MIDDLE SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

1. **Career Prep**
   Overview: Participants conduct research on a selected technology-related career and use the knowledge gained to prepare a resume and cover letter, and participate in a mock interview.
   Challenge: Design and produce a cover letter and a chronological or skills resume based on research of a selected technology-related career from the appropriate list above. Be prepared to participate in a mock interview as a semifinalist.
   Eligibility: Up to three (3) individual entries per chapter.
   Topic(s): Choose One:
   Gaming Programmer, Chief Information Officer, Electrical Engineer, Web Developer
   Competition: Semifinalist Round and Finalist Interviews

2. **Communication Challenge**
   Overview: During the school year, participants write, design, and produce three (3) promotional products that are submitted as entries in printed format. Semifinalists produce a layout for a promotional item for a fictitious company.
   Challenge: Participants design and produce:
       1) A trifold brochure that promotes the chapter
       2) An effective sponsor support request on chapter letterhead
       3) An 8½" x 11" two (2)-sided card stock or glossy postcard promoting TSA's current national service project.
   Eligibility: Up to three (3) individual entries per chapter
   Topic(s): See Official TSA Events Guide.
   Competition: Project Portfolio Judged, NO on site work

3. **Community Service Video**
   Overview: Participants create a video that highlights their chapter's involvement with the American Cancer Society (ACS) over the course of a school year.
   Challenge: Participants create and submit a finished video, capable of being played on a standalone DVD player that depicts the local TSA chapter's service with the American Cancer Society, national TSA's service partner.
   Eligibility: Up to two (2) entries per chapter, team or individual
   Topic(s): See Official TSA Events Guide.
   Competition: Project Portfolio Judged, NO on site interviews

4. **Construction Renovation**
   Overview: Participants submit a display that documents the use of their leadership and technical skills to fulfill a community need related to construction. Semifinalists discuss their projects in a presentation and an interview.
   Challenge: Participants identify a community need related to construction and then plan and implement a course of action that involves students and community members.
   Eligibility: Up to one (1) team entry per chapter, two (2) to four (4) students per team
   Topic(s): See Official TSA Events Guide.
   Competition: Project Portfolio Judged, NO on site interviews

MIDDLE SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

5. **Digital Photography**
   Overview: Participants produce and submit an album of digital photographs in a PDF file on a recordable CD. Semifinalists are assigned a task on site.
   Challenge: Participants produce a digital album consisting of color or black and white digital photographs that represent or relate to a chosen theme and place the album on a storage device for submission. Semifinalists produce a series of digital photographs taken at the conference site and edited appropriately for the on-site task.
   Eligibility: Up to five (5) individual entries per chapter
   Topic(s): Structures
   Competition: Project Portfolio Judged, NO on site interviews

6. **Dragster:**
   Overview: Participants design, produce working drawings for and build a CO2-powered dragster.
   Challenge: Participants design and produce a fast CO2-powered dragster according to stated specifications and using only certain specified materials.
   Eligibility: Up to five (5) individual entries per chapter
   Topic(s): See Official TSA Events Guide.
   Competition: Drawings Judged, Dragsters Judged and Raced

7. **Energy Sources – NEW-**
   Overview: Americans make up less than five percent of the world's population, but we use over twenty-six percent of the world's energy resources. There has been great debate at the local, state, and national levels about how we, as Americans, can develop and/or implement existing or emerging energy sources to use power more wisely and efficiently for our way of life.
   Challenge: Participants conduct research on an energy source selected from one (1) of the three (3) areas below and develop marketing pieces that will be used to help convince their local government officials and citizens to make strides to implement the energy source.
   The marketing pieces will consist of:
         1) a tri-fold brochure detailing their region's current energy resources and how the proposed energy source will be better for the citizenry and the environment
         2) a promotional video that outlines the benefits of the proposed energy source and how it will be implemented in the region.
   Eligibility: Up to one (1) team entry per chapter, three (3) students per team
   Topic(s): Choose one:
         Renewable Sources, Nuclear Energy, Fossil Fuels
   Competition: Project Portfolio Judged, NO on site interviews

8. **Flight**
   Overview: Participants study the principles of flight and design in order to fabricate and test fly gliders.
   Challenge: Participants create a glider that stays in flight for the greatest elapsed time. The glider must be designed to be launched from a catapult that is provided on site. The design process is documented in a notebook that is submitted for evaluation.
   Eligibility: Up to five (5) individual entries per chapter
   Topic(s): See Official TSA Events Guide.
   Competition: Bring finished glider and drawing for judging. NO on site construction. Launcher will be provided.

