

AN ADDENDUM TO  
THE  
NATIONAL TSA

2012-2013  
MIDDLE SCHOOL  
COMPETITIVE  
EVENTS GUIDE  
&  
2011-2012  
HIGH SCHOOL  
COMPETITIVE  
EVENTS GUIDE

FOR USE AT THE  
2012 VIRGINIA TSA  
REGIONAL FAIRS &  
TECHNOSPHERE

VIRGINIA

Competitive  
Events  
Addendum

TSA

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DRAFT



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## **PURPOSE AND GOALS FOR COMPETITIVE EVENTS AND RECOGNITION PROGRAMS**

Virginia TSA's annual program of leadership development and competitive events provide students opportunities beyond the traditional classroom/laboratory setting which add to their increased knowledge and understanding of an ever-changing technical world.

Five goals form the foundation of Virginia TSA's Annual Program of Activities. Consistent with their aptitudes, interests, and educational needs, all technology education students in Virginia will:

1. Gain contact with industrial and business personnel, and resources to acquire technological understanding, consumer knowledge, and competencies that lead to responsible citizenship and a more productive society.
2. Acquire democratic understanding and practice through leadership and team/group activities.
3. Plan, organize, and carry out worthy activities and projects that contribute to an improvement or service to the community.
4. Through the free enterprise system, become aware of employment or self-employment opportunities and those educational requirements for use in making career choices.
5. Become recognized for technological awareness, scholarship, and leadership ability.

### **COMPETITIVE EVENTS REFLECT A KNOWLEDGE AND UNDERSTANDING OF TECHNOLOGY**

Competitive events should be used as learning activities for students in technology education classes. Three outcomes are related to the study of technology.

#### Understand the Technical World

Students' knowledge and understanding of technical content can be increased by...

- speaking or writing about technology
- drawing, constructing, or manufacturing technological inventions or products
- identifying tools, machines, materials and processes.
- graphically representing impacts of technology
- describing technological systems
- solving technological problems

## Develop Technical Adaptive Skills

Students use their knowledge and technical competence to create solutions to problems facing people by . . .

- drawing and modeling architectural solutions
- designing and assembling electronic devices
- creating graphic illustrations and information sources
- constructing quality products for comfort and use
- manufacturing or modeling products
- solving problems using technology

## Appreciation for High Standards of Work and Safety

Students exhibit pride in work well done by . . .

- informing the public, parents, and fellow students about the value of technology education
- displaying their projects, drawings, and other learning activities
- demonstrating technological literacy
- attracting attention through good design and aesthetic arrangement
- promoting careers in technology

## MOTIVATING STUDENTS THROUGH COMPETITIVE EVENTS

The Competitive Events Guide should be made available to students. Some competitive events have criteria that relate specifically to course content, while others can be entered by any student. Competition can be used to motivate student work both in classes and chapters. Competitive events relate to most courses and can be used as co-curricular learning activities by any student. Certain events test students' understanding of basic technological concepts and processes, while others challenge students to apply their technical skills in problem solving.

The following steps will help teachers to motivate students through competitive events:

1. Introduce competitive events to each class early in the school year.
2. Select competitive events related to course content.
3. Use competitive events as co-curricular learning activities.
4. Evaluate students' progress through competition and other experiences.
5. Involve class members, parents, and school staff in judging local chapter activities.
6. Register students in regional, state, and national conferences.
7. Recognize students who compete through news media, awards programs, and school assemblies.

## COMPETITION LEVELS

### INDIVIDUAL EVENTS

Student members shall participate in individual events according to their official grade classification level in school:

Middle -	Grades 6 - 8 (Previously Level I)
High -	Grades 9 - 12 (Previously Level II)

### TEAM EVENTS

Teams shall participate according to the official school classification level as identified in the school name:

Middle -	Middle, Intermediate, or Junior High Schools
High -	High Schools

### RECOGNITION PROGRAMS

Chapters shall participate according to the official school classification level as identified in the school name where the chapter is affiliated:

Elementary -	Elementary programs, grades K-5 *
Middle -	Middle, Intermediate, or Junior High Schools
High -	High Schools

### SPECIAL PROGRAM EVENTS

Schools shall participate according to the official school classification level as identified in the school name:

Elementary -	Elementary Schools, grades K-5 *
Middle -	Middle, Intermediate, or Junior High Schools
High -	High Schools

\* The 2012 Virginia Children's Engineering Convention will be held on February 24-25, 2012, Holiday Inn Kroger Center, Richmond, Virginia. Detailed information about the Children's Engineering Convention can be obtained at the following website:  
<http://www.ChildrensEngineering.org>.

## **ELIGIBLE PARTICIPANTS**

### **STUDENTS**

Regional Fair and Technosphere participation is available to Virginia TSA members who are:

1. Enrolled for the current school year in grades K-12.
2. Officially registered for participation.
3. Abide by the behavior code adopted by Virginia TSA.

### **CHAPTERS**

Chapter participation is available to affiliated Virginia TSA chapters in good standing as of January 31 and registered for the activity.

### **SCHOOLS**

Participation is available to all K-12 Virginia schools, both public and private, which offer officially recognized technology education programs; or which enroll students from feeder schools that have officially recognized technology education programs, and which have an affiliated chapter.

### **VIRGINIA TSA STUDENTS COMPETING AT NATIONAL TSA COMPETITION**

If a student places 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> in a Technosphere competitive event that requires the state to select the national representative(s) for the same competitive event, the chapter advisor of the respective Technosphere winner(s) must notify the Virginia TSA State Advisor via email or fax by May 3, 2012, if they plan to register and compete in the same competitive event at the National TSA Conference. If the Virginia TSA State Advisor does not receive notice and confirmation from the respective chapter advisor that their student will compete in the respective contest by May 4, the State Advisor will proceed to contact the 4<sup>th</sup>, 5<sup>th</sup>, or 6<sup>th</sup> place winners, and so forth, until Virginia TSA can confirm a state representative for the respective competitive event. NOTE: Once this process starts, the Technosphere 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> place winners, and so forth, shall forfeit their eligibility to compete in the same competitive event at the National TSA Conference.

*Note to the Teacher:* All students are encouraged to prepare early for leadership development activities and competitive events.

## ADVISOR RESPONSIBILITIES

The advisor shall:

1. Notify students and parents of the need for accident insurance coverage.
2. Obtain the signature of both student and parent on the Delegate Conduct Agreement, medical release, and other required forms.
3. File the list of students who have completed the Delegate Conduct Agreement form, medical release form and student liability form with the school principal's office.
4. Notify Virginia TSA of any special needs for students with disabilities.
5. Read and enforce the Delegate Conduct Agreement and assume all obligations required by this Code.
6. Mail registration forms and papers according to deadline printed in the Registration Packet for each competitive event or activity. (Examples: Hotel Reservation, competitive events and recognition programs, etc.)
7. Monitor all Technology Education students in attendance at regional and state activities.
8. Assume full responsibility for his/her students at all Regional, State, or National Conferences.
9. Encourage students early to prepare high quality products resultant of exceptional planning, design, and implementation.
10. Enter students or projects in local and/or regional competition to select students for participation at the state level. Students or projects entered illegally in a contest will be disqualified from competition.
11. Ensure that no explosives, combustible materials, useable weapons, or any type of inappropriate or unsafe items are entered or exhibited.
12. Know and understand criteria for competitive events entered and clarify rules for students using the correct documents.
13. Recognize students through news media, awards programs, and school assemblies.
14. Provide supervision for a maximum of ten (10) students per advisor and/or chaperone.
15. Proper conduct and dress is expected of all participants throughout any Virginia TSA sponsored event. Participants violating or ignoring conduct rules risk unseating their entire delegation and disqualifying their chapter's competitive event entries. Individual participants may be sent home at their own expense. Curfews will be enforced and students must be in assigned rooms by the announced time.

