



# Together for a Better Future

TRIANGLE MATH AND SCIENCE ACADEMY | CARY, NORTH CAROLINA

# Our Mission:

Triangle Math and Science Academy's mission is to prepare students to become competent, responsible, and successful individuals in a globalized and technology-based society through strong academic programs, school-family-community partnerships, and strong teacher-student relationships.



# TMSA Faculty Members



Mr. Kara  
Principal



Mrs. Watters  
Elementary Dean



Ms. Lanham  
Middle School Dean



Mr. Tuncer  
High School Dean



Mrs. Wood  
Administrative  
Assistant



Mrs. Garland  
Administrative  
Assistant



Mrs. Bell  
PowerSchool  
Coordinator



Mrs. Warcup  
Academic  
Support



Mrs. Favreau  
Academic  
Support



Mr. Scranton  
Academic  
Support

# Support Staff

- Academic support K-5, 6-8, 9-12
- Reading Interventionist K-5
- Full-time social worker
- Full-time discipline coordinator K-8
- EC Coordinator, 4 EC teachers, 2 EC TAs
- EC Support contracted (OT, Speech, Psychologist)
- Full-time nurse aide and librarian
- PowerSchool coordinator and admin assistants

# School Performance Grade

| Year      | School Performance Grade | School Performance Score | NC Report Card             |
|-----------|--------------------------|--------------------------|----------------------------|
| 2018-2019 | A                        | 89                       | <a href="#">Click Here</a> |
| 2017-2018 | A                        | 89                       | <a href="#">Click Here</a> |
| 2016-2017 | A+NG                     | 90                       | <a href="#">Click Here</a> |
| 2015-2016 | A+NG                     | 89                       | <a href="#">Click Here</a> |
| 2014-2015 | A+NG                     | 85                       | <a href="#">Click Here</a> |
| 2013-2014 | A                        | 85                       |                            |

\*TMSA received the highest possible School Performance Grade (SPG) for the last 6 years. DPI no longer awards A+ to any school as of 2017-2018. (The plus sign recognized no gaps in any subgroups.) TMSA exceeded its expected growth for the 2017-2018 school year.

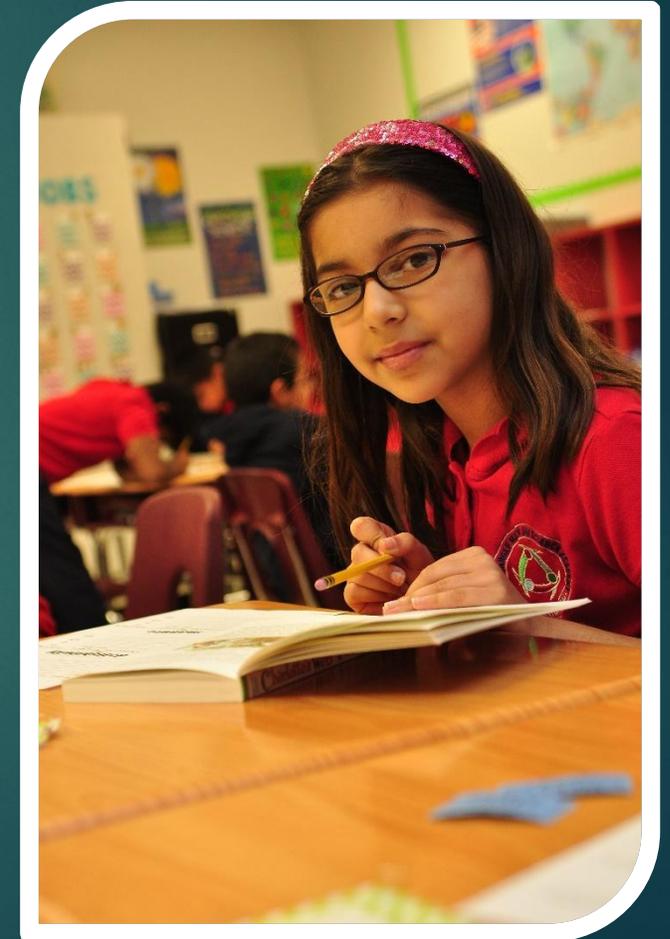
**2018-19 school year we received an A rating with another 89% and we met our academic growth.**

For more information regarding NC and Triangle Math and Science Academy School Report Cards and School Performance Grades, please visit:

<http://www.ncpublicschools.org/src/>

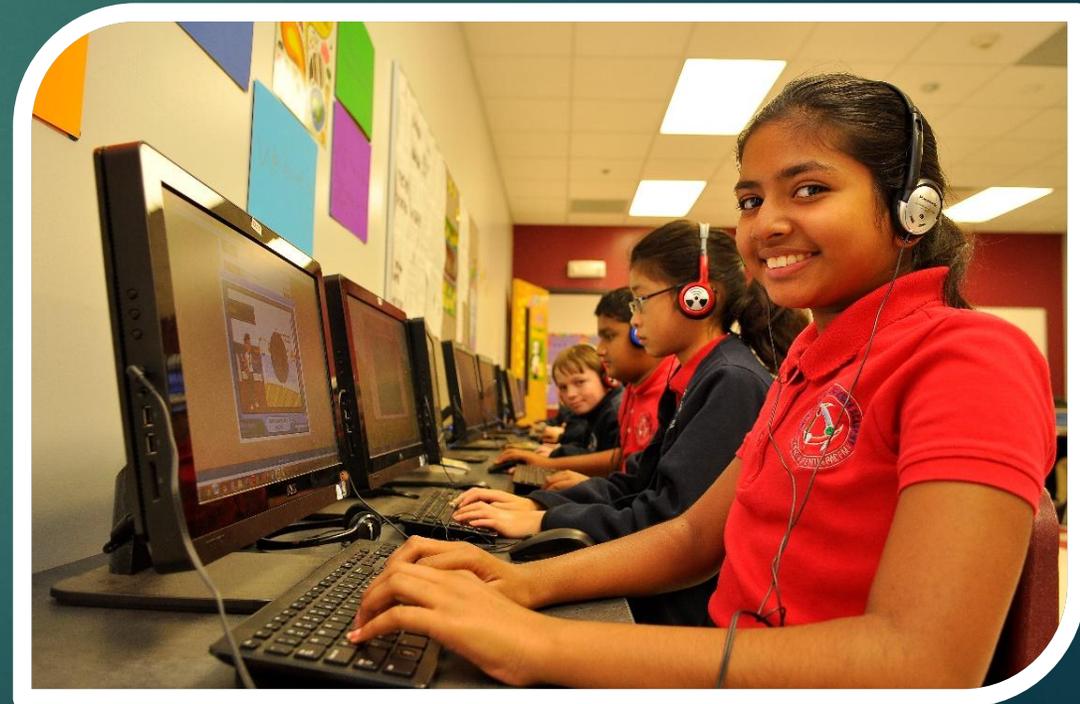
# What is a Charter School?

- ▶ Public School that is governed by a nonprofit board
- ▶ Open enrollment through a lottery process
- ▶ No tuition
- ▶ No academic eligibility requirements
- ▶ Accountable to DPI through yearly performance goals



# Why TMSA?

- ▶ An A/A+ NG School Proficiency Grade 6 years in a row
- ▶ STEM Focus: Science, Technology, Engineering, and Math
- ▶ All courses follow NCDPI Standard Course of Study
- ▶ Technology Enriched Education
- ▶ Research-based Curriculum
- ▶ Advanced Learner Options
- ▶ Free Tutoring
- ▶ Remediation Classes
- ▶ Free Saturday School Tutoring
- ▶ College Prep School
- ▶ Academic Teams



# Why TMSA? (continued)

- ▶ **TMSA “Family”**
- ▶ **Build Relationships**
- ▶ **Home Visits**
- ▶ **Caring Staff**
- ▶ **Diverse Student Body**
- ▶ **Extracurricular Activities**
- ▶ **Structured Environment**
- ▶ **Safe Environment**
- ▶ **Character Education**
- ▶ **Active PTO**
- ▶ **School Uniform Policy**