9. **Medical Technology Issues**

Overview: Participants conduct research on a contemporary medical technology issue of their choosing, document their research, and create a display. The information may include student-performed research or a re-creation or simulation of research performed by the scientific community. If appropriate, a model or prototype depicting some aspect of the issue may be included in the display.

Challenge: Participants choose a challenging contemporary issue related to medical technology and demonstrate understanding through research from reliable sources and effective presentation.

Eligibility: Up tone (1) team per chapter, two (2) to three (3) students per team

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio Judged, NO on site interviews

10. **Prepared Speech**

Overview: Participant delivers a speech that reflects the theme of the current national TSA conference. See the national TSA website at www.tsaweb.org for the current conference theme.

Challenge: Develop and deliver a prepared 3-5 minute oral presentation, using audio/visual support on the assigned topic.

Eligibility: Up to one (3) individual entry per chapter

Topic(s): *"The Spirit of Innovation"*

Competition: Prepared speech will be presented before judges.

11. **Problem Solving**

Overview: Participants use their skills in problem solving to develop a finite solution to a stated problem provided on site. Participants work as a team to provide the best solution, which is measured objectively.

Challenge: Participants must work effectively as a team to manipulate and process materials using only the tools designated. An objective measurement is used to determine the best solution to the given problem.

Eligibility: Up to two (2) teams per chapter, two (2) students per team

Topic(s): See Official TSA Events Guide.

Competition: Students will use on site materials to develop a solution to a given problem. Construction materials are provided.

BRING YOUR OWN TOOLBOX (See Official TSA Events Guide).

12. **Promotional Design**

Overview: A long-standing tradition at the national TSA conference is trading state lapel pins at the conference kick-off event. In this competition, participants will design a color lapel pin that can be used to promote their state TSA association at the next national TSA conference.

Challenge: Participants create and produce a color pin design that is appropriate for trading at the national TSA conference.

Eligibility: Up to two (2) individual entries per chapter

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio Judged, NO on site interviews

13. STEM Animation –NEW-

Overview: The STEM Animation competitive event allows participants to develop a scientific and/or technical visualization focusing on one (1) or more of the following areas: science, technology, engineering, and/ or mathematics.
Challenge: Create a scientific and/or technical visualization.
Eligibility: Up to two (2) team entries per chapter
Topic(s): Choose an area:
Science, Technology, Engineering, Mathematics
Competition: Project Portfolio Judged, NO on site interviews

14. Structural Model

Overview: Participants model a through bridge of the Howe, Pratt, or Warren truss style for destructive testing. Teams should prepare by fabricating several structures to evaluate which style to use in competition.
Challenge: Participants research and design a model to build using the supplied materials; they also will prepare drawings to reflect their preparation. Teams will have two (2) hours to fabricate their entry from the prepared drawings.
Eligibility: Up to two (2) team entries per chapter, two (2) students per team.
Topic(s): Twelve Inch (12") Structure
Competition: Bring completed bridges and drawings for evaluation and destructive testing.

15. Technology Bowl

Overview: TSA chapters that enter Tech Bowl are required to complete a written objective examination to qualify for the oral question/response, head-to-head team competition phase of the event.
Challenge: Participants demonstrate their knowledge of TSA leadership skills and the elements addressed in the technology content standards.
Eligibility: Up to one (1) team per chapter, three (3) students per team.
Topic(s): See Official TSA Events Guide.
Competition: Written Qualifier, Oral Head-to-Head Competition

16. VEX Robotics

Overview: The TSA VEX Robotics Competition engages middle and high school students in science, technology, engineering and mathematics (STEM) education through an exciting, head-to-head robotics contest that captures student attention and both enhances—and allows them to use—their skills in STEM areas. In addition, the competition complements the existing technology-related competitive events offered by TSA at both levels of instruction.
Eligibility: Up to two (2) teams per chapter, three (3) to six (6) students per team
Topic(s): *"Toss Up"*.
Competition: VEX Competition is run in accordance with World VEX Rules.