## GENERAL COMPETITIVE EVENT GUIDELINES

I. The 2011-2012 Virginia TSA official competitive events are:

### MIDDLE SCHOOL PROGRAM

Agriculture and Biotechnology Design  
Career Prep  
Challenging Technology Issues  
Chapter Team  
Communication Challenge  
Communication Service Video  
Construction Challenge  
Digital Photography  
Dragster  
Electrical Applications  
Environmental Focus  
Essays on Technology  
Flight  
Geospatial Technology (Virginia Only)  
Global Manufacturing  
Go Green Manufacturing  
Inventions and Innovations  
Leadership Strategies  
Medical Technology Issues  
Multimedia Production  
Prepared Speech  
Problem Solving  
Promotional Design  
Structural Engineering  
System Control Technology  
Tech Bowl (Written & Oral)  
Technical Design  
Transportation Systems  
Video Game Design  
Website Design

### HIGH SCHOOL PROGRAM

Animatronics  
Architectural Model  
Biotechnology Design  
Career Comparisons  
CADD – 2D, Architectural  
CADD – 3D, Engineering  
Chapter Team  
Construction Renovation  
Debating Technological Issues  
Desktop Publishing  
Digital Video Production  
Dragster Design  
Engineering Design  
Essays on Technology  
Extemporaneous Speech  
Fashion Design  
Flight Endurance  
Future Technology Teacher  
Geospatial Technology (Virginia Only)  
Manufacturing Prototype  
Music Production  
On Demand Video  
Photographic Technology  
Prepared Presentation  
Principles of Technology (Virginia Only)  
Promotional Graphics  
SciVis  
Structural Engineering  
System Control Technology  
Technical Sketching & Application  
Technology Bowl (Written & Oral)  
Technology Problem Solving  
Transportation Modeling  
Video Game Design  
Webmaster

### **Virginia Special Awards and Recognition Programs**

Advisor of the Year - Middle and High School  
Century Award - Middle and High School  
Chapter Excellence - Middle and High School  
Commendation Award - School Division

Community Service Award - Middle and High School  
Member of the Year - Middle and High School  
Silver Achievement Award

## GENERAL COMPETITIVE EVENT GUIDELINES

### II. Levels of Competition

- A. Chapter members and advisors shall enter competitive events according to chapter level.
- B. The following breakdown of grades is used as categories for competitive event entries: Middle School - Grades 6 – 8; & High School - Grades 9 – 12.
- C. Concerning team and individual entries, students in grades 6 through 8 who are members of a High School chapter must compete as High School Level members in team events, but may compete as Middle School Level members in individual events. **Students in grade 9 must compete as High School Level participants.**
- D. The term “team” is defined as two or more students. Therefore, if a contest does not specify the number of students that comprise the team, the minimum number of students shall be two (2).
- E. A combined school (i.e., grades 6-12) may elect to affiliate a Middle School Level chapter and High School Level chapter.

### III. Participation in Competitive Events

- A. In the event a question or a problem arises that has not been covered in the "General Rules" or the individual competitive event guidelines; the standards review committee will render a decision for the conference.
- B. Should a conflict develop that prevents a member from participating in more than one event, the participant will decide which event entry will be eliminated.
- C. It will be the individual responsibility of all participants to obtain all rules and guidelines for his/her events. Lack of knowledge or understanding about a particular event will not be the reason or excuse for individual change or adjustment consideration.
- D. Competitive event concerns or requests to review the results of a competition during Regional Fairs or Technosphere must be submitted in writing to the Regional Fair Chair or Technosphere Chair prior to the end of the Regional Fair or Technosphere.
- E. TSA members, advisors, and chapters must be affiliated with TSA by January 31 in order to enter any competitive event.
- F. Students and advisors must be registered and in attendance in order to enter and become finalists in a competitions.
- G. TSA membership rights extend through the year of graduation.
- H. Advisors will be entered in the same level as their chapter is entered.

## GENERAL COMPETITIVE EVENT GUIDELINES

- I. Participants may enter a maximum of five (5) competitive events at the regional fairs and six (6) at Technosphere unless noted otherwise in this document.
  - J. If a contestant violates the competitive event rules, the decision to deduct 20 points or disqualify the entry will be made based on competitive event rules.
  - K. Participants in Technosphere competitive events that were offered at the Regional Fairs must have been among the top three winners at their respective Regional Fair in order to enter the same event at Technosphere. If a regional fair winner cannot attend Technosphere, substitutions shall not be permitted in individual events; however, if a member of a team event is unable to attend Technosphere, substitutions are allowed as long as at least one of the original team members is still a participant on the team.
  - L. Participants in Virginia TSA Regional Fairs and Technosphere must be members of the same local chapter in order to compete in competitive events.
- IV. Restrictions on Individual, Group, and Team Entries
- A. **Chapters may have five (5) entries per competitive event at the Regional Fair in each event unless specified differently on page 14-17.**
  - B. Events which must be postmarked or emailed in by the Technosphere registration deadline are:
    - 1. Advisor of the Year
    - 2. Century Award
    - 3. Chapter Excellence
    - 4. Commendation Award
    - 5. Community Service Award
    - 6. Member of the Year
    - 7. Silver Achievement Award
    - 8. Website Design (email)
    - 9. Webmaster (email)
  - \* Plaques will not be presented at Technosphere if the correct forms, in addition to online submission, are not mailed to Virginia TSA by the registration deadline.
  - C. Chapters must register all students for team competitions.
- V. Awards
- A. Awards will be presented to the winning entries in each competitive event at the awards presentation ceremony. First, second, and third place awards will be presented for each competitive event as listed under Section I of the General Competitive Events Guidelines.
  - B. The top 10 finalists in each event at Technosphere will receive a finalist pin. Also, the top 10 finalists at Technosphere in each event will be posted on the Virginia TSA website.
  - C. First, second, and third place awards are included in the number of finalists.

## GENERAL COMPETITIVE EVENT GUIDELINES

### VI. Pre-conference mail-in events

- A. Each entry must be postmarked by entry deadlines as posted in Regional Fair and/or Technosphere Registration packet.

### VII. **Recording devices:** No recording devices will be allowed in certain competitive events. Signs will be posted outside event locations where recording will not be permitted.

### VIII. Regional Fairs and Technosphere Attire

*During all general sessions, students and advisors must wear official TSA attire or business-like attire. Refer to the competitive events guide for required competition attire.*

#### A. Official TSA attire:

Blazer:	navy blue with official Virginia TSA patch
Tie or Scarf:	scarlet red imprinted with TSA logo (male and female)
Shirt or Blouse:	white, button-up with turn down collar
Pants or Skirt:	light gray
Shoes:	black dress shoes (athletic shoes, army boots, work boots, or combat boots are not acceptable)
Socks/Hosiery:	black socks (male), or skin tone hosiery (female)

#### B. Business/Professional attire:

Suit Coat:	business style or Sports Jacket
Tie or Scarf:	business style
Shirt or Blouse:	collared shirt/blouse (no t-shirts or polo/golf shirts)
Slacks or Skirt:	dress pants or skirt (absolutely no jeans)
Socks or Hosiery:	business style
Shoes:	business style (no athletic shoes, army boots, work boots, or combat boots)

#### C. Casual attire:

Casual attire must comply with the participants' local school division dress code policy. Casual attire shall not be worn during general sessions.

#### D. **Conference identification badges must be worn at all times.**

### IX. Event Items

- A. Projects/products/displays must be entered in the same year in which the work on the item started. Unless otherwise specified, no identifying information-other than ID #-should be included on an entry.
- B. Students and advisors are solely responsible for picking-up their event items during the event pick-up time. Virginia TSA will not pick-up or store any items after a Regional Fair or Technosphere.
- C. Participants must provide—and bring to the test site—two (2) pencils (sharpened standard #2/HB grade with an eraser, or #2 mechanical with an eraser) for any competition that involves a written test.
- D. For all events that require a notebook/album, the following applies: the **cover page** is on the outside of the notebook/ album, and the **title page** is the first page inside the notebook/ album.

