- Use higher level knowledge of vocabulary words to Close Read and analyze higher level text
- Use the writing/editing process to complete essays from prompts in various types of text
- Use videos/technology to establish purpose of informational text
- Differentiate between fiction and nonfiction text for repeated themes in history in conjunction with Social Studies curriculum
- Use evidence to understand higher level text for author's purpose and audience
- Recognize good writing for all mechanics and grammar
- Understand skill development vs content knowledge in all subject areas
- Demonstrate with master note taking/study skills to the high school and beyond
- Identify strengths and weaknesses to engage in meaningful self-assessment for long term growth

CONTENT:

- Novel Study
- Higher Level poetry/Short Stories/informational text
- Daily Language Activity
- Continued use of activities and practices that enhance daily vocabulary/reading & writing skills for the high school years and beyond
- Notetaking and study skills for test and projects across all subject areas

The following are suggestions that you can do with your child to reinforce the above Language Arts skills and content:

- Create a career book. Choose an occupation and find ten facts about it. Interview a person doing that work. Check the “Help Wanted” ads for that occupation.
- Do some research on your favorite living author. Plan a telephone interview. Bantam books and Dell Publishing have telephone lines to their authors.

- Make a travelogue or video from a place you have been or are planning to visit. Make it a guide for future tourists.
- Make a “Bestseller List” of your favorite books. Give a brief summary of each book and why you’re recommending it.
- Read a book that has been adapted for film. When you have finished reading the book with your child, watch the movie. List how they are alike and how they are different. Discuss which version your son/daughter likes better and why. Share your choice, too.
- Interview residents of your neighborhood and write down some local traditions and folklore.

Family Field Trip suggestions:

Connecticut

- Waveny Park, New Canaan, Connecticut <https://wavenyparkconservancy.org/visit/>
Nestled in New Canaan, the hikes are rich with nature’s splendors and art exhibits. Many movies are actually made there. Do you know which ones? Videotape the scenery and make yourself a film for your travelogue. You can bring your camera and dog!
- See [Literary Connecticut](#) and the many authors’ sites you may visit at authorsadventures.org.
Follow a world of literary trails in person- from Eugene O’Neill in New London, Connecticut, and then ride upstate to Mark Twain, in Hartford, Connecticut. Discuss and compare the authors’ styles and lives along the way!
- ELA and History pair well together! Read a novel like Uncle Tom’s Cabin and then visit see a museum that is a tribute to one woman’s contributions to the world. Harriet Beecher Stowe Center. (860)522-9258<https://www.harrietbeecherstowecenter.org/info@stowecenter.org>
- Book signings are everywhere! Bring your favorite novel and meet the authors in person. Browse a bookstore website to see if your publisher is hosting an author signing. Barnes and Noble is just one local store that offers author signings year-round.
<https://www.barnesandnobleinc.com/our-stores-communities/events/>
- Reminder: Your Public Library Shows All the Events by local and famous authors for All Ages All the Time! Eighth graders are always welcomed for researching authors. Continue to make your local library part of your weekly routine visits.

Beyond Connecticut

- The American Folk Art Museum. New York, New York <https://folkartmuseum.org/>
Cultural folklore comes to life.
- Museum of the Moving Image, Astoria, New York. [Museum of the Moving Image](#)
Film, culture, and history come together in diverse Astoria, New York.
- Wave Hill, Bronx, New York <https://www.wavehill.org>
Meditate in these beautiful gardens overseeing the Hudson River. Imagine what the former residents, many of them famous authors, may have seen. Who are the authors and what did they write? Bring a good book and your journal for your reflections.

Virtual

- Take a virtual Field Trip by Theme and Author through Educationworld.com. [Take Literary Virtual Field Trips | Education World](#)
- Explore the works of just one of many American authors at Walden.org
- See the world through the American Folklore Society's Folklore Podcasts <https://americanfolkloresociety.org/resources/folklore-podcasts/>

EIGHTH GRADE GRADE LEVEL MATH

SKILLS:

Students will be able to:

- Complete calculations with rational numbers
- Identify rational and irrational numbers
- Complete order of operations problems
- Use laws of exponents to simplify expressions
- Complete multiplication and division work with Scientific Notation
- Use squares and square roots to solve problems (including Pythagorean Theorem problems)
- Simplify radicals
- Solve multistep equations
- Solve multistep inequalities and plot on number line
- Identify polynomials
- Complete calculations with polynomials
- Identify and evaluate functions
- Calculate the slope of a line
- Graph a linear function
- Identify X and Y intercepts
- Use proportions and percent equation formula to solve percent problems
- Calculate the measurement of angles within a transversal
- Solve volume and surface area problems of 3 dimensional figures
- Make transformations of polygons on coordinate plane
- Identify and extend arithmetic and geometric sequences