MIDDLE SCHOOL EVENTS
ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

17. Video Game Design

Overview: Participants develop an E-rated game that focuses on the subject of their choice. The game should be interesting, exciting, visually appealing and intellectually challenging. The game should have high artistic, educational, and social value. A working, interactive game will be submitted on a DVD for evaluation.

Challenge: In designing a game, participants should understand that game art design demands the use of complex intellectual, artistic, and technical skills. Once learned, these skills may be applied in many other high technology occupations within the sciences, technology, and the arts. A well-designed game not only entertains but often requires the game player to use complex problem solving skills. Game development is a major industry today, and its potential as an instructional tool is virtually infinite.

Eligibility: Up to one (1) team per chapter, two (2) to five (5) students per team

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio/Gameplay Judged, NO on site interviews

18. Water Infrastructure

Overview: Participants conduct research on the posted water infrastructure topic, document their research, and develop a multimedia presentation around the topic.

Challenge: Participants explore public knowledge about the value of water related to the topic, demonstrate understanding of the topic through research and effective presentation, and offer solutions to improve awareness of water related to the topic and the essential roles of water professionals.

Eligibility: Up to one (1) team per chapter, two (2) to three (3) students per team.

Topic(s): "*Water efficiency for new home construction*"

Competition: Project Portfolio Judged, NO on site interviews

19. Website Design

Overview: Participants are required to design, build and launch a World Wide Web site that features the team's ability to research topics pertaining to technology. Pre-conference semifinalists participate in an on-site conference interview to demonstrate the knowledge and expertise gained during the development of the website with an emphasis on Internet and web history, web design of the design brief pages, and research about cutting edge advances in technology.

Challenge: Participants design, build, and launch a website that features the team's research about a science, technology, engineering, or mathematics (STEM) topic.

Eligibility: Up to one (1) team per chapter, three (3) to five (5) students per team

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio Judged, NO on site interviews

HIGH SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

1. **Architectural Renovation**
    Overview: Participants develop a set of architectural plans and related materials for an annual architectural renovation design challenge and construct a physical, as well as a computer-generated model, to accurately depict their design.
    Eligibility: Up to one (1) team entry per chapter
    Topic(s): http://tsaweb.org/Themes-and-Problems,
    Project Page Direct Link:
    http://tsaweb.org/sites/default/files/Revised%202014%20Architectural%20Renovation%20Description%20updated%2010_15_13.pdf
    Competition: Project Portfolio and Model will be judged. NO onsite interviews

2. **Career Prep**
    Overview: Participants research and prepare a resume and cover letter for each of the careers noted. Semifinalists participate in an on-site job interview related to one of the careers.
    Eligibility: Up to three (3) individual entries per chapter
    Topic(s): Choose one:
    Meteorologist, Software Engineer, Construction Project Manager
    Competition: Semifinalist Round and Finalist Interviews

3. **Computer-Aided Design (CAD) 2D, Architecture**
    Overview: Participants create representations, such as foundation and/or floor plans, and/or elevation drawings, and/or details of architectural ornamentation or cabinetry.
    Eligibility: Up to two (2) individual entries per chapter
    Topic(s): See Official TSA Events Guide.
    Competition: Each event involves a one-hour on-site drawing. Computers with AutoCAD 2007 and Rhino are provided, or contestants may bring their own laptop computers.

4. **Computer-Aided Design (CAD) 3D, Engineering**
    Overview: Participants create a 3D computer model(s) of an engineering or machine object, such as a machine part, tool, device, or manufactured product.
    Eligibility: Up to two (2) individual entries per chapter
    Topic(s): See Official TSA Events Guide.
    Competition: Each event involves a one-hour on-site drawing. Computers with AutoCAD 2007 and Rhino are provided, or contestants may bring their own laptop computers.