## GENERAL COMPETITIVE EVENT GUIDELINES

- E. For all applicable competitive events, written work—including citations or references—must follow MLA (Modern Language Association) style.
- F. All entries must be the original work of the student participant or student team. All ideas, text, images, and sound from other sources must be cited, including anything that is from the public domain. References and resources should be cited using MLA (Modern Language Association) style, the most current edition. If copyrighted material is used, proper written permission must be included. Failure to follow this procedure results in disqualification.
- G. All competitive events with a semifinalist component will have a minimum of twelve (12) semifinalists. Semifinalists (individuals or teams, as applicable) will compete against one another to determine the top ten (10) finalists in an event.
- H. Hazardous materials, chemicals, lighted or open flames, combustibles, wet cell batteries, and other similar substances are not allowed at the Virginia TSA State Conference.
- I. No electronic communication devices of any kind are permitted during competition. Cell phones, walkie-talkies, pagers, etc. *must* be turned off.
- J. Everyone who wishes to attend the conference must complete conference registration. This includes parents who will only be present at the Awards Ceremony.
- K. Rules violations and disqualifications: A rules violation that gives a contestant an unfair advantage will result in a twenty percent (20%) deduction of the total possible points. The coordinator of an event has the right to disqualify a contestant when such contestant violates the spirit or intent of a contest. The event coordinator must sign off on both a 20% deduction and a disqualification.
- X. Virginia TSA will not be responsible for any personal property, equipment or materials brought to a Regional Fair or Technosphere for use by participants.
- XI. All competitive events will be judged in accordance with the stated criteria for each event as shown in the Competitive Events Guide with the exception of any state requirements outlined in the Virginia TSA Competitive Events Addendum. All judges' rating sheets are the property of Virginia TSA. The information on the rating sheets is confidential and will not be disseminated without a written request.
- XII. Advisors should carefully review their registration selection(s) for each competitive event prior to online submission. Registration errors are the responsibility of the chapter advisor to correct and ensure accuracy in accordance with the procedures and deadlines established by Virginia TSA. **On-site changes and/or additions shall not be permitted.**

Code	Event	Notes
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**MIDDLE SCHOOL PROGRAM**

A-2	Career Prep	Five individual entries per chapter	Choose one (1) of the following technology related careers: Mechanical engineer, Architect, Telecommunications specialist, Construction manager, or Cardiologist and design and produce a cover letter and a chronological or skills resume based on research. (No semifinalist interview portion at Regional Fair.)
A-3	Challenging Technology Issues	Three teams of two members per chapter	Prepare and deliver an extemporaneous, debate style presentation with team members. Procedures E & F in the National TSA competitive events guide will not be done. Students must provide own pencil.
A-5	Communication Challenge	Five individual entries per chapter	Participants design and produce (1) a tri-fold brochure that promotes the chapter (2) an effective sponsor support request on chapter letterhead, and (3) an 8½" x 11" glossy, two-sided postcard promoting TSA's current national service project. (No semifinalist portion at Regional Fair.)
A-6	Community Service Video	One team per chapter	Create and submit a finished video, capable of being played on a standalone DVD player that depicts your local TSA chapter's service with the American Cancer Society, national TSA's service partner.
A-8	Digital Photography	Five individual entries per chapter	Participants produce an 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. The theme for 2012 is <b>The Art and Science of Technology</b> . (No semifinalist portion at Regional Fair.)
A-9	Dragster Design	Five individual entries per chapter	Design and produce a fast CO2 powered dragster according to stated specifications and using only certain specific materials. (No wind tunnel test at Regional Fair.)
A-12	Essays on Technology	Five individual entries per chapter	Participants conduct research in specified subtopics of a broader technological area and, using the knowledge and resources gained through that research, write a comprehensive essay on the one (1) subtopic that is designated on site. The topic for the 2012 conference is <b>The Impacts of Ever-Changing Technology on Schools</b> . Event time limit is thirty (30) minutes.
A-13	Flight	Five individual entries per chapter	Participants create a glider that stays in flight for the greatest elapsed time. Students must provide own safety glasses. Students bring documentation notebook with all components, sketches of both test gliders, and assembled glider for testing at Regional Fair.

## Virginia TSA 2011 - 2012 Regional Fair Events and Codes

3/8/12

Code	Event	Notes	
A-16	Go Green Manufacturing	One team of three or more per chapter. One entry per team.	Participants design and manufacture a product using recycled or reused material. Participants identify a consumer need and manufacture a marketable product. The chapter submits documentation of chapter activities and two (2) product samples made during the manufacturing experience.
A-20	Multimedia Production	Five individual entries per chapter	Participants create and design a standalone multimedia presentation to promote the theme for the current year. The theme for 2012 is <b>My School's Dress Code: Do's &amp; Don'ts</b> . Entry must be self contained; presentation software must be included with entry. Student must provide own equipment. (No semifinalist interview portion at Regional Fair.)
A-21	Prepared Speech	Five individual entries per chapter	Participants deliver an oral presentation that reflects the theme of the current conference. The theme for the 2012 conference is <b>The Road to Success</b> . Procedures E, F & G in the national TSA competitive events guide will not be done.
A-23	Promotional Design	Five individual entries per chapter	Participants create and produce a color pin design that is appropriate for trading at the national TSA conference.
A-25	System Control Technology	One team of three members per chapter	Participants use a team approach to develop a computer controlled model solution to a given problem, typically one from an industrial setting. Teams must provide all equipment, including 50 foot extension cord and power strip if needed.
A-28	Transportation System	Five individual entries per chapter	Participants apply and document the engineering design process, mathematical principals and scientific concepts used in the research, design, construction, testing and evaluation of a rubber band-powered boat. Performance ratings of the boat will be based on a combination of speed and payload capability measurements.

Code	Event	Notes
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### HIGH SCHOOL PROGRAM

B-4	Career Comparison	Five individual entries per chapter	Choose one (1) of technology related career areas and research three (3) careers within that area. (No semifinalist interview portion at Regional Fair.)
B-5	CAD- Architecture 2D	Five individual entries per chapter	Students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. The event time limit will be two (2) hours.
B-6	CAD- Engineering 3D	Five individual entries per chapter	Students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. The event time limit will be two (2) hours.
B-9	Debating Technological Issues	Three teams of two per chapter	Teams will be instructed to take the Pro or Con side of the selected subtopic. The 2012 topic is <b>Biotechnology</b> . Quick debate may be held. Procedures U, V, & W in the national TSA competitive events guide will not be done.
B-10	Desktop Publishing	Five individual entries per chapter	Student must provide all equipment and supplies including computer system and printer. The theme for 2012 is <b>Beyond Tradition</b> .
B-11	Digital Video Production	Three team entries per chapter	Participants develop a digital video/film that focuses on the given year's theme. The 2012 theme is <b>Suspense</b> .
B-12	Dragster Design	Five individual entries per chapter	Participants design, produce working drawings for, and build a CO <sub>2</sub> - powered dragster. (No wind tunnel test at Regional Fair.)
B-14	Essays on Technology	Five individual entries per chapter	The topic for the 2012 conference is " <b>The Impacts of Ever-changing Technology on Schools</b> " Students provide their own pencil.
B-15	Extemporaneous Speech	Five individual entries per chapter	Participants give a three to five (3-5) minute speech.
B-17	Flight Endurance	Five individuals per chapter	Participants analyze flight principles with a rubber band powered model aircraft. Student's models must be built and test flown before the Regional Fair. Students must provide documentation notebook and model.
B-20	Manufacturing Prototype	Three team entries per chapter	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. The product for 2012 is a <b>complete desk set. The set must include—but is not limited to—a coaster, a double paper tray, a pen and pencil holder, and a business card holder.</b>

## Virginia TSA 2011 - 2012 Regional Fair Events and Codes

3/8/12

Code	Event	Notes	
B-21	Music Production	Three teams of 2 or more per chapter	Participants produce an original musical piece that is designed to be played during the national TSA conference opening or closing general session. (No semifinalist interview portion at Regional Fair.)
B-23	Photographic Technology	Five individual entries per chapter	Participants capture images and process photographic and digital prints that depict the current year's theme. The 2012 theme is <b>Perspective</b> . (No semifinalist portion at Regional Fair.)
B-24	Prepared Presentation	Five individual entries per chapter	Participants deliver an oral presentation that includes audio and/or visual enhancements based on the theme for the current year's conference. Students provide their own audio/visual support materials. The 2012 theme is <b>The Road to Success</b> . Procedures E, F & G in the national TSA competitive events guide will not be done. Students must provide own equipment.
B-26	Promotional Graphics	Five individual entries per chapter	Participants develop and present a graphic design that can be used to promote participation in TSA competitive events. Participants will choose one (1) of the three (3) competitions. For 2012 the options are: <b>On Demand Video; Biotechnology Design; OR Prepared Presentation</b> .
B-29	System Control Technology	One team of three members per chapter	Participants work as part of a team on site to develop a computer controlled model solution to a problem. Teams must provide all equipment and supplies, including a 50 foot extension cord and power strip if needed.
B-33	Transportation Modeling	Five individual entries per chapter	Participants use engineering skills to design and fabricate a Co2 powered scale model. The theme for 2012 is a <b>Pre- 1960 antique vehicle</b> .
B-34	Video Game Design	Three teams per chapter	Participants develop an E rated game that focuses on the subject of their choice. (No semifinalist interview portion at Regional Fair.)

