What your child will learn in Grade 6
# Grade 6 Mathematics

## What your child will learn
- Use number concepts, problem solving, and properties of rational numbers to explore mathematical relationships
- Use algebraic thinking to describe how a change in one quantity in a relationship results in a change in the other
- Use geometric properties and relationships to model, analyze situations and solve problems
- Draw conclusions based on appropriate use of: statistics, representations of data, and concepts of probability
- Connect everyday experiences by using mathematics to solve problems

## What your child will do
- Identify factors and multiples of a set of positive integers
- Generate equivalent forms or rational numbers (i.e., whole numbers, fractions, and decimals)
- Solve problems by collecting, organizing, displaying, and interpreting data
- Communicate mathematically and use logical reasoning to make conjectures and verify conclusions

## What you'll see (products)
- Models (i.e., objects, pictures, words, numbers) using the four basic operations involving whole numbers, fractions and decimals
- Concrete and pictorial models representing ratios and percents
- Factor trees depicting the factorization of a number
- Graphic organizers that relate vocabulary words to definitions and uses of terms
- Models justifying solutions for solving addition and subtraction problems with fractions
- Labeled pictures of circles, angles, and two-dimensional figures

## How you can help
- Ask students what they are learning and why they are learning it
- Ask student to explain their mathematics problems and solutions
- Recognize any and all effort
- Monitor homework
- DSTV after-school show Calculate This!

## Numerical Fluency
- Greatest common factor, least common multiple, fraction, decimal, percent, ratio, rate, proportion, equivalent
- Circumference, perimeter, area, volume, capacity
- Acute/obtuse/right angles
- Mean, median, mode, and range
- Approximation, estimation, conjecture

## Problem Solving
- Techniques of problem solving applied to real-life problems
- The Dallas Problem-Solving Model (See, Plan, Do, Reflect)
- Hands-on models to solve problems
- Graphing calculators

## Concepts

- Concepts
- Vocabulary
- Numerical Fluency
- Problem Solving

## Vocabulary
- Complete graphic organizers to demonstrate understanding of vocabulary
- Create a foldable demonstrating vocabulary
- Define terms from context of word problem
- Identify and label pictorial models with the proper term
- Discuss words and their meaning through accountable talk in the classroom

## Numerical Fluency
- Use addition, subtraction, multiplication, and division to solve problems using whole numbers, decimals involving perimeter, circumference, area, and volume
- Use addition, subtraction, multiplication, and division to solve problems involving customary and metric measurements

## Problem Solving
- Use manipulatives to represent problem situations
- Use/make a table or organized list
- Draw a picture or diagram
- List problem-solving steps for real life problems
- Check for reasonable answers

## How you can help
- Ask students why they used the particular operations in each of the problems (such as addition vs. subtraction)
- Ask student to make comparisons when shopping to estimate total bill
- Ask students how they can apply what they are learning to new situations
- Help students write a problem for other family members to solve
## Grade 6 Reading