5. **Desktop Publishing**
    Overview: Participants produce a notebook containing a news release, a three (3)-column newsletter, and a poster. Each of these publications might be used by a school's technology teacher and/or principal to attract students to the TSA organization. The news release and poster would promote the first TSA meeting of the school year. The newsletter would give details about the TSA program at the school, state, and national levels, and TSA competitions.
    Eligibility: Up to three (3) individual entries per chapter
    Topic(s): See Official TSA Events Guide.
    Competition: Project Portfolio Judged, NO on site work

HIGH SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

6. Digital Video Production

Overview: Participants develop a digital video that focuses on the given year's theme. Sound should accompany the video.
Eligibility: Up to one (1) team entry per chapter
Topic(s): *Documentary*
Competition: Project Portfolio Judged, NO on site interviews

7. Dragster Design

Overview: Participants design, produce working drawings for, and build a CO_2-powered dragster.
Eligibility: Up to four (4) individual entries per chapter
Topic(s): See Official TSA Events Guide.
Competition: Drawings Judged, Dragsters Judged and Raced

8. Fashion Design

Overview: Students have the opportunity to research, develop, and create garment designs, garment mock-ups, and portfolios that reflect the current year's published theme. Twelve (12) qualifying semifinalist teams participate in an on-site event in which they present their potential garment designs to the judges on a TSA runway.
Challenge: The theme challenge for 2014 is to design two (2) outfits for a NEW children's fairy tale storybook character. Participants are responsible for creating three (3) items total that can be worn with either of the outfits.
Eligibility: Up to one (1) team entry per chapter, two (2) to four (4) students per team
Topic(s): See Official TSA Events Guide.
Competition: Project Portfolio/Garments Judged, NO on site interviews or fashion show.

9. Flight Endurance

Overview: Participants analyze flight principles with a rubber band powered model aircraft. Participants have the opportunity to build, fly, and adjust (trim) a model to make long endurance flights inside a contained airspace. Any model design is acceptable if the model complies with the event specifications. All models are to be built and test flown before the event date.
Eligibility: Up to two (2) individual entries per chapter
Topic(s): See Official TSA Events Guide.
Competition: Bring finished glider for judging.

10. Future Technology Teacher

Overview: Participants research and select three (3) accredited colleges or universities that offer technology education/engineering technology teacher preparation as a major. Each participant will write no more than one (1) page (simulated college essay) explaining why s/he would like to become a technology education/engineering technology teacher and what would constitute success in the field. In addition, each participant will develop and present a one (1)-class period activity, with a lesson plan, using the ITEEA standards for technological literacy.
Eligibility: Up to three (3) individual entries per chapter
Topic(s): See Official TSA Events Guide.
Competition: Project Portfolio Judged, NO on site interviews

HIGH SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

11. Manufacturing Prototype

Overview: Participants design and manufacture a prototype of a product and provide a description of how the product could be manufactured in a state-of-the-art American manufacturing facility.

Challenge: The product for 2014 is a product developed and produced in an alternative way (versus by a traditional method) that demonstrates a reduction of waste. An appropriate marketing package should accompany each product. The product-marketing package should not include the use of any copyrighted characters or images.

Eligibility: Up to one (1) team entry per chapter.

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio Judged, NO on site interviews

12. Music Production

Overview: Participants produce an original musical piece that is designed to be played during the national TSA conference opening or closing general sessions. The musical piece should be energizing, interesting, and of a spirit consistent with the Technology Student Association.

Eligibility: Up to two (3) team or individual entries per chapter

Topic(s): See Official TSA Events Guide.

Competition: Project Portfolio Judged, NO on site interviews

13. Photographic Technology

Overview: Students capture images and process photographic and digital prints that depict the current year's published theme.

Eligibility: Up to three (3) individual entries per chapter

Topic(s): *Goodwill* / See Official TSA Events Guide

Competition: Project Portfolio Judged, NO on site interviews or competition

14. Prepared Presentation

Overview: Participants deliver an oral presentation that includes audio and/ or visual enhancement based on the theme for the current year's conference.