# Virginia TSA Technosphere 2011 - 2012 Events and Codes

## MIDDLE SCHOOL PROGRAM

06/29/11

Code	Event	Notes	
A-1	Agriculture & Biotechnology	One team per chapter	Participants conduct research on a contemporary agriculture or biotechnology issue of their choosing, documenting their research and creating a display. A/C electricity may not be used.
A-2 *	Career Prep		Choose one (1) of the following technology related careers: Mechanical engineer, Architect, Telecommunications specialist, Construction manager, or Cardiologist and design and produce a cover letter and a chronological or skills resume based on research.
A-3 *	Challenging Technology Issues		Prepare and deliver an extemporaneous, debate style presentation with team members. Procedures E & F in the National TSA competitive events guide will not be done. Students must provide own pencil.
A-4	Chapter Team	One team of six per chapter	Participants demonstrate an understanding of parliamentary procedure relative to business meetings. Participants provide their own pencil.
A-5 *	Communication Challenge		Participants design and produce (1) a tri-fold brochure that promotes the chapter (2) an effective sponsor support request on chapter letterhead, and (3) an 8½" x 11" glossy, two-sided postcard promoting TSA's current national service project. Semifinalist must provide own computer, power cord, and extension cord.
A-6*	Community Service Video		Create and submit a finished video, capable of being played on a standalone DVD player that depicts your local TSA chapter's service with the American Cancer Society, national TSA's service partner.
A-7	Construction Challenge	One team per chapter	Participants submit a display that documents the use of their leadership and technical skills to fulfill a community need related to construction. A/C electricity may not be used.
A-8 *	Digital Photography		Participants produce an 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. The theme for 2012 is <b>The Art and Science of Technology</b> . All documents must be saved to a USB external drive storage device.

**NOTE (\*):** Only those students and/or teams finishing in the top three places at each Regional Fair may enter the same specific events at Technosphere. Students who place among the top three finishers in Regional competition must register their entries for Technosphere. Substitutions will not be permitted for individual competitive event winners, however, if a member of a team event is unable to attend Technosphere, substitutions are allowed as long as at least one of the original team members is still a participant on the team. Such requests for substitutions must be submitted by the Technosphere registration deadline.

# Virginia TSA Technosphere 2011 - 2012 Events and Codes

## MIDDLE SCHOOL PROGRAM

06/29/11

Code	Event	Notes	
A-9 *	Dragster Design		Design and produce a fast CO2 powered dragster according to stated specifications and using only certain specific materials. Judging will include a wind tunnel test.
A-10	Electrical Applications	Five individual entries per chapter	Participants demonstrate knowledge of basic electrical and electronic theory, as well as the use of a multimeter. Students must provide their own pencil.
A-11	Environmental Focus	One team per chapter	Participants are to identify and research a specific environmental problem or issue that has been influenced by advancements in technology.
A-12*	Essays on Technology		Participants conduct research in specified subtopics of a broader technological area and, using the knowledge and resources gained through that research, write a comprehensive essay on the one (1) subtopic that is designated on site. The topic for the 2012 conference is <b>The Impacts of Ever-Changing Technology on Schools.</b>
A-13*	Flight		Participants create a glider that stays in flight for the greatest elapsed time. Students must provide own tools, safety glasses, and drawing for each test plane. Materials will be provided to construct gliders onsite. Students must provide their own pencil.
A-14	Geospatial Technology (Virginia Only)	Three teams per chapter. Maximum of 5 members per team.	Participants develop a pre conference electronic portfolio, profiling an assigned geographic area. Rules provided on page 27.
A-15	Global Manufacturing	One team from the TSA chapters involved, with 2-6 students maximum on the team. All 3 teams must be middle school chapters, from the Commonwealth of Virginia, and may be from different Virginia school divisions.	A TSA chapter, working with at least two (2) other TSA chapters, designs, manufactures, and packages a product. Two (2) completed products will be included in the display for this event.
A-16 *	Go Green Manufacturing		Participants design and manufacture a product using recycled or reused material. Participants identify a consumer need and manufacture a marketable product. The chapter submits documentation of chapter activities and two (2) product samples made during the manufacturing experience.

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# Virginia TSA Technosphere 2011 - 2012 Events and Codes

## MIDDLE SCHOOL PROGRAM

06/29/11

Code	Event	Notes	
A-17	Inventions & Innovations		Participants investigate and determine the need for an invention or innovation of a device, system, or process. The entry must be self contained: the presentation software must be included with the entry. Student must provide own equipment.
A-18	Leadership Strategies	One team of three per chapter	Participant work in teams to develop a plan of action that addresses a specific challenging situation provided on site. Participants provide their own pencil.
A-19	Medical Technology Issues	One team per chapter	Participants choose a challenging contemporary issue related to medical technology and demonstrate understanding through research from reliable sources and effective presentation.
A-20*	Multimedia Production		Participants use their creative skills to produce a multimedia presentation that promotes or details an aspect of TSA. The theme for 2012 is <b>My School's Dress Code: Do's &amp; Don'ts</b> . Entry must be self contained; presentation software must be included with entry. Student must provide own equipment.
A-21 *	Prepared Speech		Participants deliver an oral presentation that reflects the theme of the current conference. The theme for the 2012 conference is <b>The Road to Success</b> . Procedures E, F & G in the national TSA competitive events guide will not be done.
A-22	Problem Solving	One team of two per chapter	Participants use their skills in problem solving to develop a finite solution to a stated problem provided on site. Students must provide their own tool box containing the required resources.
A-23*	Promotional Design		Participants create and produce a color pin design that is appropriate for trading at the national TSA conference.
A-24	Structural Engineering	One team of two members per chapter	Participants use basic engineering techniques to evaluate designs they have modeled and tested. Students must provide their own tools, supplies, and safety glasses, which must fit in a single box, as specified.

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# Virginia TSA Technosphere 2011 - 2012 Events and Codes

## MIDDLE SCHOOL PROGRAM

06/29/11

Code	Event	Notes	
A-25*	System Control Technology		Participants use a team approach to develop a computer controlled model solution to a given problem, typically one from an industrial setting. Teams must provide all equipment, including 50 foot extension cord and power strip if needed.
A-26	Technology Bowl	One team of three per chapter	Participants demonstrate their knowledge of TSA leadership skills and the systems of technology. Each team member must take the written test. Members must provide their own pencil.
A-27	Technical Design	Five individual entries per chapter	Participants will be given a design brief on site that includes a problem statement and specific criteria and constraints. Participants will utilize the technical design process to solve the problem. Students must provide their own pencil and supplies.
A-28*	Transportation Systems		Participants apply and document the engineering design process, mathematical principals and scientific concepts used in the research, design, construction, testing and evaluation of a rubber band-powered boat. Performance ratings of the boat will be based on a combination of speed and payload capability measurements.
A-29	Video Game Design	One team per chapter	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.
A-30	Website Design	One team of 3 to 5 members per chapter	Participants design, build and launch a website that features the team's research about a science, technology, engineering and mathematics (STEM) topic. The URL for the chapter's entry <b>MUST</b> be emailed to <a href="mailto:TSA@VATSA.ORG">TSA@VATSA.ORG</a> by midnight <b>March 30</b> . The subject line of the email must be: Website Design. <b>No entries will be accepted after that date.</b>

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# Virginia TSA Technosphere 2011 - 2012 Events and Codes

## MIDDLE SCHOOL PROGRAM

06/29/11

<b>Code</b>	<b>Event</b>	<b>Notes</b>
<b>Special Awards and Recognition Programs</b>		
C-1	Chapter Excellence (Middle)	Chapters may not receive this award two years in a row.
C-3	Community Service Award (Middle)	Virginia Only. One entry per chapter.
C-5	Member of the Year (Middle)	Virginia Only: One individual per chapter. State Officers are not eligible for this award.
C-7	Advisor of the Year (Middle)	Advisors may not receive this award two years in a row.
C-9	Century Award Virginia Only.	Chapters affiliating CAP, or 100+ members.
C-11	Commendation Award Virginia Only.	All schools in division affiliated.