<table>
<thead>
<tr>
<th><strong>What your child will learn</strong></th>
<th><strong>What your child will do</strong></th>
<th><strong>What you'll see (products)</strong></th>
<th><strong>How you can help</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Retell the events of a story in order</td>
<td>Retell stories in order</td>
<td>Written retellings of stories</td>
<td>Provide a comfortable place to read</td>
</tr>
<tr>
<td>Understand the characters, setting, problem, and plot of a story</td>
<td>Describe the characters, setting, problem, and plot of a story</td>
<td>Plays based on stories</td>
<td>Take your child to the public library regularly</td>
</tr>
<tr>
<td>Use important details to tell what a story is mostly about</td>
<td>Tell what a story is mostly about</td>
<td>Reading response logs</td>
<td>Talk with your child about what he/she is reading</td>
</tr>
<tr>
<td>Summarize what he/she has read</td>
<td>Draw conclusions and make predictions</td>
<td>Book projects (such as book jackets or posters) that show understanding of the story</td>
<td>Read to your child and let your child see you reading!</td>
</tr>
<tr>
<td>Make inferences such as conclusions or predictions</td>
<td>Draw conclusions and make predictions</td>
<td>Silent reading in chapter books such as Holes or Hatchet</td>
<td>Have your child read aloud to you</td>
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<td>Book reports</td>
<td>Time your child and see how many words he/she reads in one minute</td>
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<td>Reading rate charts</td>
<td>Make audio and video tapes of your child reading</td>
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<td>Choral and oral reading to entertain</td>
<td>Have your child learn new words during everyday activities</td>
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<td>Read aloud to your child</td>
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<td>Play word games with your child (such as Scrabble)</td>
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<td>Make a game out of finding mistakes in signs and ads</td>
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<td>Lists of multiple meaning words for practice</td>
<td>Help your child learn new words during everyday activities</td>
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<td></td>
<td>Word maps and word drawings (illustrations of word meanings)</td>
<td>Read aloud to your child</td>
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<td>Personal dictionaries or vocabulary notebooks</td>
<td>Play word games with your child (such as Scrabble)</td>
</tr>
<tr>
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<td></td>
<td>Word lists for practice</td>
<td>Make a game out of finding mistakes in signs and ads</td>
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<td></td>
<td>Web and flow chart for planning a story</td>
<td>Have your child plan a story about something you have done together. Write the story together.</td>
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<td>Stories (four or five paragraphs) about an interesting event from his/her own life</td>
<td>Encourage him/her to write letters to family members</td>
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<td>Writing prompts</td>
<td>Provide writing materials</td>
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</tbody>
</table>

**Reading Comprehension**
- Choose books he/she can read without help
- Read in sixth grade level materials
- Read correctly with expression
- Understand how to read for pleasure or information

**Reading Fluency**
- Use knowledge of word parts to figure out words
- Figure out unknown words using clues in the text
- Learn multiple meanings for a known word
- Use dictionaries and thesauruses effectively
- Increase his/her vocabulary through reading

**Vocabulary**
- Learn new words by listening to stories read aloud
- Use new words when speaking or writing
- Use word identification skills such as knowledge of word parts to figure out new words when reading

**Writing**
- Use a web and flow chart to gather ideas and organize writing
- Write stories about a real-life or imaginary event
- Write complete sentences
- Capitalize, punctuate, and spell correctly

- Plan stories before writing using a web and flow chart
- Write stories about a real-life or imaginary event
- Use capital letters and punctuation correctly
- Find and correct mistakes in his/her own writing
## Grade 6 Science

<table>
<thead>
<tr>
<th>Scientific Process Skills</th>
<th>Systems</th>
<th>Properties, Patterns and Models</th>
<th>Constancy and Change</th>
</tr>
</thead>
</table>
| **What your child will learn** | • Safe practices during lab investigations  
• Scientific inquiry  
• Critical thinking and problem solving  
• Tools and equipment  | • Components of our solar system  
• Matter and energy interactions  
• Energy transformations  
• Organism response  
• Living systems  | • Physical and chemical properties  
• Earth systems  | • Species change through generations  
• Force and motion  |
| **What your child will do** | • Implement investigative procedures  
• Collect data  
• Organize, examine, evaluate data  
• Select science equipment and technology  
• Make decisions  
• Communicate valid conclusions  | • Identify characteristics of objects in solar system  
• Describe equipment for space travel  
• Describe energy flow and interactions in living things  
• Identify responses to external and internal stimuli  
• Determine levels of organization  
• Differentiate between structure and function  | • Classify substances by chemical and physical properties  
• Demonstrate how new substances are formed  
• Summarize rock cycle  
• Identify relationships between groundwater and surface water  
• Describe components of the atmosphere  | • Identify changes in traits over generations  
• Identify cells as structures with genetic material  
• Interpret role of genes in inheritance  
• Identify and describe changes in position, direction, and speed of object  
• Measure and graph motion  
• Identify forces that shape Earth  |
| **What you'll see (products)** | • Safety rules and symbols  
• Student safety contract  
• Science equipment  
• Graphic organizers  
• Lab reports  
• Graphs, tables, charts  
• Lab notebook/folder  
• Science Fair project  | Lab Experiments:  
• Modeling the water cycle  
• Classify parts of a system  
• Modeling orbits of the planets  
• Comparing cells  
• Environment and behavior  | Lab Experiments:  
• Evidence of chemical change  
• The inside story on packaging  
• Observing condensation and evaporation  
• Gneiss rice  | Lab Experiments:  
• Toys in motion  
• Balanced and unbalanced forces  
• Identifying alleles  
• Getting DNA from onion cells  
• The unique you  |
| **How you can help** | • Review science information in notebook and labs  
• Complete Science Fair project  | • Collect leaves from trees in the fall and place them in a bottle to observe the decomposition process all year long  | • Record observations of chemical changes they encounter at home  | • Research the invention of electricity and talk about what life would be without it  |
## Grade 6 Social Studies

