NSBE Jr.

NATIONAL SOCIETY OF BLACK ENGINEERS

PRE-COLLEGIATE INITIATIVES

RULE BOOK

2024 - 2025

NSBE's mission is to increase the number of culturally responsible Black engineers who excel academically, succeed professionally, and positively impact the community

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NSBE

The National Society of Black Engineers (NSBE) was founded in 1975 by six Black engineering students at Purdue University nicknamed the Chicago 6. The original aspiration was to establish a student organization to help improve the recruitment and retention of Black engineering students. NSBE is now the largest student-managed organization in the United States with more than 25,000 members.

NSBE is composed of more than 330 chapters on college and university campuses, 170 professional chapters nationwide and 290+ NSBE Jr. chapters. These chapters are geographically divided into six regions.

The NSBE mission is to increase the number of culturally responsible Black engineers who excel academically, succeed professionally and positively impact the community. For more information on NSBE, please visit www.nsbe.org.

In fulfillment of the NSBE objective to "stimulate and develop student interest in the various engineering disciplines," various programs and competitions were created for pre-college students.

PCI

The Pre-College Initiative (PCI) Program is the focus of the NSBE effort to promote college, academics, technology and leadership to pre-college students. Our primary goal is to encourage students in grades 6-12 to develop interest in Science, Technology, Engineering and Mathematics (STEM).

The mission of PCI is to lead the world in enhancing pre-college students' academic, technical and leadership skills in order to maximize their success in life. The vision is to establish PCI as an incubator for our youth, where they can be nurtured and guided in their academic careers. NSBE Chapters support PCI through multiple programs.

NSBE JR.

A vital component of the PCI program is NSBE Jr., which serves as the membership category for pre-college students and institutions that are officially chartered with NSBE. NSBE Jr. members and chapters are at the core of PCI, as they are the primary beneficiaries of PCI programs.

NSBE Jr. focuses on enhancing the education received by African-American and other minority pre-college students, as well as influencing these students to become tomorrow's corporate executives, entrepreneurs and leaders. In this spirit, NSBE Jr. is the quintessential recruitment, teaching and preparation device for NSBE.

KidWind® PROJECT

The KidWind Challenge is a hands-on design competition that engages students in STEM through the lens of wind energy. Student teams design and construct small wind turbines that they test, and then meet with a panel of judges to present their design process and demonstrate their conceptual knowledge on renewable energy. Teams also engage in a variety of Instant Challenges to gauge their on-the-spot teamwork and problem-solving skills.

When students participate in a KidWind Challenge they will:

- Discover the promise and limitations of wind energy technology.
- Design, build, and test a functional creative wind turbine.
- Compete with their peers in a supportive environment.

KIDWIND TURBINE AND GENERATOR RULES

- Each team that registers must have its own turbine. You will not be allowed to modify another team's turbine and use it for testing. Teams cannot share one turbine and simply change blades or other parts for each team.
- The turbine must fit inside the wind tunnel and operate within its 48" x 48" internal dimensions. It is HIGHLY recommended that you design your turbine to fit within these dimensions with plenty of room. Sandbags or other weights will be available to hold the turbine in place, but we have found that almost all turbines shake and move a little in the tunnel, so it is a good idea to have extra space!
- There are no budgetary restrictions for your turbine design, but it is important to keep in mind that part of the judging process is the economical use of resources. Please use materials responsibly.
- You may only use one generator per turbine. You have three options for choosing what this generator will be:
  - You can use the KidWind Wind Turbine Generator (KW-GEN) - mandatory for Elementary teams.
  - You can construct your own generator using a kit, online plans, or your own ingenuity. (Middle school and High School teams, only).
  - You can select a different AC or DC generator that better matches how much power your turbine can generate.
- If you construct your own generator or use advanced generators, you will be placed in the OPEN DIVISION for energy production at all official KidWind Challenges. If you use a KidWind Generator, you will be placed in the KIDWIND GEN DIVISION. Judges will inspect your generator to determine in which division your team will participate. Please make sure that your generator is visible.
- Power must be generated solely by wind, using the wind tunnel.
- Your turbine can be built on either a vertical or horizontal axis.

- Your turbine may use a gearbox, pulley system, or similar mechanism to increase power output. You may use pre-manufactured gearboxes and other parts, but keep in mind that innovation is a critical judging criterion, and parts that you make on your own will earn you more points.