**Note:** **Individuals, chapters and/or school divisions applying for recognition awards must submit the required paperwork on or before the postmark deadline for Technosphere registration. They must also register the award within the online registration system.**

**NOTE (\*):** Only those students and/or teams finishing in the top three places at each Regional Fair may enter the same specific events at Technosphere. Students who place among the top three finishers in Regional competition must register their entries for Technosphere. Substitutions will not be permitted for individual competitive event winners, however, if a member of a team event is unable to attend Technosphere, substitutions are allowed as long as at least one of the original team members is still a participant on the team. Such requests for substitutions must be submitted by the Technosphere registration deadline.

**Virginia TSA Technosphere 2011 - 2012 Events and Codes  
HIGH SCHOOL PROGRAM**

0312/12

**Code Event**

**Notes**

Code	Event	Notes	
B-1	Animatronics	One team per chapter	Participants will produce an animatronics device complete with an appropriate display.
B-2	Architectural Model	One individual or team per chapter	In 2012, <b>participants design a senior citizen day care center.</b>
B-3	Biotechnology Design	One team per chapter	Participants select a contemporary biotechnology problem that relates to the current year's published area of focus. The biotechnology area of focus for 2012 is <b>Pharmaceutical/ Agricultural Chemicals.</b>
B-4 *	Career Comparison	Five individual entries per chapter	Choose one (1) of the following technology related career areas and research three (3) careers within that area.
B-5 *	CAD- Architecture 2D	Five individual entries per chapter	Students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. The event time limit will be three (3) hours.
B-6 *	CAD- Engineering 3 D	Five individual entries per chapter	Students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. The event time limit will be three (3) hours.
B-7	Chapter Team	One team of six per chapter	Participants demonstrate an understanding of parliamentary procedure relative to business meetings. Participants provide their own pencil.
B-8	Construction Renovation	One team of two to five members per chapter	Participants develop a set of presentation boards to include plans, illustrations, and finishers for a specified space. The solution must include all applicable construction systems. <u>A specific design problem will be provided each year on the national TSA website.</u>
B-9 *	Debating Technological Issues	Three teams of two per chapter	Teams will be instructed to take the Pro or Con side of the selected subtopic. The 2012 topic is <b>Biotechnology.</b> Procedures U, V, & W in the national TSA competitive events guide will not be done.
B-10 *	Desktop Publishing	Five individual entries per chapter	Student must provide all equipment and supplies including computer system and printer. The theme for 2012 is <b>Beyond Tradition.</b>
B-11 *	Digital Video Production	Three team entries per chapter	Participants develop a digital video/film that focuses on the given year's theme. The 2012 theme is <b>Suspense.</b>

**Virginia TSA Technosphere 2011 - 2012 Events and Codes**  
**HIGH SCHOOL PROGRAM**

0312/12

Code	Event	Notes	
B-12 *	Dragster Design	Five individual entries per chapter	Judging will include a wind tunnel test. The wind tunnel will be provided by Virginia TSA.
B-13	Engineering Design	One team of 3 to 5 students per chapter	Participants work as part of a team to solve a design problem.
B-14 *	Essays on Technology	Five individual entries per chapter	The topic for the 2012 conference is <b>“The Impacts of Ever-changing Technology on Schools”</b> Students provide their own pencil.
B-15 *	Extemporaneous Presentation	Five individual entries per chapter	Participants give a three to five minute speech. Procedures H, I, & J in the national TSA competitive events guide will not be done.
B-16	Fashion Design	One team of 2 to 4 members per chapter	The theme challenge for 2012 is <b>to design two (2) outfits that correspond to a specific historical period, such as the Victorian era, or any other historical period with a particular fashion style.</b>
B-17 *	Flight Endurance	Five individual entries per chapter	Participants analyze flight principles with a rubber band powered model aircraft. Students build and test their aircraft before the event date.
B-18	Future Technology Teacher	Three individuals per chapter	Participants research and select three accredited colleges or universities that offer technology education/engineering technology teacher preparation as a major.
B-19	Geospatial Technology (Virginia Only)	Three teams per chapter. Maximum of 5 members per team.	Participants develop a pre conference electronic portfolio, profiling an assigned geographic area. Rules provided on page 27.
B-20 *	Manufacturing Prototype	Three team entries per chapter	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. The product for 2012 is <b>a complete desk set. The set must include—but is not limited to—a coaster, a double paper tray, a pen and pencil holder, and a business card holder.</b>
B-21 *	Music Production	Three teams of two or more per chapter	Participants produce an original musical piece that is designed to be played during the national TSA conference opening or closing general session.
B-22	On Demand Video	One team of 2 or more per chapter	Participants write, shoot, and edit a sixty (60) second video during the conference. Participants have 24 hours to complete the entire video.

**Virginia TSA Technosphere 2011 - 2012 Events and Codes**  
**HIGH SCHOOL PROGRAM**

0312/12

Code	Event	Notes	
B-23 *	Photographic Technology	Five individual entries per chapter	Participants capture images and process photographic and digital prints that depict the current year's theme. The 2012 theme is <b>Perspective</b> .
B-24 *	Prepared Presentation	Five individual entries per chapter	Participants deliver an oral presentation that includes audio and/or visual enhancements based on the theme for the current year's conference. Students provide their own audio/visual support materials. The 2012 theme is <b>The Road to Success</b> . Procedures E, F & G in the national TSA competitive events guide will not be done.
B-25	Principals of Technology (Virginia Only)	One team of 2 to 5 per chapter	Teams that register by the Technosphere deadline will receive detailed information about the type of resources to bring to the competition. Rules provided on page 34.
B-26 *	Promotional Graphics	Five individual entries per chapter	Participants develop and present a graphic design that can be used to promote participation in TSA competitive events. Participants will choose one (1) of the three (3) competitions. For 2012 the options are: <b>On Demand Video; Biotechnology Design; OR Prepared Presentation</b>
B-27	SciVis	One team per chapter	Participants develop a visualization focusing on a subject or topic from one (1) or more of the following areas: science, technology, engineering, or mathematics. Participants must provide their own equipment.
B-28	Structural Engineering	One team of two per chapter	Participants work as part of a team on site with supplied materials to build a model of a structure. Participants must provide own tools including safety glasses.
B-29 *	System Control Technology	One team of three members per chapter	Participants work as part of a team on site to develop a computer controlled model solution to a problem. Teams must provide all equipment and supplies, including a 50 foot extension cord and power strip if needed.
B-30	Technical Sketching & Application	Two individuals per chapter	Participants complete a written test and semifinalist competes in an on-site problem. Students provide their own standard sketching tools.
B-31	Technology Bowl	One team of three per chapter	Each team member must take the written test. Members must provide their own pencil.

**Virginia TSA Technosphere 2011 - 2012 Events and Codes  
HIGH SCHOOL PROGRAM**

0312/12

Code	Event	Notes	
B-32	Technology Problem Solving	One team of two per chapter	Participants work together to develop and create a solution to a problem using limited materials. Teams must provide their own tools.
B-33 *	Transportation Modeling	Five individual entries per chapter	Participants use engineering skills to design and fabricate a Co2 powered scale model. The theme for 2012 is a <b>Pre- 1960 antique vehicle.</b>
B-34*	Video Game Design	Three teams per chapter	Participants develop an E rated game that focuses on the subject of their choice.
B-35	Webmaster	One entry per chapter	Participants design a website that features the following components: school's career and technology education program, the TSA chapter, and the chapter's research about a technological topic. The URL for the chapter's entry MUST be emailed to <a href="mailto:TSA@VATSA.ORG">TSA@VATSA.ORG</a> by midnight <b>March 30</b> . The subject line of the email must be: Webmaster. <b>No entries will be accepted after that date.</b>

**Special Awards and Recognition Programs**

- |      |                                   |  |
|------|-----------------------------------|--|
| C-2  | Chapter Excellence (High)         | Chapters may not receive this award two years in a row.                                    |
| C-4  | Community Service Award (High)    | Virginia Only: One entry per chapter   |
| C-6  | Member of the Year (High)         | Virginia Only. One individual per chapter. State Officers are not eligible for this award. |
| C-8  | Advisor of the Year (High)        | Advisors may not receive this award two years in a row.                                    |
| C-10 | Century Award Virginia Only.      | Chapters affiliating CAP, or 100+ members.   |
| C-12 | Commendation Award Virginia Only. | All schools in division affiliated.  |

**Note: Individuals, chapters and/or school divisions applying for recognition awards must submit the required paperwork on or before the postmark deadline for Technosphere registration. They must also register the award within the online registration system.**

## 2012 Geospatial Design Brief

### U.S. Recession's effect on Virginia Localities

#### Project Goal:

The objective of this project is to create a visual representation of the 2008 U.S. recession's effect on localities by mapping and analyzing household income, unemployment, business closures and public works cancellations. The data collected will be analyzed to determine the impact on the residents of the communities.