<table>
<thead>
<tr>
<th>What your child will learn</th>
<th>Writing and Illustrating Using Geographic and Economic Data</th>
<th>Oral Communication Using Geographic Terminology</th>
<th>Geography Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of contemporary world cultures</td>
<td>Build essential vocabulary words related to World Studies</td>
<td>Develop social skills to get along with others</td>
<td>Collect and interpret data to draw conclusions</td>
</tr>
<tr>
<td>How both physical and human processes have shaped geography</td>
<td>Identify main ideas from reading passages</td>
<td>Better communicate ideas and information in an organized and structured format to group and class</td>
<td>Use contemporary, economic, geographical, and social maps, graphs, charts, and data tables</td>
</tr>
<tr>
<td>Why people move from place to place</td>
<td>Complete graphic organizers that help students retain learned information and organize thoughts</td>
<td>Respectfully listen to others thoughts and ideas</td>
<td>Use geographic data to solve geographic and location problems</td>
</tr>
<tr>
<td>What happens when societies interact</td>
<td></td>
<td></td>
<td>Identify distinct cultures that make up the major world regions</td>
</tr>
<tr>
<td>Where people settle</td>
<td></td>
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</tr>
<tr>
<td>Major regions of the world and their political, economic, geographic and social characteristics</td>
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<tr>
<th>What your child will do</th>
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<tbody>
<tr>
<td>Read selected passages about world regions</td>
<td>Use the writing process to write for understanding of key concepts</td>
<td>Present information to the class orally</td>
<td>Use graphic organizers to express ideas</td>
</tr>
<tr>
<td>Use maps, charts, and other data tables to interpret how geography shapes people’s lives</td>
<td>Communicate ideas by drawing visuals</td>
<td>Develop projects based upon what they have learned</td>
<td>Work with teams to make decisions</td>
</tr>
<tr>
<td>Compare/contrast different regions/climates</td>
<td></td>
<td>Identify different points of view and or biases from different cultures</td>
<td>Develop display boards illustrating world regions and their cultures</td>
</tr>
<tr>
<td>Research the cultural characteristics of world regions being studied</td>
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<td>Research music from various world cultures</td>
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<tr>
<td>Maps and other graphics to present geographic information</td>
<td>Completed graphic organizers</td>
<td>Outlines of oral presentations</td>
<td>Geographic data in the from of graphs and maps</td>
</tr>
<tr>
<td>Model representations of different regions, climates, and world cultures</td>
<td>Drawings that indicate understanding of key concepts</td>
<td>Completed projects related to learned concepts</td>
<td>Student-created visuals related to selected regions/climate/cultures</td>
</tr>
<tr>
<td>Drawings that support the selected readings</td>
<td></td>
<td>Visuals related to learned information</td>
<td>Various map-skills activities</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Use of an atlas</td>
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</tbody>
</table>

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<tr>
<th>How you can help</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Let your child observe you reading</td>
<td>Encourage your child to keep an academic journal which charts progress of learning</td>
<td>Have your child practice his/her presentation the night before</td>
<td>Provide positive feedback to your child about his/her projects</td>
</tr>
<tr>
<td>Encourage your child to read stories or biographies related to your native culture and others</td>
<td>Have your child write a summative sentence about what he/she learned in their class</td>
<td>Have your child verbally explain their project to you</td>
<td>Expose your child to different cultural celebrations</td>
</tr>
</tbody>
</table>
# Grade 6 Enrichment Opportunities