- You cannot use pre-manufactured wind turbine blades or airfoils/sheets.

- Your wind turbine must be free-standing. A tower/stand will not be provided.

- Metal, plexiglass, and similar blade materials are highly discouraged because they are potentially dangerous. On occasion, we have allowed these types of blades to be used, but only after local judges determined that there was an extremely low risk of failure due to assembly. Send us photos if you are unsure at info@kidwind.org. Please be aware that turbines will be disqualified if they are deemed unsafe by the local judges.

- The use of 3D-printed parts and components is allowed. While you do not have to use files you created yourself, you should bring documentation about the CAD files to the Challenge and be prepared to discuss the design and the 3D printing process. Judges will want to make sure you understand this technology if you decide to use it.

- Students have used wheels from bicycles as part of their turbines. These are allowed since bike wheels are designed to spin at high RPM. Please be aware that if the wheel assemblies appear unsafe, local judges will disqualify these turbines.

- While the use of shrouds to channel the wind is permitted, the turbine and the shroud must fit COMPLETELY inside the wind tunnel to qualify. If any part of the shroud is outside of the wind tunnel during the test, the turbine will be disqualified. Any shroud that is used must be physically connected to your wind turbine (tower, nacelle, or other structure). It MUST move as you move the turbine and should not be independent of your turbine.

JUDGING AND AWARDS

Your team's turbine will be assessed by four categories, each weighted differently as shown in the diagram below. So, brush up on your turbine knowledge, find the best materials and parts you can get your hands on, and have some fun along the way.

TURBINE JUDGING RUBRIC

- Energy Produced in Tunnel (35%)

- Turbine Design (30%)

  - Innovation (10%)
  - Blades (10%)
  - Drivetrain (10%)

- Report/Engineer's Notebook/Documentation (35%)

ENERGY PRODUCED

The total energy output of your turbine over the 30-50 second trial period will be collected using data-logging software. Each team's energy output will be ranked relative to that of other competitors. Each team will receive points corresponding to its rank. In all cases, you want to generate as much energy as possible to get a high score.

TURBINE DESIGN

Judges will inspect the parts of your wind turbine closely. They will also conduct a brief interview with your entire team to understand why you chose the parts you did and why you think they work. A panel of judges will examine your wind turbine design before testing it in the wind tunnel. You must be prepared to discuss/defend the choices you incorporated into the design. The design criteria you will be judged on include:

- The choices and mechanisms by which you maximized power output.
- Craftsmanship of your design, creativity and environmental decisions (e.g., Did you use recyclable materials? Can you take your turbine apart after the competition and reuse the parts?).
- The judges will be very interested in how you developed and constructed specific parts of your turbine. Make sure you understand the decisions you made when constructed the following components.
- 10% Blades
- 10% Drivetrain
- 10% Innovation

DOCUMENTATION OF DESIGN

All students must complete a Project Profile Form. This sheet should be presented to your judges when you enter the judging room.

In addition to this sheet, teams may also share additional documentation with the judges that showcases, with more detail, their design process and knowledge of wind energy science. It is up to each team to determine how they want to document this part of their project. In the past, we have seen short reports, engineers' notebooks, videos (maximum of 4 minutes), PowerPoints, and science fair poster boards.

APPLICATION PROCEDURE

KidWind registration is completed via an online application through Jotform. The 4-8 grade application and 9-12 grade application links can be found below. Each team interested in participating in the 2024-2025 program year must submit an application for the program and meet all the team requirements. Completing all of the information in the application is vital.

KIDWIND REGISTRATION INFORMATION
TEAM REQUIREMENTS

Every KidWind team must:

- Consist of a minimum of two (2) and up to a maximum of four (4) participants.

- Consist of a combination of students in grades 4 - 5, 6 - 8 <u>OR</u> 9 - 12. These are separate age divisions, you can not create a team that includes students in grades 4 - 12 combined.

- Attend the 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025.

- Consist of active NSBE Jr. members.

- Complete all application and registration requests before the deadlines.

- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

CRITICAL 2024 - 2025 KIDWIND DATES

For quick reference, the following target dates are listed to ensure your participation in NSBE KidWind. Please read responsibilities, events, and target timeline carefully. ALL links and resources are listed below and should be followed in the suggested order. For further information on the upcoming NSBE conferences, please visit nsbe.org

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)
KidWind NEW Team Resources, Registration & Application	For NEW teams: Visit the below KidWind links to learn more about the competition and how to create a team. 1. Plan for KidWind 2. Rules and Judging Rubric for Kidwind 3. Gear for KidWind (you do not have to purchase kits, its higly suggested you recycle materials around you classroom/home! 4. Building guidelines & resources for KidWind 5. Take a look and sign-up for upcoming workshops here Review the above resources and register your team on KidWind by Friday, January 3, 2025.
ALL KidWind Teams NSBE Registration	ALL teams are required to submit a registration application for NSBE's KidWind 2024 - 2025 competition at 2025 Annual Convention. • 4 - 8 grade application here • 9 - 12 grade application here Registration deadline is Friday, January 3, 2025. Participation confirmation will be sent out by Friday, January 24, 2025.
National Competition	Held at NSBE's Annual Convention March 5 - March 9, 2025 in Chicago, IL.

MATHCOUNTS®

MATCHCOUNTS®COMPETITION COMPONENTS

<u>MATHCOUNTS® Written Team Competition</u> is designed to be completed in 20 minutes at Annual Convention.

The Team Round consists of 10 problems that team members work to solve together. Team member interaction is permitted and encouraged. Calculator use is permitted.

The <u>MATHCOUNTS Final Countdown Round</u> is designed for teams to compete head-to-head. A problem is presented to two teams at a time. The question will be read aloud, as well as presented on a screen. Students can use a pencil and scratch paper and discuss with their teammates. Teams have 45 seconds to determine the answer and hit a buzzer when they are ready to answer. The other team can continue to work while their opponent is answering. The team that answers the most questions out of three correct moves on to the next round. <u>Calculators are not permitted.</u>

COMPETITION RULES

Pencils and paper will be provided for students; however, students may bring their own pencils, pens and erasers if they wish. They may not use their own scratch paper or graph paper.

<u>Calculators are permitted in the Team Round.</u> Students may use any calculator (including programmable and graphing calculators) that does not contain a QWERTY (typewriter-like) keypad. Calculators that have the ability to enter letters of the alphabet but do not have a keypad in a standard typewriter arrangement are acceptable. Smart phones, laptops, iPads®, iPods®, personal digital assistants (PDAs) and any other "smart" devices are not considered to be calculators and may not be used during competitions. Students may not use calculators to exchange information with another person or device during the competition. <u>Coaches are responsible for ensuring that their students use acceptable calculators, and students are responsible for providing their own calculators (and batteries).</u>

Should there be a rule violation or suspicion of irregularities, the MATHCOUNTS® competition official has the obligation and authority to exercise his or her judgment regarding the situation and take appropriate action, which might include disqualification of the suspected student(s) from the competition.

<u>Use of notes and other aids (including graph paper, rulers, compasses, protractors, reference tables, and dictionaries) is not permitted.</u>
Communication with coaches is prohibited during rounds but is permitted during breaks.
All communication between guests and students is prohibited during competition rounds.

COMPETITION RULES

Each Team Round question is worth 2 points. There are 10 questions in the Team Round, so the maximum possible team score is 10(2) = 20.

Ties will be broken as necessary to determine team prizes. The team with the higher Team Round score receives the higher rank. If a tie remains after this comparison, specific questions from the Team Round will be compared. Note: These are very general guidelines. Competition officials receive more detailed procedures.

In general, questions in the Team Round increase in difficulty so that the most difficult questions occur near the end of the round. In a comparison of questions to break ties, generally, those who correctly answer the more difficult questions receive the higher rank.

TEAM REGISTRATION:

- Each team must be a combination of exactly 4 students in grades 6 - 8.
- Consist of active NSBE Jr. members.
- Attend the 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025
- Complete all application and registration requests before the deadlines.
- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

APPLICATION PROCEDURE

MATHCOUNTS® registration is completed via an online application through Jotform. The application can be found here. Each team interested in participating for the 2024–2025 program year must submit an application for the program and meet all of the team requirements. Completing all of the information in the application is vital.