CONTENT:

- Add, subtract, multiply and divide rational numbers
- Real numbers
- TI 34 calculator or similar calculator
- PEMDAS; exponents and grouping symbols
- Scientific Notation
- Perfect squares and square roots; Pythagorean Theorem
- Inequality symbols
- Number line
- Add and subtract polynomials (combining “like terms”)
- Multiply monomials with monomials or binomials, multiply two binomials (distributive property, table method, and FOIL)
- Divide monomials (exponent laws)
- Function notation; “vertical line test”
- Slope (formula and “rise over run”)
- Slope Intercept Form of a linear equation

- X and Y intercepts
- Coordinate plane
- Percent equation, percent function on calculator
- Transversals
- Volume and surface area formulas
- Explicit formulas for sequences

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Buy a couple of 1000 piece puzzles. Make it a family project to put the puzzle together. This is very good for visual discrimination and looking for patterns.
- Design a board game. Make the game. Decide how the game starts and ends. Develop the rules of the game. How will you know when the game is over and who wins? Give your game a name.
- Encourage your son or daughter to solve the puzzles in the newspaper (e.g., crossword puzzles or Jumble).
- Have your son/daughter design a new house to fit into the lot where your house is now. Make a model to scale. Determine the size of the lot, total square footage in your present house and in the new house. The house needs to be realistic and fit the needs of our family.
- Make believe you have invented a new cereal. Choose a box that will hold the amount of cereal you want to sell. How much will you charge? Design and make the box. Do you think people will buy your cereal? Why? How much per ounce will your cereal cost? Put everything into a commercial about your cereal.
- Attend a baseball game. Keep a scorecard during the game using appropriate symbols for scoring. If you could improve the game of baseball, what would you do? How big would the park be? How many fans could attend? What would the ticket price be? How much would you pay the team members?
- Visit a grocery store or use newspaper ads. Plan menus for breakfast, lunch, and dinner. Be realistic. How much would it cost you for a week of groceries?
- Keep track of the foods you eat for several days. Using package labels and nutritional information available at various grocery stores, determine how many calories were consumed. What is the average calorie consumption per day? How many calories came from fat? From carbohydrates? From proteins?

Family Field Trip suggestions:

Connecticut

- Connecticut Science Center. [Events & Programs - Connecticut Science Center](#). Summers are often free; find the exhibits that you like, including understanding gardens, including nutritional values of plants, beyond our special CAS one. Math and Science make good friends.

Beyond Connecticut

- The Cathedral of St. John the Divine, New York, New York. <https://www.stjohndivine.org/> Tours remain open to the public, there are so many ways to experience the Cathedral. As the website says: Look Up! Shapes and colors create a space for prayer. Take The Geometry Tour and Geometry Arts Workshop. Learn how geometry impacts architecture in a 1-2 hour tour.
- Check out: [Upcoming Events – National Museum of Mathematics-](#), New York, New York
Math becomes experiential while visiting the New York museum dedicated to all things Math. From Prussia, with Math! Grades 4-12 students can work collaboratively as they are introduced to graph theory and understand why graphs work while crossing the seven bridges of Konigsburg, Prussia.
- Bartram's Garden. Philadelphia, Pennsylvania. [Bartram's Garden](#). Horticultural history relied on calculations.

Virtual Field Trips

- See how the Marlin Stadium is built at <https://cptv.pbslearningmedia.org/resource/b40052d2-202a-4fee-bf6f-5e63f91e9936/b40052d2-202a-4fee-bf6f-5e63f91e9936/>
- See a backstage pass to the World of Disney at [Virtual Field Trip | Working in Harmony](#)

EIGHTH GRADE MATH - ALGEBRA

SKILLS:

Students will be able to:

- Simplify and evaluate algebraic expressions
- Relate a story to an equation, table and graph
- Solve multistep equations including variables on both sides of the equation
- Solve multistep inequalities with variables on both sides of the inequality sign and graph on a number line
- Solve compound inequalities and graph on a number line
- Solve absolute value equations and graph on a number line
- Identify and evaluate functions
- Identify linear and non-linear functions
- Graph linear functions (including absolute value)
- Write linear equations in 3 forms
- Solve a system of equations
- Solve a system of inequalities
- Evaluate, solve and/or graph exponential functions
- Identify and extend algebraic and geometric sequences
- Calculate exponential growth and decay
- Calculate interest
- Identify polynomials
- Complete calculations with polynomials
- Factor polynomials
- Graph and find the solutions of quadratic equations
- Use the quadratic formula
- Simplify radical expressions, including Pythagorean Theorem work
- Complete calculations with radicals
- Simplify rational expressions