<table>
<thead>
<tr>
<th>Physical Education</th>
<th>Music</th>
<th>Theater Arts</th>
<th>Talented and Gifted Program</th>
</tr>
</thead>
<tbody>
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<td><strong>What your child will learn</strong></td>
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<tr>
<td>• Apply movement concepts from one sport to another and recognize key elements of successful movement patterns</td>
<td>• Participate in moderate to vigorous physical activities that include individual and team sports</td>
<td>• Explain in greater detail the function of the body</td>
<td>• Encourage your student to participate and support his/her involvement in activity-based programs</td>
</tr>
<tr>
<td>• Conceptualize how to incorporate physical activity into a daily routine</td>
<td>• Participate in appropriate exercises to develop flexibility</td>
<td>• Demonstrate how to measure their own performance more accurately</td>
<td>• Contact the physical education instructor at your local campus</td>
</tr>
<tr>
<td>• Learn social practices that enable success in competitive and cooperative activities</td>
<td>• Discover lifetime activities</td>
<td>• Explain how to develop plans for improvement</td>
<td>• Visit your local community centers to become involved in activities</td>
</tr>
<tr>
<td>• Posture</td>
<td>• Students are encouraged to join the band or choir. Some campuses offer orchestra—also an excellent option.</td>
<td>• Small group and large group performances</td>
<td>• Encourage your child to practice</td>
</tr>
<tr>
<td>• Music literacy</td>
<td>• Perform a monologue</td>
<td>• Practice</td>
<td>• Monitor your child's grades in all core classes</td>
</tr>
<tr>
<td>• Vocal/Instrumental techniques</td>
<td>• Tell stories</td>
<td>• Compositions</td>
<td>• Attend concerts</td>
</tr>
<tr>
<td>• Diverse cultures through singing, playing musical instruments, movement, and listening</td>
<td>• Improvising</td>
<td>• Self-confidence</td>
<td>• Chaperone events</td>
</tr>
<tr>
<td>• Story telling</td>
<td>• Vocal articulation and projection</td>
<td>• Ensemble skills</td>
<td>• Volunteer</td>
</tr>
<tr>
<td>• Pantomime</td>
<td>• Basic stage language</td>
<td>• Perform creative dramatic works in small and large groups</td>
<td>• Take your child to various events at the library, museums, zoo</td>
</tr>
<tr>
<td>• Improvising</td>
<td>• Memorization</td>
<td>• Engage in creative and challenging lessons, activities, and research that require the use of higher order thinking strategies</td>
<td>• Discuss the products and projects that your child brings home</td>
</tr>
<tr>
<td>• Vocal articulation and projection</td>
<td>• Thinking Activities</td>
<td>• Performances</td>
<td>• Visit the TAG classroom</td>
</tr>
<tr>
<td>• Basic stage language</td>
<td>• Products that represent completed research projects, and extended curriculum lessons and activities (books, reports, presentations, etc.)</td>
<td>• Self-confidence</td>
<td>• Work on questioning skills and logic puzzles with your child</td>
</tr>
<tr>
<td>• Memorization</td>
<td>• Thinking Strategies</td>
<td>• Interpersonal skills</td>
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</tbody>
</table>

- Curriculum is based on themes that include core subjects, and, for example the theme of Perspectives and Questions
- Thinking strategies are included
- Students engage in research projects
- Engage in creative and challenging lessons, activities, and research that require the use of higher order thinking strategies

- Thinking Activities
- Products that represent completed research projects, and extended curriculum lessons and activities (books, reports, presentations, etc.)

- Thinking Strategies
- Interpersonal skills

- Engage in creative and challenging lessons, activities, and research that require the use of higher order thinking strategies

- Thinking Activities
- Products that represent completed research projects, and extended curriculum lessons and activities (books, reports, presentations, etc.)