CRITICAL 2024 - 2025 MATHCOUNTS DATES

For quick reference, the following target dates are listed to ensure your participation in MATCHCOUNTS. For further information on the upcoming NSBE Convention, please visit convention.nsbe.org

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)
MATHCOUNTS Team Registration and Resources	Register your team(s) using our JotForm here. Submission deadline is Friday, January 3, 2025. • Confirmation of team participation will be sent by Friday, January 24, 2025. Download the MATHCOUNTS school handbook here for access to practice problems!
National Competition	Held at NSBE's 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025.

The VEX IQ Challenge provides elementary and middle school students (ages 8-14) with exciting, open-ended robotics, engineering, and research project challenges that enhance their science, technology, engineering, and mathematics (STEM) skills through hands-on, student-centered learning.

VEX IQ Challenge teams solve an annual game challenge by designing, building, and programming a robot for the challenge. Students work in teams to score points in teamwork matches and in the Robot Skills Challenge. The VEX IQ Challenge theme for the 2023-2024 season is Rapid Relay.

VEX IQ CHALLENGE COMPETITION COMPONENTS:

The VEX IQ Rapid Relay game manual can be found here.

TEAM REGISTRATION:

- Each team must be a combination of students in grades 3-8.
- Teams must consist of at least two (2) students and no more than ten (10).
- Attend the 2025 Annual Convention in Chicago, IL, March 5 - March 9, 2025.
- Consists of active NSBE Jr. members.
- Complete all application and registration requests before the deadlines.
- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

APPLICATION PROCEDURE:

Each team must follow the below application procedure to be eligible to compete:

- Sign up and/or register your team for the 2024 - 2025 season on robotevents.com. You will select "NSBE" as your affiliation.
- Submit registration to compete at NSBE's 2025 Annual Convention by January 3, 2025, here.
- Meet all critical 2024-2025 dates listed below.

CRITICAL 2024 - 2025 VEX IQ DATES

For quick reference, the following target dates are listed to ensure your participation in NSBE KidWind. Please read responsibilities, events, and target timeline carefully. ALL links and resources are listed below and should be followed in the suggested order. For further information on the upcoming NSBE conferences, please visit nsbe.org.

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)
Rec Foundation Team Registration	Deadline to register teams for the 2024 – 2025 VEX Robotics Competition season with the Rec Foundation is on December 13, 2024. • Visit robotevents.com to register your teams for the year and receive your team number! • If you DO NOT register by this deadline, you cannot compete at 2025 Annual Convention.
NSBE VEX IQ Team Registration	Deadline to register for the 2025 VEX Robotics Competition at NSBE's 2025 Annual Convention is January 3, 2025. • Submit application to compete at NSBE's 2025 Annual Convention here by Friday, January 3, 2025. • Confirmation of participation at Annual Convention will be sent out by Friday, Jan 24, 2024.
National Competition	Attend the 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025

The Robotics Education & Competition (REC) Foundation and NSBE developed a partnership to establish VEX Robotics Competition teams through NSBE's Pre-College Initiative (PCI). Each year, an exciting engineering challenge is presented in the form of a game. Students, with guidance from their teachers and mentors, build innovative robots and compete year-round in a variety of matches. In addition to learning valuable engineering skills, students gain life skills such as teamwork, perseverance, communication, collaboration, project management, and critical thinking.

The VEX Robotics Competition prepares students to become future innovators with 95% of participants reporting an increased interest in STEM subject areas and pursuing STEM-related careers. The challenge for the 2024 – 2025 season is called Over Under. The object of the game is to attain a higher score than the opposing Alliance by Scoring Triballs in Goals, and by Elevating at the end of the Match.

VEX ROBOTICS COMPETITION COMPONENTS:

The VEX IQ Full Volume game manual can be found here.

TEAM REGISTRATION:

- Each team must be a combination of students in grades 9-12.

- Teams must consist of at least two (2) students and no more than ten (10).

- Attend the 2025 Annual Convention in Chicago, IL, March 5 - March 9, 2025.

- Consists of active NSBE Jr. members.

- Complete all application and registration requests before the deadlines.

- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

APPLICATION PROCEDURE:

Each team must follow the below application procedure to be eligible to compete:

- Sign-up and/or register your team for the 2024-2025 season on robotevent.com. You will select "NSBE" as your affiliation.