CONTENT:

- Distributive property
- Order of operations; grouping symbols (brackets, radical signs)
- Laws of exponents
- Coordinate plane
- Inequality symbols
- Linear and non-linear functions
- Explicit formulas for sequences
- Exponential growth and decay formulas
- Number line
- Function notation; “vertical line test”
- Slope (formula and “rise over run”)
- X and Y Intercepts

- Slope Intercept, Point Slope and Standard Form of linear equations
- Absolute value
- Solutions of systems through graphing, substitution and elimination
- Exponential functions (including interest)
- Add, subtract, multiply and divide polynomials
- Quadratic functions
- The quadratic formula
- Rational exponents
- Pythagorean Theorem, perfect squares and square roots

The following are suggestions that you can do with your child to reinforce the above Math skills and content:

- Buy a couple of 1000 piece puzzles. Make it a family project to put the puzzle together. This is very good for visual discrimination and looking for patterns.
- Design a board game. Make the game. Decide how the game starts and ends. Develop the rules of the game. How will you know when the game is over and who wins? Give your game a name.
- Encourage your son or daughter to solve the puzzles in the newspaper (e.g., crossword puzzles or Jumble).
- Have your son/daughter design a new house to fit into the lot where your house is now. Make a model to scale. Determine the size of the lot, total square footage in your present house and in the new house. The house needs to be realistic and fit the needs of our family.
- Make believe you have invented a new cereal. Choose a box that will hold the amount of cereal you want to sell. How much will you charge? Design and make the box. Do you think people will buy your cereal? Why? How much per ounce will your cereal cost? Put everything into a commercial about your cereal.
- Attend a baseball game. Keep a scorecard during the game using appropriate symbols for scoring. If you could improve the game of baseball, what would you do? How big would the park be? How many fans could attend? What would the ticket price be? How much would you pay the team members?
- Visit a grocery store or use newspaper ads. Plan menus for breakfast, lunch, and dinner. Be realistic. How much would it cost you for a week of groceries?
- Keep track of the foods you eat for several days. Using package labels and nutritional information available at various grocery stores, determine how many calories were consumed. What is the average calorie consumption per day? How many calories came from fat? From carbohydrates? From proteins?

Family Field Trip suggestions:

Connecticut

- Wilton Historical Society: The Heritage Museum. Wilton, Connecticut. <https://wiltonhistorical.org/>
The Betts Sturgis Blackmar House or Red house was built in 1739; then, the Sloan Raymond Fitch house or grey house was built in 1772 in 2001 from its original home ¼ mile because of a road widening project. Fourteen rooms reveal homelife, economy, furniture, and decorations from 1740-1910. Rural New England Homes from the early colonial to the Victorian era reveal how times have changed in home building. Look up the cost of materials today and see how much the home might cost to build today.
- Wells Hollow Creamery, Shelton, Connecticut. <https://www.wellshollowcreamery.com/index.html>
Walk through a live corn maze and enjoy an icecream afterwards. Replicate that maze from memory (or a photo) using sticks from the yard or draw the maze on paper. See if a family member can get out.
- PEZ Visitor Center, Orange, Connecticut. <https://us.pez.com/pages/hours-and-location>
Take a factory tour and learn the machinations of building a business and product. What goes on behind the scenes before you make your purchase of this candy found all over US stores?

Beyond Connecticut

- <https://parks.ny.gov/parks/>
Visit a city or state park. Ask students to calculate the total size of the park. Students can be given maps, or at a smaller park, make the measurements themselves. The calculations can be complicated by a park that has irregular borders. Parks come in all shapes and sizes. Make a chart of the different shapes and sizes. Don't forget the fractions.

Virtual

- New York is a train ride away.
Calling all sports' and math fans to see Citi Field's stadium: Tennis or Baseball?
<https://www.mlb.com/mets/ballpark> Compare the attendance stats from the US Open to the Mets Opener.
- Compare Yankee Stadium Game Opener attendance vs any day.
<https://www.mlb.com/yankees/ballpark>
- Checkout the Stamford Advocate online vs. The New York Times online vs. The Wall Street Journal online. Trial Sessions exist but your local public library may help you access the newspapers to see what offerings and different columns exist in print.