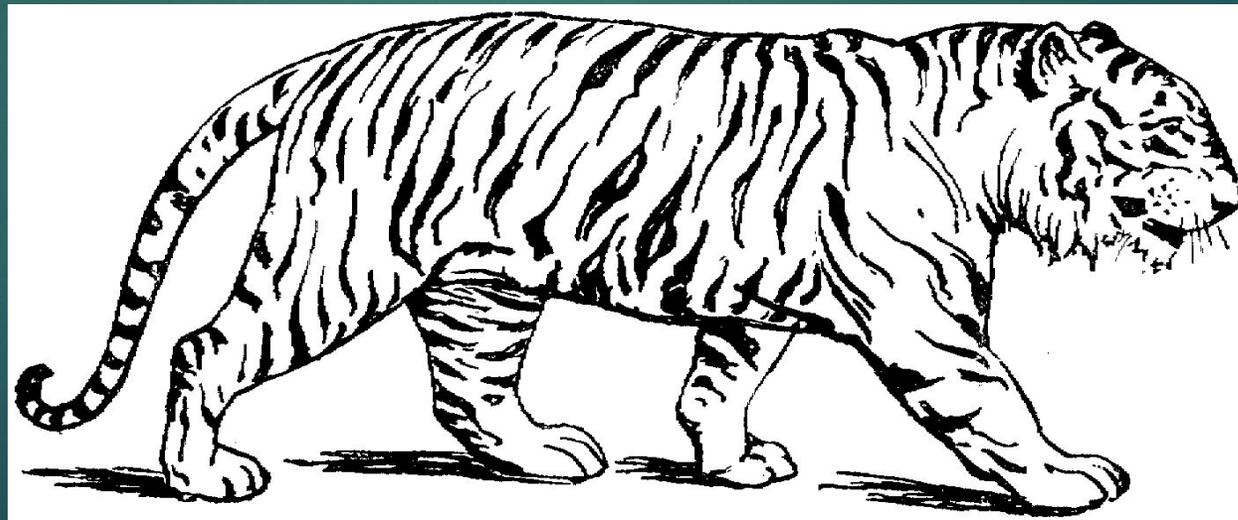


# The Most Successful Students at TMSA:

- Learn independently
- Display a high level of motivation
- Show a strong work ethic and driven to succeed academically
- Exhibit academic strength in Math and Science
- Perform well at an accelerated pace
- Demonstrate leadership qualities
- Participate in academic extracurricular activities
- Plan to be college bound

# Tiger TAILS Program

The **Tiger TAILS** classes were created to help individualize instruction at TMSA. The acronym stands for **T**ime for **A**ctivities that **I**nspire **L**earning and **S**uccess. Currently, classes include academic teams, enrichment classes, and required remediation in math and reading.



# K-3 Self-Contained Classrooms

- We currently have 3 Homerooms per grade level in K-3
- All Kindergarten and first grade classrooms have a full-time teacher's aides
- Second and third grade classrooms have shared teachers' aides
- As of 2018-2019 all K-3 teachers use standards based grading
- Students have a 90 minute daily reading block
- Daily Intervention Block



# 4th-5th Grade Transition Classes

- Designed as transition years to prepare students for Middle School
- Students have an ELA/Social Studies teacher half of the day and a Math/Science teacher for half of the day
- Students begin a math track at grade 4- on grade level, above grade level, and advanced
- Emphasis on organization and study skills to prepare them for independence needed in middle school and beyond

# K-5 Activities

- Field trips to Durham Planetarium, pumpkin patch, Marbles, Jelly Beans forces of motion, Science Museum
- Multicultural Projects
- Hundredth Day of School
- Polar Express Day/Scholastic Pajama Drive
- Holidays Around the World
- STEM Nights
- Fall Festival
- Spirit Week



# K-5 Mathematics Curriculum

- K-3 use the Go Math curriculum
- 4/5 uses the On Core Math
- Concepts are introduced, practiced, tested, and continuously reviewed
- Homework includes a spiral review section.
- Math centers and online math dashboards are extra features utilized in class
- Online student resources- Reflex Math and Study Island- to reinforce concepts



# Math Tracks

| Grade | On Grade Level Track | Above Grade Level Track |                       |                      |
|-------|----------------------|-------------------------|-----------------------|----------------------|
| 4th   | 4th Grade Math       | 4th-5th Grade Math      |                       |                      |
| 5th   | 5th Grade Math       | 6th-7th Grade Math      |                       |                      |
| 6th   | 6th Grade Math       | Accelerated Math        | Foundations of Math 1 | Math I (HS Credit)   |
| 7th   | 7th Grade Math       | Foundations of Math 1   | Math I (HS Credit)    | Math II (HS Credit)  |
| 8th   | 8th Grade Math       | Math I (HS Credit)      | Math II (HS Credit)   | Math III (HS Credit) |

\*Math tracks are subject to change based on student population



# Extracurricular Mathematics Opportunities

TMSA has been regionally, state, and nationally ranked in most of our math competitions.

- Math Olympiad
- Math Kangaroo
- Math Counts
- Noetic Math Competitions
- RCML (Rockets to Math League)
- Math League
- State Math Contests
- AMC 8



# K-8 Science Curriculum



- TMSA integrates STC Kits, PLTW (Project Lead the Way), Project Based Learning, and the Scientific Method to explore science concepts.
- Our goal is for students to study scientific information through hands on learning.
- Science experiments include making observations, solving real-world problems, using science tools, and designing experiments.

# 6th-8th Grade Science Tracks



Students begin a science track at grade 6: on grade level, above grade level or advanced.

| Grade     | On Grade Level Track | Above Grade Level Track             |
|-----------|----------------------|-------------------------------------|
| 6th Grade | 6th Grade Science    | 6th Grade Science                   |
| 7th Grade | 7th Grade            | Earth and Environmental (HS Credit) |
| 8th Grade | 8th Grade            | Physical Science (HS Credit)        |

# Project Lead the Way (PLTW)

Each PLTW unit engages students in activities that build knowledge and skills in areas including computer science, engineering, and biomedical science; they also empower students to develop essential skills, such as problem solving, critical and creative thinking, communication, collaboration, and perseverance.