- Submit registration to compete at NSBE's 2025 Annual Convention by January 3, 2025, here.

- Meet all critical 2024-2025 dates listed below.

CRITICAL 2024 - 2025 VEX ROBOTICS DATES

For quick reference, the following target dates are listed to ensure your participation in NSBE KidWind. Please read responsibilities, events, and target timelines carefully. ALL links and resources are listed below and should be followed in the suggested order. For further information on the upcoming NSBE conferences, please visit nsbe.org

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)
Rec Foundation Team Registration	Deadline to register teams for the 2024 – 2025 VEX Robotics Competition season with the Rec Foundation is on December 13, 2024. • Visit robotevents.com to register your teams for the year and receive your team number! • If you DO NOT register by this deadline, you cannot compete at 2025 Annual Convention.
NSBE VEX Robotics Team Registration	Deadline to register for the 2025 VEX Robotics Competition at NSBE's 2025 Annual Convention is January 3, 2025. • Submit application to compete at NSBE's 2025 Annual Convention here by Friday, January 3, 2025. • Confirmation of participation at Annual Convention will be sent out by Friday, Jan 24, 2024.
National Competition	Attend the 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025.

TEN80 EDUCATION™

Ten80 Education™ produces standards-based STEM curricula and competitions, as well as a web-based Points Race that gamifies hands-on learning. Signature programs are the Ten80 Racing Challenge, Autonomous Vehicle (AV) Challenge, and Unmanned Aerial Vehicle (UAV) Challenge. (The Ten80-NSBE STEM League does not currently include the UAV Challenge.)

Through class, club, and camp curriculum, complete with materials, training, and support, Ten80 invites middle and high school students to practice the art of being STEM professionals. Youth in schools and out-of-school settings, supported by a community of mentors and educators, collaborate and compete in ways that mirror engineers, technicians, green transportation designers, business executives, marketing specialists, and professional motorsports teams. To demonstrate their skills, teams across the U.S. and China gather to compete at local, regional, and national Face-to-Face events each year, and/or submit their work for the online Points Race.

In addition to the curriculum and competitions, Ten80 draws on decades of experience with students and educators to produce custom, event-based STEM experiences with industry association partners, designed to help launch youth into career pathways while promoting meaningful community engagement. Notable custom event sponsors have included the U.S. Army, SEMA (Specialty Equipment Market Association), NASCAR, SME (formerly Society of Manufacturing Engineers), NSBE (National Society of Black Engineers), America Makes, Lightning eMotors, and the Denver Broncos.

TEN80-NSBE STEM LEAGUE

There are multiple ways that teams can compete each season.

- Ten80 Racing Challenge teams and Ten80 Autonomous Vehicle Challenge teams prepare to compete in the face-to-face competition hosted each spring at the NSBE National Conference.
- Teams can also earn points and gain feedback from remote STEM mentors via the web-based STEM Challenge Points Race.
- NSBE Ten80 teams and Points Race teams who have practiced with Ten80 curriculum and materials are also invited to periodic regional competitions and an open Nationals hosted in late spring of each year in different locations throughout the U.S.

NSBE has committed to bringing members quality programming. A significant part of our commitment is the financial investment. Registering for NSBE's Ten80 program means you commit to completing the program in its entirety and will fully participate in the culminating activities at the Annual Convention.

TEN80-NSBE STEM CHALLENGE TEAM REGISTRATION:

- Each team is entered into the Middle (grades 6-8) or High School (grades 9-12) series. If any single individual on a team is in grades 9-12, the team must be High School.

- Teams must be composed of active NSBE Jr. members.

- To activate your team, you MUST ALSO register or renew with Ten80 at this link: https://www.ten80education.com/nsbe-teams/

- Teams: Minimum of FOUR (4) students and a maximum of FIFTEEN (15) students.

- Each team enters into one or more of the following competition series: Racing Challenge, Autonomous Vehicle Challenge, and/or Online Points Race.

- Attendance at the 2025 Annual Convention in Chicago, IL, March 5 - March 9, 2025, is required.

- Complete all application and registration requests before the deadlines.

- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

TEN80-NSBE STEM LEAGUE COMPETITIONS

TEN80 RACING CHALLENGE

Students own a motorsports team and their ultimate goal is to engineer performance. This includes personal performance, team performance, and of course, race performance. The base technology for Racing Challenge teams is a 1/10th scale electric radio-controlled (RC) car that can be set up in over 4 million ways before re-engineering a single part. The curriculum can be implemented in school and in out-of-school settings using 6-10 week modules, a year-long program, or as core curriculum classwork.

TEN80 AUTONOMOUS VEHICLE CHALLENGE

The Ten80 Autonomous Vehicle (AV) Challenge introduces students to coding through physical computing, with the promise of an exciting culminating competition. The AV Challenge starts with the electromechanical assembly of a 1/16th scale car. Through installation and experimentation with a series of sensors and coding, the car executes tasks as a self-driving vehicle resembling the fully autonomous cars that are navigating today's roads and highways.

To complete the Ten80 STEM Challenges as a STEM Innovation experience, students are invited to practice their Enterprise skills through teamwork and collaboration. The final goal is not only to compete with the car, but to showcase their business that centres on that vehicle, complete with branding and marketing projects such as elevator pitches and logo design.

Ten80-NSBE STEM League teams can compete in two ways: (1) Face-to-Face at Regional Competitions, NSBE Finals and Ten80 Nationals; and (2) an online Points Race in which teams upload submissions to earn points and team coaches receive additional support through the feedback on team investigations and projects.

Teams can compete in some or all of the following categories:

- Autonomous Vehicle or Head-to-Head Racing
- Data-Driven Design (encompasses DDD Projects, as well as the category formerly known as MODS)
- Enterprise
  - Pitch and Presentations
  - Project Planning
  - Marketing & Public Relations
  - Graphic Design

APPLICATION PROCEDURE:

NSBE teams choose CLASS or CLUB implementation and select the number of kits required for their optimal kit-to-student ratio. RETURNING teams who already have kits in working order only need to register for the 2024-25 Face-to-Face competition or Face-to-Face and Points Race competition. Registration provides renewed access to the curriculum. No additional kit is required.

CLASS implementation is ideal for chapters intending to implement the curriculum as a for-credit course. All options include registration for the 1st year into the Face-to-Face competition at the Annual Convention. There is an additional charge to enter the Points Race, the spring Ten80 Nationals, and for enhanced support.

Ten80 Racing Challenge and Autonomous Vehicle Challenge registration is completed via an online application through Jotform. The application can be found here. To fully complete registration, each team must also complete registration at www.Ten80Education.com. Each team interested in participating in the 2024-2025 program year must submit both applications for the program and meet all of the team requirements. Completing all of the information in the application is vital.

CRITICAL 2024 - 2025 DATES

For quick reference, the following target dates are listed to ensure your participation in the Ten80-NSBE STEM League. For further information on the upcoming NSBE conferences, please visit nsbe.org.

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)	RESOURCES (LINKS, ETC.)
Register with NSBE for Ten80-NSBE STEM League (REQUIRED)	Register your Ten80 team on www.ten80education.com and submit application to compete at NSBE's 2025 Annual Convention by Friday, January 3, 2024. • Confirmation of participation will be sent by Friday, January 24, 2025.	Link: https://form.jotform.com/242197282004149
Acquire access to Ten80 Education™ Curriculum (REQUIRED)	September 1, 2024 through January 28, 2025	Link: Ten80 Registration
2024-25 Season Orientation and Training Webinars with Ten80	September, October, November, January- Dates TBA	Link: Ten80 Calendar
Ten80 Points Race	Opens October 2024	Link: Ten80 Points Race
NSBE FRC Ten80 Workshops	• Region 1 FRC Stamford, CT Nov 16, 2024 (not confirmed) • Region 2 FRC Philadelphia November 2, 2025 • Region 3 FRC Birmingham November 9, 2025 • Region 6 FRC San Diego November 23, 2025 (not confirmed)	Workshops for youth curious about starting a Ten80 team, for current Ten80 teams, and for current and prospective coaches/mentors. Contact Ten80 for details.
NSBE-Ten80 Nationals at 2025 Annual NSBE Convention (REQUIRED- Register with NSBE for Convention AND Register with Ten80 for the competition)	Convention: March 5-9, 2025 Competition Date: Thursday March 6 - Friday, March 7, 2025 in Chicago	NSBE Convention
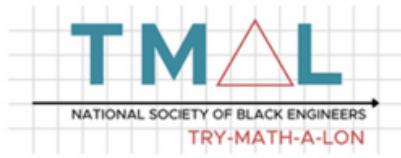
TRY-MATH-A-LON (TMAL)