#### Local Data

Using local media data sources, such as newspapers and other reliable news outlets, collect the following data for 2009 and 2010:

1. Major business closures (or project abandonments)
  - a. Name of business, type of business
  - b. How many people lost jobs (or jobs not created)
  - c. Date of business closure
  - d. Address of business closure
2. Public works cancellations or delays
  - a. Name of public work, type
  - b. Value to community
  - c. Address of proposed sites
3. Major business openings
  - a. Name of business, type of business
  - b. How many jobs created
  - c. Date of business opening
  - d. Address of new business
4. Any local data for reference use (not limited to the following):
  - a. Street data
  - b. Waterways and polygons
  - c. Locality boundaries

#### U.S. Census Data

Using the American Community Survey data 5-year display the following for these years: 2005-2009 and 2006-2010 by census block for your locality:

1. Population count (including total population for the locality)
2. Household income in the past 12 months (average)
3. Unemployment rate
4. Housing – both household size and vacancy of houses

#### Pre-conference preparation:

1. Using locality street data or ESRI's locator data, geocode business closures and public works sites
2. Create map symbolizing the **business closures and openings** by date, include labels or a legend to describe business name, type, lost jobs, and date of closure; also include any public work cancellations and associated information (all data collected from the Local Data section)
3. Create maps symbolizing **population counts** for census blocks, include locality data for reference (may be on same poster)
4. Create maps symbolizing **average household income** for census blocks, include locality data for reference (may be on same poster)
5. Create maps symbolizing **unemployment rate** for census blocks, include locality data for reference (may be on same poster)
6. Create maps symbolizing **average household size and percentage of vacant homes**, include locality data for reference (may be on same poster)

# Geospatial Technology

## OVERVIEW

Participants develop a notebook containing maps, data, and appropriate documentation. All participants (not just semifinalists) then work to solve an on-site problem that demonstrates their abilities to use geospatial data to develop solutions to environmental and social issues, and present the solutions.

## PURPOSE

Participants are encouraged to explore and gain an understanding of how geospatial data and related technology are used to prepare a profile of a geographic area of interest and solve a problem in a spatial context. They demonstrate an understanding of geospatial technology software, data acquisition and its use in developing solutions.

## ELIGIBILITY

Participants are limited to one team of 2-5 members per chapter.

## TIME LIMITS

- A. Entries must be started and completed during the current school year.
- B. Participants have a thirty (30) minute set-up time before the event.
- C. Participants have two and one-half (2½) hours to complete the on-site problem.

## ATTIRE

Business Casual dress as described in Competitive Events Attire is the minimum requirement.

## PROCEDURE

- A. Participants check in their entries at the time and place stated in the conference program.
- B. Entries are reviewed by evaluators.
- C. Participants report to the event area at the time and place stated in the conference program for the on-site component.
- D. Participants are allowed thirty (30) minutes to set up before the event.
- E. Participants are provided with the problem and are allowed two and one-half (2½) hours to complete their entry.
- F. A presentation file of the solution is saved as a PDF and turned in at the time of presentation of solution.
- G. All winning entries, digital and hard copy, become the property of TSA, Inc.
- H. Participants pick up their entries from the display area at the time and place stated in the conference program.

## REGULATIONS

- A. Participants supply their own computer work station with USB drive, power strip/surge protector, and software. Wireless Internet access is available to access software and data. A laptop computer is

recommended. Anyone who does not provide these items will not be allowed to compete in the on-site event.

B. The notebook items [Maps, data and documents] must follow these guidelines:

1. The notebook items are developed in color on white 8½" x 11" paper.
2. . All items should be put in clear sheet protectors and placed in the notebook, which is a standard three (3)-ring binder. Items may be removed and examined by evaluators. Additional items may not be included.

3 The notebook items must incorporate the selected theme. The content of the notebook items must be appropriate for viewing at the national TSA conference. The title page with the event title, the title of the project and, the conference city, state, and the year; one (1) page. The Table of contents, provides location of documents and maps.

4 Maps, data and documents need to be collected abiding by the parameters listed below. All material must be written to a CD and included in the notebook. The name of the software used must be included,

1. Documents –Printed and files on CD.

- a. Data dictionary for the below GIS files is required. The data dictionary should be an excel spreadsheet that includes, data, provider, and availability of metadata (yes or no). See **example** below.

<b>File name</b>	<b>Description</b>	<b>Source (URL)</b>	<b>Metadata</b>
roads_rt.shp	Roads for County X	http://someplace.gov	Yes or no

b. Map Analysis – A document should accompany each map with an explanation of the map and methods used to create the map.

c. Explanation of the solution and how it was developed.

2. Files on CD

a. Maps can either be exported as jpeg from the GIS software or the file structure can be setup so that the judges can open the project. Maps must be student generated with all appropriate map parts.

b. Documents that explain the project and maps.

c. CD File Structure.

A folder for each category.

Subfolders for data, imagery and documents.

3. Data types

- Location map of your project in relationship to state
- Elevations
- Watershed identification (regional to local)
- Demographics and its effect on land use within the area
- Location factors that impact the issue presented
- Any local unusual geographic attributes, i.e. karsts, caves, lakes
- Slope and aspect

5. The notebook is identified using only the participant’s conference identification number.

D. All on-site work is developed, saved as a PDF file on an external drive (USB flash drive) and submitted using only the team’s conference identification number.

On-site solutions will be submitted as a PowerPoint presentation and on-site teams will be interviewed by evaluators for approximately five (5) minutes.

F. Participants leave the event room only with permission from the event coordinator.

G. The on-site project should be saved and submitted when a team completes work and/or when time elapses. Teams that finish before the time limit must leave their computer(s) in place if leaving the room. Participants remove their equipment only when all semi-finalists have completed their interviews.

H. All entries become the property of TSA, Inc. and will not be returned after judging.

## EVALUATION

Evaluation is based on interpretation of the pre-conference design brief, the execution of a thorough, relevant, and understandable solution/presentation, submission of requested materials, solution for the on-site problem, and on-site interview. Please refer to the official rating form for more information.

## STEM INTEGRATION

This event has connections to the STEM standards noted below. Please refer to the STEM integration section of this guide.

Science, Technology, Engineering, Mathematics

## PRIMARY LEADERSHIP SKILLS

Leadership skills promoted in this event:

- COMMUNICATION — Students will organize and produce a well-written notebook
- CREATIVE THINKING — Students visualize an issue to develop problem solutions
- PROBLEM SOLVING – Students identify and acquire data needed to develop solutions.
- EVALUATION — Students review and critique work throughout the development of the project.

Suggested leadership lessons: *Evaluation Imagination* and *Seven Components Of Effective Evaluation*

**Additional leadership skills promoted in this event: DECISION MAKING, EVALUATION, organization, teamwork**

## TSA AND CAREERS

This competition has connections to one or more of the career areas featured in the TSA AND CAREERS section of this guide. Use *The 16 Career Clusters* chart and the *TSA Competitions and Career Clusters* grid as resources for information about careers.