EIGHTH GRADE SCIENCE

SKILLS:

Students will be able to:

- Identify and use standard laboratory safety practices in the Science classroom.
- Conduct research and develop experiments based on observations, gather and analyze data, and explain results.
- Use models to describe the atomic structure and properties of elements on the periodic table.
- Use evidence to identify if a physical change or chemical change in matter has occurred.
- Understand motion, the forces that cause motion, and other related concepts such as speed, velocity, and acceleration.
- Apply and identify Newton's three laws of motion, friction and gravitational forces to everyday experiences.
- Identify how offspring receive traits from their parents.
- Explore the processes that explain how organisms change over time and investigate the factors that drive natural selection.
- Recognize the long history of Earth and how geologic events have impacted the evolution of living things.
- Analyze models of global patterns of winds and ocean currents to understand that heat energy flows from the equator toward the poles directly impacts weather and climate.
- Identify the natural and human factors that impact Earth's climate.
- Understand how objects including the Earth, sun, and moon move through space and recognize how the motion and position of the Earth, sun, and moon affect each other.
- Use models to demonstrate our understanding of the universe and discover how other planetary systems might support life.

CONTENT:

- Science Lab Safety: Guidelines for safe performance of experiments. Knowledge of safety equipment.
- Scientific Method: Observation. Creating effective experiments. Developing Hypotheses. Research. Data collection and analysis. Explaining and publishing results.
- Atoms and the Periodic Table: Atomic Theory. The Periodic Table. Bonding and the Periodic Table. Types of Bonds. Acids and Bases.
- Chemical Reactions: Mixtures and Solutions. Chemical Change. Modeling Chemical Reactions. Producing Useful Materials.

- Forces and Motion: Describing Motion and Force. Speed, Velocity, and Acceleration. Newton's Laws of Motion. Friction and Gravitational Interactions.
- Genes and Heredity: Patterns of Inheritance. Chromosomes and Inheritance. Genetic Coding and Protein Synthesis. Trait Variations. Genetic Technologies.
- Natural Selection and Change Over Time: Early Study of Evolution. Natural Selection. The Process of Evolution. Evidence in the Fossil Record. Other Evidence of Evolution.
- History of Earth: Determining Ages of Rocks. Geologic Time Scale. Major Events in Earth's History.
- Energy in the Atmosphere and Ocean: Energy in Earth's Atmosphere. Patterns of Circulation in the Atmosphere. Patterns of Circulation in the Ocean.
- Climate: Climate Factors. Climate Change. Effects of a Changing Climate.
- Earth-Sun-Moon System: Movement in Space. Earth's Movement in Space. Phases and Eclipses.
- Solar System and the Universe: Solar System Objects. Learning About the Universe. Stars. Galaxies.

The following are suggestions that you can do with your child to reinforce the above Science goals:

- Practice metric conversions by cooking a meal using the metric units.
- Help your child to build a rocket. Use Newton's three laws of motion to perfect its performance.
- Make several different styles of paper airplanes with your child. Launch them and see which one flies the farthest. Graph the results.
- Help your child to memorize the periodic table of elements.
- Log on to the Scientific American web site: www.sciam.com and discuss recent scientific discoveries, e-mail your comments and questions, and explore the exhibit hall.
- Spend an afternoon solving *Science Puzzles* together as family (available at the library or online).
- Research the inventions of Leonardo da Vinci, Alexander Graham Bell, and Thomas Edison; Enter the *Craftsman Young Inventors* contest.

Family Field Trip suggestions:

Connecticut

- Connecticut Science Center. <https://ctsciencecenter.org/events/>.
Know: there are always so many events to explore year-round! You never get too old.
- Connecticut Museum of Mining and Mineral Science.
http://www.ctamachinery.com/what-is-cama/connecticut_museum_of_minin/about-the-connecticut-museu/
View iron mining industry and collections of noteworthy minerals from throughout the state.

Beyond Connecticut

- Smithsonian National Air and Space Museum. Washington, DC.
<https://airandspace.si.edu/visit/museum-dc>
Explore space together here on earth.
- Howe Cavern Tour, Howes Cave, New York. <https://howecaverns.com/cave-tours/>
Go underground and see rock crystal formations and minerals by boat.

Virtual

- <https://www.discoveryeducation.com/community/virtual-field-trips/>
- <https://www.pbs.org/video/newtons-laws-overview-cfqmjz/>
Learn more about Newton's laws!
- https://www.nasa.gov/mission_pages/station/main/suni_iss_tour.html
Have questions about how astronauts live in space? Some of your questions may be answered as you tour the space ship.