| Kindergarten Launch Kits                    | First Grade Launch Kits                      | Second Grade Launch Kits                   | Third Grade Launch Kits                         | Fourth Grade Launch Kits                           | Fifth Grade Launch Kits |
|---|--|--|---|--|-------------------------|
| Structure and Function:<br>Exploring Design | Light: Observing the Sun,<br>Moon, and Stars | Materials Science:<br>Properties of Matter | Stability and Motion:<br>Forces and Interaction | Energy: Conversions                                | Robotics and Automation |
| Pushes and Pulls                            | Animal Adaptations                           | The Changing Earth                         | Variation of Traits                             | Input/Output:<br>-Computer Systems<br>-Human Brain | Infection: Detection    |

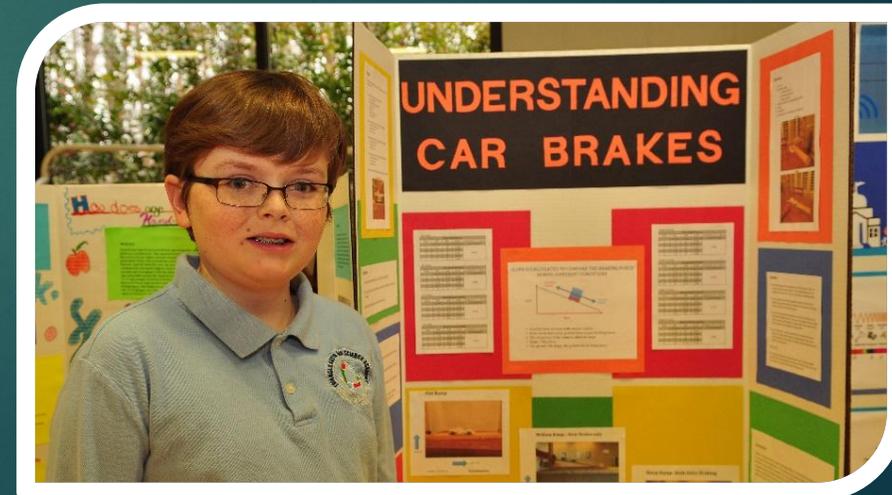
| Middle School Gateway 1*: | Middle School Gateway 2*:   |
|---------------------------|-----------------------------|
| Flight and Space          | Design and Modeling         |
| Science of Technology     | App Creators                |
| Magic of Electrons        | Automation and Robotics     |
| Medical Detectives        | Intro to Engineering Design |

**PLTW Launch (ES) is worked into the regular science curriculum. PLTW Gateway (MS) is offered as a middle school elective.**

**\*PLTW courses may vary depending on student interest and staff availability.**

# STEM Science Fair

- ▶ Students in grades 4-8 design their own experiment and participate in the annual Science Fair.
- ▶ Finalists from the TMSA Science Fair go on to compete in the Regional Science Fair.



# Science Olympiad Team

- One of our school's many academic teams
- Students in 4<sup>th</sup>-8<sup>th</sup> grades compete against other schools in different science events.
- Events cover all fields of science, including engineering, biology, geology, and physics.



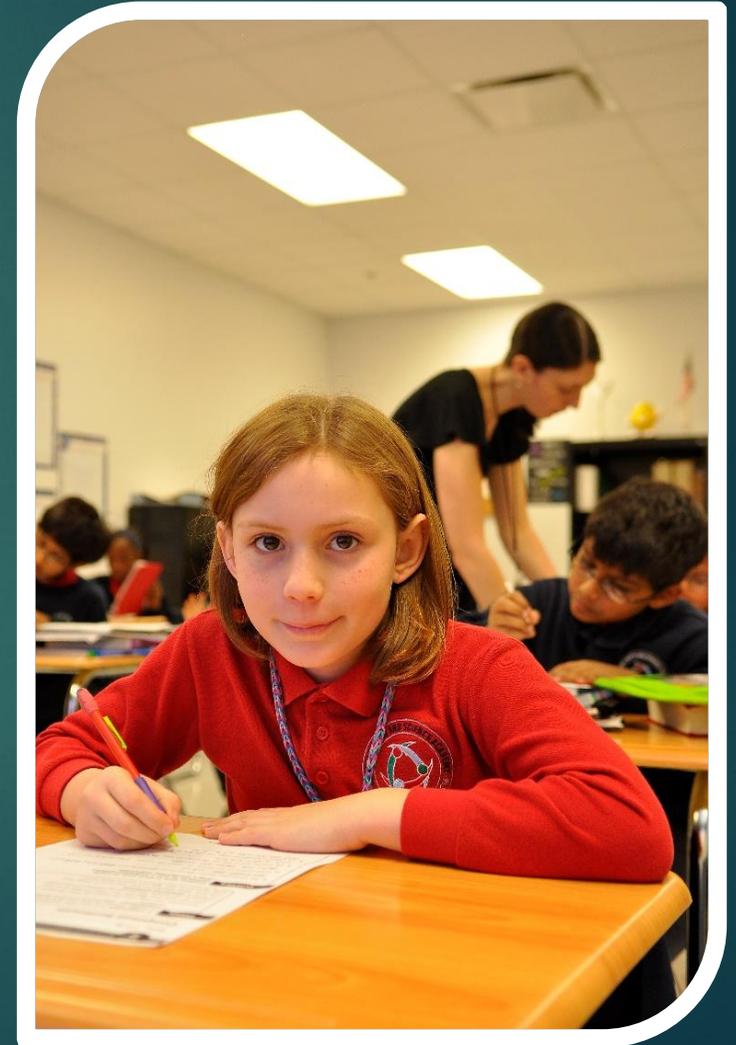
# ELA Curriculum

## K-5 Grade Classrooms use:

- K-3 Scott Foresman: Reading Street
- 4-5 use novel studies
- 5 Pillars of Reading: phonemic awareness, phonics, vocabulary, reading comprehension, and fluency