## CAREERS RELATED TO THIS EVENT

Programming and Software Development

Logistics Planning and Management Services

Transportation Systems/Infrastructure Planning, Management

# GST/GIS EVENT COORDINATOR INSTRUCTIONS

## PERSONNEL

- A. Event coordinator
- B. Evaluators, two (2) for every twenty (20) entries or fraction thereof
- C. Evaluators for semifinalists, two (2) or more

## MATERIALS

- A. Coordinator's packet, containing:
  - 1. Event guidelines, one (1) copy each for coordinator and evaluators
  - 2. Official rating forms
  - 3. List of entries with finalist report
  - 4. List of evaluators/assistants
  - 5. Pens and notepads for evaluators
  - 6. Calculators, one (1) for each event evaluator
  - 7. Results envelope
- B. Tables and chairs for evaluators
- C. Computer capable of reading a CD, and monitor - one (1) each per evaluation team
- D. Extension cords, one per evaluation team (25' minimum length)
- E. Power bar with surge protection, one (1) per evaluation team

## RESPONSIBILITIES

- A. Upon arrival at the conference, report to the CRC room and check the contents of the Coordinator's notebook. Review the event guidelines and check to see that enough evaluators/ assistants have been scheduled.
- B. Inspect the area(s) in which the event is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.
- C. Check in the entries at the time stated in the conference program. Anyone reporting who is not on the entry list may check in only after official notification is received from the CRC chairperson. Late entries are considered on a case-by-case basis and only when the lateness is caused by events beyond the participant's control. Requirements for attire do NOT apply during check-in.
- D. Place an entry number on each CD and notebook. Secure the entries in the designated area.
- E. One (1) hour before the ON-SITE event is scheduled to begin, meet with your evaluators/assistants to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the event manager before the event begins.
- F. Evaluators independently assess the notebooks and CD entries
- G. For participants who violate the rules, the decision either to deduct twenty percent (20%) of the total possible points or to disqualify the entry must be discussed and verified with the evaluators, event coordinator, and the CRC manager. Secure the initials of the coordinator and manager on the rating form.
- H. Each group of evaluators averages its two (2) scores to determine the top five (5) entries from that group. The coordinator lists the semifinalists twelve (12)] in random order on new rating forms that are given to the semifinalist evaluators. The semifinalist list is posted
- J. Semifinalist evaluators independently assess the semifinalists.
- K. Semifinalist evaluators average their scores. The average score of the semifinalist evaluators determines the top ten (10) finalists and their ranking. Evaluators discuss and break any ties.

- L. Complete and submit the finalist report, which includes a ranking of the ten (10) finalists, and all related forms in the results envelope to the CRC room.
- M. Submit score sheets in the envelope to the CRC room at this time.
- N. Return computers to appropriate personnel.

ENTRANT'S ID #													
EVALUATIVE CRITERIA													
<b>Pre-conference Portfolio (50 pts.)</b>													
Maps ..... 20 pts.													
Documents:													
Data Dictionary..... 5 pts.													
Analysis Documents ..... 5 pts.													
Project Journal ..... 5 pts.													
CD Structure ..... 5 pts.													
Originality ..... 10 pts.													
<b>On-site Challenge (50 pts.)</b>													
Innovation & Originality ..... 20 pts													
Solution to On-site Problem ..... 20 pts.													
Metadata Information Updated..... 5 pts.													
Final Product ..... 5 pts.													
SUBTOTAL ..... 100 pts.													
Rules violation (must be initialed by event coordinator and manager) ..... minus 20 pts.													
TOTAL ..... 100 pts.													
Evaluator's comments/notes:													

I certify these results to be true and accurate to the best of my knowledge.  
 Evaluator's signature

## **Principles of Technology Challenge High School Event**

**Overview:** The Principles of Technology Challenge is a team event in which students demonstrate their knowledge of physics, technology and mathematics. The problems used in the competition stem from the principles and concepts embedded in Principles of Technology I and II (9811 and 9812). Each team of students will work as a group to solve a series of problems.

**Purpose:** The purpose of the contest is to recognize high school students who have studied the Principles of Technology courses and are able to apply their knowledge to real world mechanical, electrical, thermal and fluidics problems.

**Eligibility:** Entries are limited to one (1) team per TSA chapter. The team must consist of two (2) to five (5) chapter members.

**Time Limits:** Each team will have two (2) hours to complete the event.

**Procedure:**

- A) Participants must register for the event in accordance with procedures established for Technosphere.
- B) Participants must check in at the time specified in the conference program.
- C) The team members take the written test together and provide one answer sheet.
- D) After completing the written test, each team will be given a series of problems to solve.

**Equipment:** Each team must provide the following items of equipment for the onsite problem:

1. Hand held calculator with no programs installed (may be 4 function scientific or graphing)
2. Spring scales
3. Protractors
4. Principles of Technology student resource guide or any locally approved high school physics textbook
5. Weight sets
6. Resistors
7. Lead sets
8. Power supplies
9. Digital multimeter
10. Thermal cups
11. Specific heat unknown samples
12. Thermometers
13. Graduated cylinders

**Regulations:** Each team will work independently without assistance from evaluators, teachers, or observers.

- A) Each team will be assigned a work station prior to the event.
- B) Participants will not be permitted to leave the event room during the event.

**Evaluation:** Each team's written test score and score for the solution of the problem will be averaged to determine the final score.

**Virginia TSA provides recognition for Middle and High School competition in the following events. Applications for these awards can be found on the Virginia TSA website under Forms**

## **& Publications.**

### **C - 1 and C - 2**

Chapter Excellence: Virginia TSA uses the national criteria and recognizes three outstanding Middle School Level TSA Chapters and three outstanding High School Level TSA Chapters at Technosphere each year. Chapters may not receive this award two (2) years in a row.

### **C - 3 and C - 4**

Community Service: Virginia TSA recognizes three Middle School Level TSA Chapters and three High School Level TSA Chapters at Technosphere each year.

### **C - 5 and C - 6**

Member of the Year: Virginia TSA recognizes three outstanding Middle School Level TSA students and three outstanding High School Level TSA students at Technosphere each year. State officers are not eligible for this award.

### **C - 7 and C - 8**

Advisor of the Year: Virginia TSA uses the national criteria and recognizes three advisors from Middle School Level and High School Level TSA Chapters at Technosphere each year. Advisors may not receive this award two (2) years in a row.

### **C - 9 and C - 10**

Century Award: Virginia TSA recognizes outstanding Middle School Level TSA Chapters and High School Level TSA Chapters that affiliate 100 or more students.

### **C - 11 and C - 12**

Commendation Award: Virginia TSA recognizes outstanding school divisions that affiliate all secondary schools technology education programs with Technology Student Association at Technosphere each year.

## Virginia TSA Chapter Excellence Award Application

*(All applications must be postmarked by the Technosphere Registration Deadline)*

**School Name:** \_\_\_\_\_

**School Address:** \_\_\_\_\_

**School Phone Number:** \_\_\_\_\_

**TSA Advisor:** \_\_\_\_\_

**TSA Advisor's E-mail Address:** \_\_\_\_\_

### **General Information**

Number of members in chapter: \_\_\_\_\_

Number of students in technology education courses: \_\_\_\_\_

Number of years the chapter has been affiliated with TSA: \_\_\_\_\_

**Please type all answers to the following questions on a separate sheet and attach to application.**

### **Chapter Involvement**

1. How often does your chapter meet?
2. How are your chapters scholastic and educational activities incorporated into daily technology education curriculum?
3. Please list the number of students that attended the National TSA Conference the last 3 years, including the competitive events entered and awards and recognition earned.
4. List your chapter's activities that deal with inter-chapter participation.

### **Chapter Fund Raising Projects**

1. List your chapters fund raising projects and note the purpose for raising the money. If chapter is not allowed to participate in fund raising, please list how monies are raised.

### **Leadership Activities**

1. If your chapter has been involved in leadership activities not previously mentioned, discuss each activity.
2. What is your chapters' involvement with TSA alumni?