TMAL OVERVIEW

Try-Math-A-Lon (TMAL) is a tutoring program meant to foster good study habits for minority students, help prepare for standardized test exams such as the ACT and SAT, and promote competition and good sportsmanship. The TMAL competition is held between teams composed of high school students in grades 9-12. The purpose of the competition is to help groom TMAL team members for success in STEM courses and prepare them for standardized SAT/ACT testing.

TMAL consists of three components:

1. Regional Conference Competitions
2. Performance Assessment Test (PAT)
3. National Convention Quiz Bowl

Please read thoroughly to have a good understanding of each aspect.

The TMAL rules should be used to guide TMAL coaches/advisors in preparation for the three components of the program. TMAL coaches/advisors are encouraged to prepare their teams as early as possible and share TMAL preparatory materials with other math, science, or technology professionals who may be able to assist TMAL teams with competition preparation. TMAL coaching can begin as early as the start of the school year through March of the next year.

TEAM REGISTRATION

- Each team will consist of four students and one mandatory alternate.

- Teams can be a combination of students in grades 9 - 10 for Lower Division and grades 11 - 12 for Upper Division.

- TMAL teams can consist of students from the same grade level (e.g., four seniors or four sophomores).

- Teams must be composed of active NSBE Jr. members.

- Required attendance at the 2025 Annual Convention in Chicago, IL.

- Chapter advisor and team coaches must provide a satisfactory NSBE background check by applying here: https://form.jotform.com/241716501147046

TMAL COMPETITION COMPONENTS

All teams have the opportunity to compete at the TMAL National Competition to be held at the NSBE National Convention.

TMAL COMPETITION CURRICULUM

TMAL questions are written with the curricula for grades 9th-10th and 11th-12th in mind. In addition, many problems are designed to challenge and accelerate student learning, and questions become progressively more difficult at each level of the TMAL competition. Math topics include:

Lower Division: 9th-10th grade topics

- Algebra and Functions
- Data Analysis, Statistics and Probability, Geometry, Measurements, Numbers, and Operations
- Pre-Calculus
- Problem Solving

Upper Division: 11th-12th grade topics

- Algebra and Functions
- Data Analysis, Statistics and Probability, Geometry, and Measurements
- Calculus
- Trigonometry
- Numbers and Operations
- Problem Solving

EVENT 1: FALL REGIONAL CONFERENCE COMPETITIONS

On-site at Fall Regional Conferences

TMAL Quiz Bowls will take place in person during the 2024 Fall Regional Conferences. Lower and Upper Division team winners from each region will receive an award towards National Convention. Further details will be shared during the September and October Advisor meetings and communications on how to register and where FRCs are being held.
FRC registration is required to participate in this competition.

EVENT 2: PERFORMANCE ASSESSMENT TEST (PAT)

School Year During NSBE Jr. Chapter Meetings

The Performance Assessment Test (PAT) evaluates our NSBE Jr. high school members' college mathematics pathway aptitude and readiness, promotes critical thinking skills, and encourages teamwork when preparing for the exams. These tests are timed and measure the teams' ability to solve problems using math concepts. This year, we are introducing the Pre-Performance Assessment Test and the Official Performance Assessment Test.

The PAT exams will be administered through an online application prior to the National Convention. All active NSBE Jr. chapters will receive a link to the Pre-PAT and Official PAT on October 1, 2024, and December 11, 2024, respectively. Each team advisor will be responsible for proctoring the assessments or securing a test proctor. The designated proctor should not be a parent or affiliated with the TMAL team. Each team will have one hour to complete the test. All teams participating in TMAL must complete the PAT and submit results to pebpci@nsbe.org by November 11, 2024, for the Pre-PAT and January 17, 2025, for the Official PAT.

The NSBE Jr. members of the Lower and Upper Division teams with the best improvement between their Pre and Official PAT results will receive a reimbursement towards their National Convention registration. Teams that are eligible for this award must participate in the Pre and Official PAT, as well as attend the National Convention in Atlanta, GA.