## Grades 6-8 Classrooms use:

- Prentice Hall Literature
- Wordly Wise 3000
- Supplement with novel units and additional materials
- Cover all aspects of Language Arts: reading, writing, speaking, listening, vocabulary development, and word study

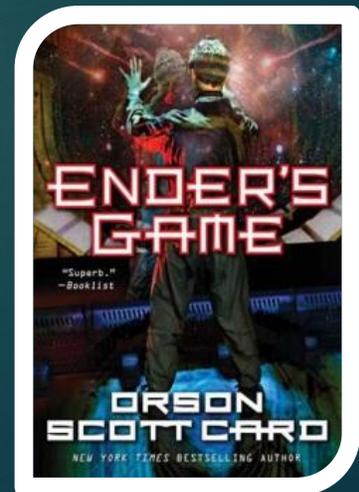
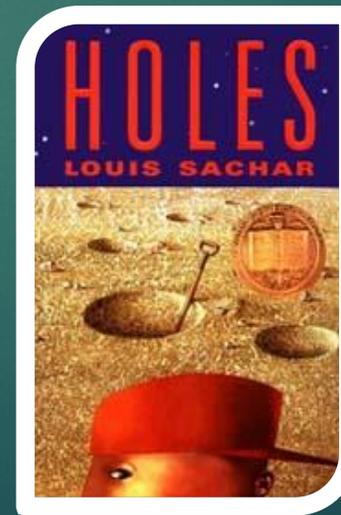
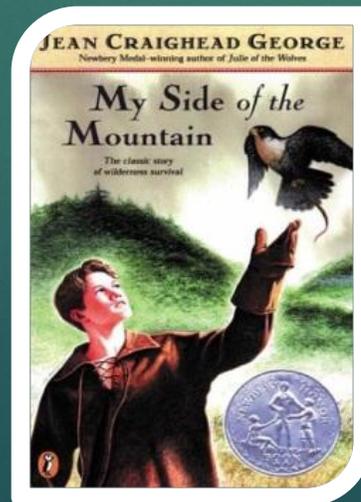


# Classroom Literature Units

We enrich traditional reading instruction through the use of literature units. Novels chosen are carefully selected to instill a love of reading in students, as well as to enhance their language skills.

Examples include:

- *My Side of the Mountain*
- *Holes*
- *Wonder*
- *Touching Spirit Bear*
- *Ender's Game*



# Social Studies Curriculum

## ELEMENTARY SCHOOL:

Covers 5 main strands: history, geography and environmental literacy, economics and financial literacy, civics and government, and culture

## MIDDLE SCHOOL:

Focuses on regional, national, global similarities, economies, governments, geography, and cultures



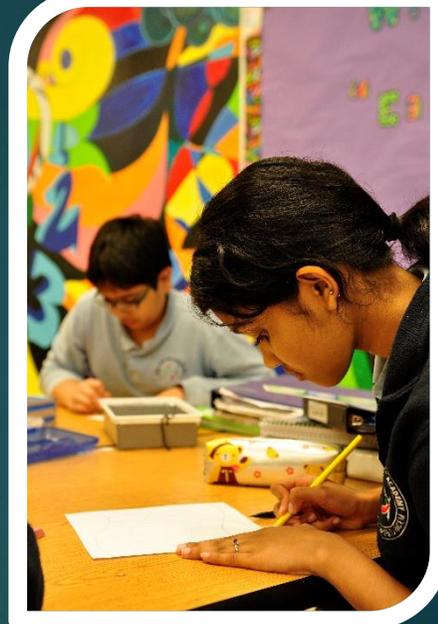
# Specials/Electives

TMSA offers classes, such as the following:

- Physical Education/ Health
- Music
- Band 6-8
- Chorus 4-8
- Art
- Computer
- STEM
- Foreign Language\*

\*6th-7th grade students can select between Spanish, Turkish, and German (these are not for HS credit).