\_\_\_\_\_  
Chapter President's Signature

\_\_\_\_\_  
Chapter Advisor's Signature

C - 1 or C - 2

# CHAPTER EXCELLENCE

## JUDGE'S OFFICIAL RATING SHEET

Middle School/LEVEL I or High School/Level II (Circle one)

ENTRANT'S ID																				
JUDGING CRITERIA																				
<b>Involvements.....40 points max.</b>																				
<b>Fund-Raising .....10 points max.</b>																				
<b>Leadership Activities .....20 points max.</b>																				
<b>Resume .....30 points max.</b> Organization of facts in an orderly manner (16 points) Neatness (8 points) Appropriate information (6 points)																				
<b>Total .....100 points max.</b>																				

*I certify these results to be true and accurate to the best of my knowledge and ability.*

*Judge's Signature*

Virginia TSA Community Service Award Application

*(All applications must be postmarked by the Technosphere Registration Deadline)*

School Name: \_\_\_\_\_

School Address: \_\_\_\_\_

School Phone Number: \_\_\_\_\_

TSA Advisor: \_\_\_\_\_

TSA Advisor's E-mail Address: \_\_\_\_\_

**List all Community Service Activities that your chapter has participated in during the current school year. Include the specific date of each event.**

<b>Event:</b>	<b>Date:</b>
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____

**Total hours spent working on Community Service activities:** \_\_\_\_\_

**On a separate sheet of page (maximum 3 pages), provide a typed description of each Community Service activity that is list above.**

\_\_\_\_\_  
Chapter President's Signature

\_\_\_\_\_  
Chapter Advisor's Signature

## **Virginia TSA Member of the Year Application**

**Applicants must be enrolled in a Technology Education course and/or have completed a middle or high school Technology Education plus be a Virginia TSA member.**

***(All applications must be postmarked by the Technosphere Registration Deadline)***

*(State officers are not eligible for this award.)*

Member's Name: \_\_\_\_\_

Member's School Name: \_\_\_\_\_

School's Address: \_\_\_\_\_

School's Phone Number: \_\_\_\_\_

Current Year in School and GPA: \_\_\_\_\_

List the name of each Technology Education course & state course code number that you have been enrolled in at the middle and/or high school level:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Number of years in TSA: \_\_\_\_\_

Awards won, offices held, and other accomplishments within TSA:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Awards won, offices held, extracurricular activities, and other accomplishments outside of TSA:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

## **Virginia TSA Member of the Year Application**

**Applicants must be enrolled in a Technology Education course and/or have completed a**

**middle or high school Technology Education plus be a Virginia TSA member.**  
***(All applications must be postmarked by the Technosphere Registration Deadline)***

*(State officers are not eligible for this award.)*

**In a brief type written essay (maximum 2 pages), please explain why this student deserves the award.**

.....  
.....

**Nominator Information:**

Member must be nominated by a Virginia TSA chapter advisor. State officers are not eligible for this award.

Nominated by: \_\_\_\_\_

School Name: \_\_\_\_\_

School Address: \_\_\_\_\_

Nominator's Email Address: \_\_\_\_\_

Nominator's Phone number: \_\_\_\_\_

Signature of Nominator: \_\_\_\_\_

**Advisor of the Year**

1. Cover sheets and additional materials are not accepted.
2. The Nominated Advisor must be nominated by two (2) chapter Advisors.
3. Only one (1) application is needed but it must be signed by the two (2) nominating chapter Advisors.
4. Include information from the last three (3) years only.
5. Advisors may not receive this award two (2) years in a row.

**Nominating Advisors Information**

Name: \_\_\_\_\_

School: \_\_\_\_\_

Principal's Name: \_\_\_\_\_

School Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Numbers of years teaching: \_\_\_\_\_

Name: \_\_\_\_\_

School: \_\_\_\_\_

Principal's Name: \_\_\_\_\_

School Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Numbers of years teaching: \_\_\_\_\_

**Nominated Advisor Information**

Name: \_\_\_\_\_

School: \_\_\_\_\_

Principal's Name: \_\_\_\_\_

School Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Numbers of years teaching: \_\_\_\_\_

Technology Education courses currently teaching:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Promoting TSA**

1. When does the TSA Chapter meet?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- Fill in the table showing the number of students the advisor has taught and advised during the past three years.

Year	Number of students enrolled in classes	Number of TSA Members

- Indicate the number of officer candidates that the advisor has sponsored for positions beyond the chapter level.

\_\_\_\_\_Regional      \_\_\_\_\_State      \_\_\_\_\_National

- List the calendar years in which the advisor has attended any state or nationally sponsored conferences during the last three years.

<b>State</b>			
<b>National</b>			

- List any publicity, such as radio, television, and newspaper coverage, that the chapter has received.

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### **Chapter Accomplishments**

- List any major chapter projects that the chapter has completed over the last three years.

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### **Facilitation Skills**

- Describe how students are introduced to the Technology Student Association in the technology program.

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2. List forms of recognition offered to chapter members.

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**Leadership Skills**

1. Describe the advisors participation in TSA at the regional level.

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2. Describe the advisors participation in TSA at the state level.

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3. Describe the advisors participation in TSA at the national level.

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4. List other organizations and activities in which the advisor is involved.

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I certify that the claim and information reported on behalf of the advisor are true and accurate.

Nominating Advisor \_\_\_\_\_ Date \_\_\_\_\_

2<sup>nd</sup> Nominating Advisor \_\_\_\_\_ Date \_\_\_\_\_

# ADVISOR OF THE YEAR

**JUDGE'S OFFICIAL RATING SHEET**  
**Middle School/LEVEL I or High School/Level II (Circle one)**

ENTRANT'S ID																				
<b>JUDGING CRITERIA</b>																				
<b>Promoting TSA..... 15 point max.</b>																				
Number of officer candidates advisor has sponsored (5 point)																				
Number of years advisor has attended state/national conference (5 point)																				
Publicity that the chapter has received (5 point)																				
<b>Chapter Accomplishments.....20 point max.</b>																				
Major chapter projects completed (20 points)																				
<b>Facilitation Skills..... 10 point max.</b>																				
How is TSA introduced to your class (5 points)																				
How do TSA members receive recognition (5 points)																				
<b>Leadership Skills..... 30 point max.</b>																				
Participation in TSA at local/regional level (15 points)																				
Participation in TSA at state/national level (15 points)																				
<b>Professional &amp; Civic Organizations..10 point max.</b>																				
<b>Neatness ..... 5 point max.</b>																				
<b>Spelling &amp; Grammar ..... 10 point max.</b>																				
<b>Total..... 100 points max.</b>																				

*I certify these results to be true and accurate to the best of my knowledge and ability.*

*Judge's Signature*

VIRGINIA TSA

CENTURY AWARD APPLICATION

*(All applications must be postmarked by the Technosphere Registration Deadline)*

Those schools that affiliate under the Chapter Affiliation Plan, affiliate 100 or more students individually or the total technology education program enrollment are eligible to apply for and receive recognition. Applicants must apply by the deadline listed in the Technosphere registration packet.

Name of School: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

School Division: \_\_\_\_\_

Advisor Name: \_\_\_\_\_

School Phone: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Level: (Circle one) Middle – High

Date: \_\_\_\_\_

This is to certify that \_\_\_\_\_ school has affiliated \_\_\_\_\_ students with the Technology Student Association. We believe that we are eligible to receive the Century Award for affiliating 100% (or 100 members) with the Technology Student Association.

\_\_\_\_\_  
Chapter President

\_\_\_\_\_  
Chapter Vice President

\_\_\_\_\_  
Chapter Advisor

\_\_\_\_\_  
School Principal

VIRGINIA TSA

COMMENDATION AWARD

*(All applications must be postmarked by the Technosphere Registration Deadline)*

School divisions that affiliate all secondary school technology education programs with the Technology Student Association are eligible to apply for the Commendation Award. The Commendation Award provides recognition to those school divisions that actively support the establishment and maintaining of TSA chapters.

School Division Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

CTE Director: \_\_\_\_\_

Technology Supervisor: \_\_\_\_\_

Telephone Number: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

Number of High Schools in Division: \_\_\_\_\_

Number of Middle Schools in Division: \_\_\_\_\_

This is to verify that all schools in the \_\_\_\_\_ school division have organized and affiliated with the Technology Student Association for the current school year. This represents all of the middle and school schools within the division. A list of the schools and chapter advisors names are attached for your review. A school division representative will attend the Technosphere awards program to receive the school division award.

\_\_\_\_\_  
Local Technology Education Coordinator

\_\_\_\_\_  
Local Career and Technical Education Director