Eligibility: Up to one (1) individual entry per chapter

Topic(s): *"The Spirit of Innovation"*

Competition: See Official TSA Events Guide.

15. **Problem Solving** (Technology Problem Solving)

Overview: Participants use their skills in problem solving to develop a finite solution to a stated problem provided on site. Participants work as a team to provide the best solution, which is measured objectively.

Challenge: Participants must work effectively as a team to manipulate and process materials using only the tools designated. An objective measurement is used to determine the best solution to the given problem.

Eligibility: Up to two (2) teams per chapter, two (2) students per team

Topic(s): See Official TSA Events Guide.

Competition: Students will use on site materials to develop a solution to a given problem. Construction materials are provided.

BRING YOUR OWN TOOLBOX (See Official TSA Events Guide).

HIGH SCHOOL EVENTS

ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

16. Promotional Graphics

Overview: Participants develop and present a graphic design that can be used to promote participation in TSA competitive events. The design will promote competitions offered in the TSA competitive events guide. Participants will choose one (1) of the three (3) competitions listed below for the given year.
Eligibility: Up to three (3) individual entries per chapter
Topic(s): Choose one:
Flight Endurance, System Control Technology, Webmaster
Competition: Project Portfolio Judged, NO on site interviews

17. Scientific and Technical Visualization (SciVis)

Overview: SciVis refers to Scientific and Technical Visualization, the graphical representation of complex scientific concepts. Participants develop a visualization focusing on a subject or topic from one (1) or more of the following areas: science, technology, engineering or mathematics.
Eligibility: Up to three (3) individual entries per chapter
Topic(s): *Science, Technology, Engineering, and/or Mathematics*
Competition: Project Portfolio Judged, NO on site interviews

18. Structural Engineering

Overview: Participants work as part of a team to build a model of a structure that is destructively tested to determine design efficiency.
Eligibility: Up to three (3) team or individual entries per chapter
Topic(s): Create a 12" box girder beam
Competition: Bring completed structures and drawings for evaluation and destructive testing.

19. Technical Sketching and Application

Overview: Participants complete a written test in order to qualify as semifinalists. Semifinalists then demonstrate their ability to solve on-site engineering graphics problems using standard drafting techniques.
Eligibility: Up to two (2) individual entries per chapter
Topic(s): See Official TSA Events Guide.
Competition: Written portion is 30 minutes. Graphic portion is 60 minutes. Paper will be provided. Bring your own drawing/drafting tools.

20. Technology Bowl

Overview: TSA chapters that enter Tech Bowl are required to complete a written objective examination to qualify for the oral question/response, head-to-head team competition phase of the event.
Challenge: Participants demonstrate their knowledge of TSA leadership skills and the elements addressed in the technology content standards.
Eligibility: Up to one (1) team per chapter, three (3) students per team.
Topic(s): See Official TSA Events Guide.
Competition: Written Qualifier, Oral Head-to-Head Competition

HIGH SCHOOL EVENTS
ADVISORS: REFER TO THE TSA EVENTS GUIDE OR www.tsaweb.org FOR FULL EVENT DESCRIPTIONS!

21. VEX Robotics
Overview: The TSA VEX Robotics Competition engages middle and high school students in science, technology, engineering and mathematics (STEM) education through an exciting, head-to-head robotics contest that captures student attention and both enhances—and allows them to use—their skills in STEM areas. In addition, the competition complements the existing technology-related competitive events offered by TSA at both levels of instruction.
Eligibility: Up to two (2) teams per chapter, three (3) to six (6) students per team
Topic(s): *"Toss Up"*
Competition: VEX Competition is run in accordance with World VEX Rules.

20. Video Game Design
Overview: Participants develop an E-rated game that focuses on the subject of their choice. The game should be interesting, exciting, visually appealing and intellectually challenging, with high artistic, educational, and social value. A working, interactive game will be submitted on a DVD for evaluation.
Eligibility: Up to three (3) team entries per chapter
Topic(s): See Official TSA Events Guide.
Competition: Project Portfolio Judged, NO on site interviews