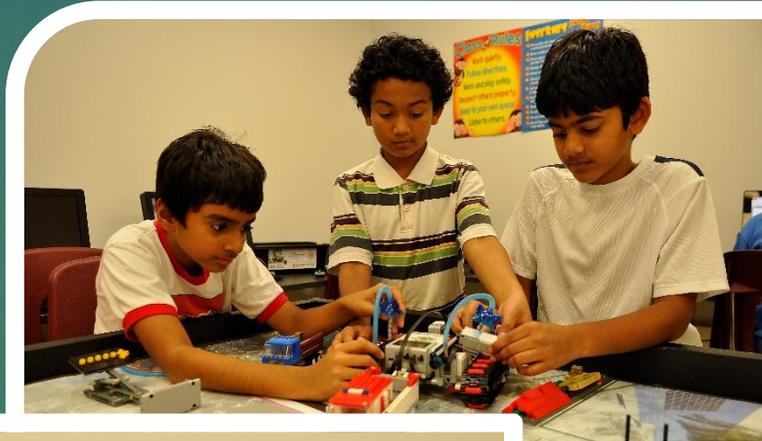
Grade 8 can select from Spanish, Turkish, and German for HS credit.



# Academic Teams

TMSA academic teams compete in regional, state, and national competitions.

- Math Olympiad
- Science Olympiad
- Robotics
- Science Bowl
- You Be the Chemist



# Student Organizations

- National Junior Honor Society (NJHS)
- Student Council
- College Leadership Program (CLP)



# After-School Clubs

## Physical Fitness Clubs:

- Running
- Golf
- Tennis
- Basketball
- Martial Arts
- Yoga

## Fine Arts Clubs:

- Art
- Drawing
- Painting

- Clubs change from year to year depending on student interest and vendor availability.

## Technology Clubs:

- Engineering for Kids- Junior Robotics
- Bricks for Kidz

## Math and Science Clubs:

- Little Medical School
- Mad Science

## Enrichment Clubs:

- Chess
- Girl Scouts



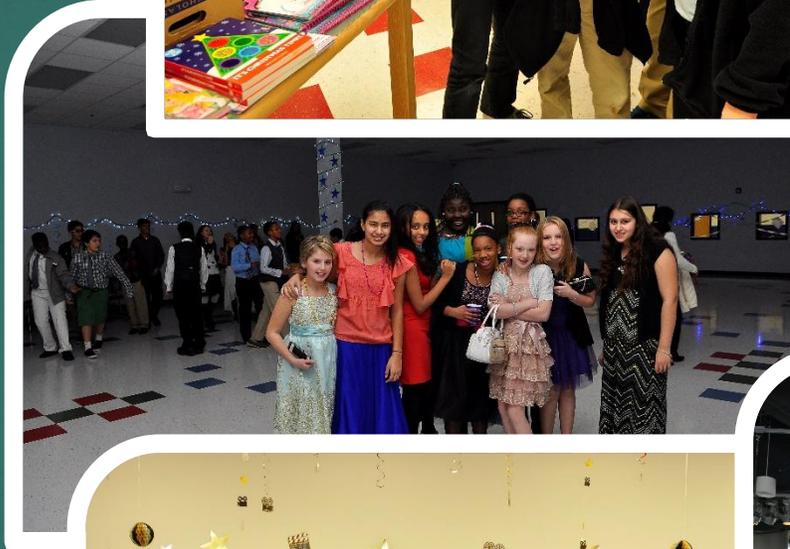
# TMSA Middle School Athletics

We offer the following for students in grades 6-8

- Boys and girls soccer
- Boys and girls basketball
- Co-ed Cross Country
- Girls Volleyball

# Events at TMSA

- Career Fairs
- Guest Speakers
- Spelling Bee
- Annual Scholastic Book Fair
- STEM Fair
- Grade Level Breakfasts
- Cultural Festivals
- Community Events
- Home Visits
- Middle School Dances
- Talent Show
- Field Trips
- Robotics Competitions
- Math and Science Competitions
- Parent Teas
- Band/Choir Concerts



# Achievements 2012-2013

- A TMSA student placed 3rd at NC State All Girls U-600 tournament
- TMSA students won 1<sup>st</sup> place at the Elementary Science Olympiad Competition and received 7 gold, 7 silver, and 9 bronze individual medals
- TMSA students received 5<sup>th</sup> place in NC State Chess Championship
- A TMSA student received first place at AMC 8 Mathematics Contest
- 19 TMSA students won the National Honor Roll title at Noetic Learning Math Contest
- TMSA students participated in a state-wide competition at Energy Whiz Competition in Florida, winning second place in the Solar Panel Car Race
- Two TMSA students competed in the regional NC Science & Engineering Fair and were eligible to participate in the State Competition