EVENT 3: NATIONAL CONVENTION QUIZ BOWL

On-Site During National Convention

Game Rules and Guidelines
All teams that register for the National Convention's TMAL Quiz Bowl will be able to compete. Below are the game rules and guidelines that will be implemented.

- There are (6) categories covered in the Lower and Upper Division. TMAL competition:

Lower Division	Upper Division
• Algebra 1 • Geometry • Numbers and Operations • Data Analysis & Probability • Problem Solving • Pre-Calculus	• Algebra II • Geometry • Statistics • Trigonometry • Problem Solving • Calculus

- Each category will have questions ranging in point value, increasing in difficulty.

- Each team will pick a category and select a point value when it is their turn.

- Students are allowed to screenshot the question to take to their breakout rooms.

- Teams will have three (3) minutes max to answer the question. Additional time may be allotted for the more difficult questions, increasing time to four (4) minutes.

- Teams will be able to provide a response. Each team will designate one representative to buzz in/raise their hand while the game is in session, as well as display their team's answer.

- The representative will need to write their team's final answer in its simplest form, legibly, for facilitators to read when called upon (a thick marker may be the best utensil to use).

  - Representatives are not to display their answer until they are given notice.
    - A message will display, if necessary, that 30 seconds remain.

- If a team answers the question correctly, the team will receive the point value for that question.

- If the team answers incorrectly, the point value will be deducted.

- Whichever team buzzed in second/next will be selected to control the board first and ask a question. Afterwards, each team will control the board in the order that they appear within the game.

- The game is over when time runs out or all the questions have been selected.

- The team with the highest score at the end of the game wins.

- One award for Lower and Upper Division competitions will be presented at the Pre-Torch Awards to the Lower Division and Upper Division teams with the highest scores.

APPLICATION PROCEDURE

TMAL registration is completed via an online application through JotForm. The links for the applications can be found here: (Lower Level | Upper Level). Each team interested in participating in the 2024-2025 program year must submit an application for the program and meet all of the team requirements.

CRITICAL 2024 - 2025 TMAL DATES

For quick reference, the following target dates are listed to ensure your participation in the NSBE's TMAL Competition at the Fall Regional Conference and Annual Convention. Please read responsibilities, events, and the target timeline carefully. ALL links and resources are listed below and should be followed in the suggested order. For further information on the upcoming NSBE conferences, please visit convention.nsbe.org

TEAM RESPONSIBILITY AND EVENTS	TARGET TIME FRAME (NO LATER THAN)
Fall Regional Conference Competitions	FRC registration information will be shared separately.
Performance Assessment Test (PAT)	Pre-PAT results are due November 11, 2024. Official PAT results are due January 17, 2025.
National Competition Quiz Bowl	Register your teams for National Competition Quiz Bowl at Annual Convention no later than December, 27, 2024. Please register for TMAL at Annual Convention no later than January 3, 2025 if you plan on competing in the TMAL Competition from March 5-9, 2025 in Chicago, IL. Confirmation of participation will be sent by Friday, January 24, 2025. • Lower Division • Upper Division Competition held at NSBE's 2025 Annual Convention in Chicago, IL. March 5 - March 9, 2025.

PCI ANNUAL EVENTS

FALL REGIONAL CONFERENCES

Fall Regional Conferences (FRCs) provide a forum for discussion and information exchange between pre-college, collegiate, professionals, and corporate representatives at the regional level. Within the three-day weekend, each region encourages academic excellence and leadership development through various technical, cultural workshops, competitions, and Career and Graduate School Fairs.

All regions will host workshops and competitions. Regional Pre-College Initiative Chairs will notify active chapters in their region about specific events taking place during FRC.

ANNUAL CONVENTION

NSBE's Annual Convention provides inspiration, education, and connections to pre-college, collegiate, and professional attendees alike. Through inspiring keynotes, innovative discussions, educational workshops, hands-on opportunities, competitions, and much more, students will learn how to engage in NSBE's mission to increase the number of culturally responsible Black Engineers who excel academically, succeed professionally, and positively impact the community.

2025 ANNUAL CONVENTION

CHICAGO, IL
MARCH 5 - MARCH 9, 2025

To register and for more information about the Annual Convention, visit convention.nsbe.org

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