# Achievements 2013-2014

- TMSA Science Olympiad team launched a helium balloon into Earth's atmosphere. The balloon ascended to the elevation of 113,850 feet above sea level.
- Two TMSA students received a perfect score in the North Carolina Math Competition.
- 20 TMSA students participated in Trimathlon Math Contest in which 4 students received perfect scores.
- TMSA FLL Robotics team took 1<sup>st</sup> place in Robot Performance in the regional competition and was qualified to compete at the state tournament.
- TMSA Chess Team earned five different trophies: two first place and three second place trophies at the Raleigh Chess Competition.
- Two TMSA students received perfect scores in Noetic Learning Math Contest. Of the more than 2000 students who competed at 6<sup>th</sup> grade level nationally, only 9 students received perfect scores.
- TMSA's Future City Team received the Best Model Award in the NC Future City Tournament.
- Triangle Math and Science Academy Science Olympiad Team received 48 medals, including 10 gold medals, 4 silver medals, and 14 bronze medals in the Raleigh Regional Science Olympiad competition.
- Three students from TMSA received honor roll certificates (top 5%) in the AMC 8, an American Mathematics Competition.
- TMSA's two teams placed in 2<sup>nd</sup> and 3<sup>rd</sup> in the North Carolina Eastern Region Tournament for Odyssey of the Mind.
- TMSA students were selected to participate in the Regional Science Fair. Two students were awarded as Elementary Exemplary projects and were able to advance to the State Science Fair. One student earned 2<sup>nd</sup> place in the Biology category.

# Achievements 2013-2014 (cont'd)

- Four middle school Mathletes from Triangle Math and Science Academy competed in the North Carolina contests of the national MATHCOUNTS® program and placed 11<sup>th</sup> as a team.
- In the Wake County Chess Championship, TMSA students received first, second, third place in the individual K-8 category. TMSA Team was placed first in K-1 category.
- At the NC State Chess Championship, a student from TMSA came in 10<sup>th</sup> place. The K-8 Team came in 5<sup>th</sup> place.
- Triangle Math and Science Academy's Elementary Science Olympiad won 22 gold medals, 16 silver medals, and 4 bronze medals and placed in 1st place for both the Varsity competition and the Junior Varsity competition in a Regional Science Olympiad Tournament.
- A TMSA 4<sup>th</sup> grader was one of the 102 students invited to the 2014 North Carolina Geo Bee and placed 2<sup>nd</sup>.
- In the 6<sup>th</sup> grade category, TMSA was placed 2<sup>nd</sup> nationwide, and a TMSA student received first place in the Math League Math Contest.
- TMSA Robotics Team won a first place at Triangle Sumobot Competition hosted by Robot Rumble at the Museum of Life and Science in Durham.
- TMSA Odyssey of Mind Team competed and placed 2<sup>nd</sup> at State Finals tournament at Wingate University.
- Science Olympiad Team won 3 medals in Bottle Rocket, Metric Mastery, and Solar System categories. Overall, we placed in 27<sup>th</sup> among 48 teams at the state level.

# Achievements 2014-2015

- First Lego League-Robotics Team received the 1st place in the regional competition.
- TMSA students placed in the top 1% nationwide in AMC 8.
- Cyber Security Team placed 2nd in North Carolina.
- TMSA Cyber Security Team advanced to the Middle School Division semifinals round.
- First Lego League-Robotics Team participated in the State Championship and received Best Presentation Award.
- Future City Team received an award of recognition for Best Use of Water Resources in the NC Future City Tournament.
- TMSA students placed 6th place in State Fair Competition
- TMSA Odyssey of the Mind Team won 2nd place at State Finals, 1st place at Regionals, and make it all the way to World Finals.



# Achievements 2015-2016

- Successfully launched high school
- Implemented an enrichment and remediation program during our 1<sup>st</sup> period known as "Tiger T.A.I.L.S."
- 11 of our students placed within 1<sup>st</sup> and 3<sup>rd</sup> place at the TriMathlon competition. One of our students in 3<sup>rd</sup> grade won 1<sup>st</sup> place nationally.
- One of our students won 1<sup>st</sup> place in the 2015 Math Kangaroo Poster Contest
- K-3<sup>rd</sup> grade successfully raised money for 6 kindle fires for each classroom.
- All K-9<sup>th</sup> grade students participated in the Hour of Code program.
- TMSA Lady Tigers Volleyball defeated Thales Academy
- TMSA Boys Basketball currently in 1<sup>st</sup> place for our division
- Science Olympiad team placed 3<sup>rd</sup> at the regional competition and will be going to the state competition to compete

# Achievements 2015-2016 (cont'd)

- TMSA partnered with local company SAS. Since then SAS has donated 28 laptop computers to TMSA.
- Science department received funding through Donors Choose a Quadcopter DJI Phantom 3 Professional
- TMSA partnered with Kaplan Test Prep to offer SAT preparation classes to TMSA and surrounding community students.
- Six elementary, middle, and high school students had art entries exhibited at the NC State Fair
- TMSA had 18 projects registered for the Wake County Regional Science Fair. Nine of our students got awards and three advanced to the state science fair
- Middle School Science Olympiad received 40 individual medals and brought a third place trophy home.

# 2016-2017 School Performance Grade

TMSA earned an School Performance Grade (SPG) of A+ for the past 3 years- 2016-17, 2015-16, and 2014-15

Earned an A for 2013-14 (before the A+ rating)

Ranked 7th of 1415 elementary schools in NC by Schooldigger.com (up from 9th)

Ranked 10th of 660 Middle Schools

Ranked 3rd of 200 School Districts

[Click Here](#) for 16-17 test results and NC comparison

2016-2017 Reading: A Grade- 90%

2016-2017 Math: A Grade- 87%

2016-2017 Math I: A Grade- 93%

2016-2017 Biology: A Grade- >95%

Growth Score- MET

**A+NG**

**SPG**

# Achievements 2016-2017

- **TMSA added PLTW** (Project Lead The Way) to their core curriculum
- Continuing to expand our enrichment and remediation **Tiger TAILS Program**
- **Additional support staff** added: reading specialist, STEM coordinator, school social worker, full-time nurse aide and librarian
- **TMSA Future City Team** competed against 29 teams at the state level competition and received an award for “Best Use of Public Space”
- **Science Olympiad Team** competed at the regional tournament. Our students brought home 34 medals: 6 gold, 4 silver, and 8 bronze. For the 4th year in a row we are going to the state level.
- TMSA held their first **band** concert in winter
- 24 students won the Honor Roll Medal at **Noetic Learning Math Contest**

# Achievements 2016-2017 (cont'd)

- 11 students won medals on **AMC 8 test**
- Middle School division team **Cyber Tigers** won the Core Value trophy for Gracious Professionalism
- **Cyber Patriot Team** received 2nd place at the state level competition and will be advancing to the regional level
- **HS Robotics Team** received 7th place at the regional level competition and will be advancing to the state level
- All K-10th grade students participated in the **Hour of Code** program.
- Increased Technology: TMSA added 3 additional laptop carts with 78 laptops and 5 additional chromebook carts with 130 chromebooks. This gives us a total of 3 laptop carts and 9 chromebook carts
- Ipads were purchased for all K-3 classes, 4th-5th grade science classes, and for our reading specialist (7 ipads per room)

# Achievements for 2017-2018

## Elementary Science Olympiad Competition Results

- JV Team 1st Place in What's the Matter, 2nd place in Science Password, 3rd Place in Movers and Shakers and Work it Out
- V Team 1st Place in Sky Quest and 3rd Place in Describe It, Build It

## HS Science Fair Results

- Aditya Shankar won:  
CATEGORY AWARD: Honorable Mention in Technology Category  
SPECIAL AWARD: 3rd Place in US Army Award for Technology
- Maryam and Ibrahim Moghul won:  
CATEGORY AWARD: 1st place in Earth/Environmental Science  
INVITATION TO PARTICIPATE IN INTEL ISEF National in Pittsburgh PA

## State Mathcounts results

- 2nd place Eric Wu (He is qualified for state team and will compete for national Mathcounts competition in DC)
- 10th place Kenan Hasanaliyev
- 6th place as a team

# Achievements for 2017-2018 (cont'd)

- HS DECA was awarded for Chapter of Distinction
- Annual Line Follower Robotics Competition hosted at TMSA
  - Elementary won 1st place
  - Middle School won 1st, 2nd, and 3rd place (3 different teams)
- 24 students participated in Clemson University for Bebras Computing Challenge Regional Finals.
- One of our students is one of the Winners of Math Kangaroo 2017. They also took 2nd place in Mathnasium Trimathlon.
- One of our students got 1st placed in UNCG State Math Contest

# Achievements for 2017-2018 (cont'd)

- Annual Daddy Daughter dance 3/10/18
- Band Concert/Art Competition sponsored by PTO 3/23/18
- K-3 STEM FAIR May 11th
- Run-A-Thon was a success raised ~ \$12,000
- Annual IVY League Trip
- CLP Engineering Camp at NCSU campus
- HS Career Fair 5/5/17
- Geographic Information Systems (GIS) Day- Withers Ravenel employees visited classrooms and spoke to students about GIS real world applications
- MS Boys Basketball was undefeated
- First Homecoming Dance/Game/PEP Rally
- Purchased an activity bus. Five staff certified to drive it.

# High School Information Sessions

- TMSA is a college preparatory school with its goal being to equip each student for the next level of education. We achieve this goal by offering a wide range of superior academics fostered by a culture of innovative learning. From elementary through high school, we believe our curriculum and robust extra curricular activities and clubs provide the best place for your child to achieve, grow, and learn the skill sets needed for future college success.
- For more information on our high school, please stay for our high school information session at 6:00 PM.

# Application Process

- Now accepting applications for K-12
- March 19, Application Deadline
- March 20, Lottery
- (Lottery at 11:00 AM in the auditorium. Results posted on website by 5:00 PM)



# Questions and Answers

**Triangle Math and Science Academy**

[www.tmsacademy.org](http://www.tmsacademy.org)

Contact: [enrollment@tmsacademy.org](mailto:enrollment@tmsacademy.org)

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