

VIRGINIA TSA

COMPETITIVE EVENTS ADDENDUM



AN APPENDIX TO THE NATIONAL TSA

2008-2009 MIDDLE SCHOOL COMPETITIVE EVENTS GUIDE
AND
2007-2008 HIGH SCHOOL COMPETITIVE EVENTS GUIDE

FOR USE AT THE

2008 VIRGINIA TSA REGIONAL FAIRS & TECHNOSPHERE

TECHNOLOGY EDUCATION SERVICE
VIRGINIA DEPARTMENT OF EDUCATION
COMMONWEALTH OF VIRGINIA

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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.

CONTESTS REFLECT A KNOWLEDGE AND UNDERSTANDING OF TECHNOLOGY

Contests 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 contests 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. Contests 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 contests related to course content.
3. Use contests as co-curricular learning activities.
4. Evaluate students' progress through contests and other activities.
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 2007 Children's Engineering Convention will be held on February 28-March 1, 2008, Holiday Inn Koger Center, Richmond, Virginia. Detail information about the Children's Engineering Convention can be obtained at the following website: ww.vtea.org/ESTE/convention/.

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 February 1 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 1st, 2nd, or 3rd in a Technosphere contest that requires the state to select the national representative(s) for the same contest, the chapter advisor of the respective Technosphere winner(s) must notify the Virginia TSA State Advisor via email or fax by May 5, 2008, if they plan to register and compete in the same contest 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 5, the State Advisor will proceed to contact the 4th, 5th, or 6th place winners, and so forth, until Virginia TSA can confirm a state representative for the respective contest. NOTE: Once this process starts, the Technosphere 1st, 2nd, or 3rd place winners, and so forth, shall forfeit their eligibility to compete in the same contest 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 contest or activity. (Examples: Hotel Reservation, contests 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 contest criteria for 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 2007-2008 Virginia TSA official competitive events are:

MIDDLE SCHOOL PROGRAM

Agriculture and Biotechnology Challenge
Career Challenge
Challenging Technology Issues
Chapter Team
Communication Challenge
Construction Challenge
Cyberspace Pursuit
Digital Photography Challenge
Dragster Design Challenge
Electrical Applications
Electronic Game Challenge
Environmental Challenge
F-1 in Schools
Flight Challenge
Graphic Design Challenge
Inventions and Innovations
Leadership Challenge
Manufacturing Challenge
Medical Technology Challenge
Prepared Speech
Problem Solving
Structural Challenge
System Control Technology
Technical Design Challenge
Technical Writing Challenge
Technology Bowl Challenge (Written and Oral)
Technology Transfer
Transportation Challenge
TSA Cup: Marine Design Challenge
TSA Multimedia
Video Challenge

HIGH SCHOOL PROGRAM

Agriculture & Biotechnology Design
Animatronics
Architectural Model
Career Comparisons
CADD – Architectural 2D
CADD – Engineering 3D
CADD – Animation, Architectural
CADD – Animation, Engineering
Chapter Team (Written and Oral)
Construction Systems
Cyberspace Pursuit
Desktop Publishing
Dragster Design
Electronic Research & Experimentation
Engineering Design
Extemporaneous Presentation
F-1 in Schools
Film
Flight Endurance
Geospatial Technology (Virginia Only)
Imaging Technology
Manufacturing Prototype
Medical Technology
Prepared Presentation
Principles of Technology (Virginia Only)
Promotional Graphics
Radio Controlled Transportation
SciVis
Structural Engineering
System Control Technology
Technical Research and Report Writing
Technical Sketching & Application
Technology Bowl (Written and Oral)
Technology Challenge
Technology Problem Solving
Transportation Modeling
Video Game Design

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

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.

GENERAL COMPETITIVE EVENT GUIDELINES

- 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 of 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 reason or excuse for individual change or adjustment consideration.
- D. Competitive event concerns or requests to review the results of a contest 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 in good standing with TSA by February 1 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 competition.
- G. TSA membership rights extend through the year of graduation.
- H. Advisors will be entered in the same level as their chapter is entered.
- I. Participants may enter a maximum of five (5) competitive events at the regional fairs unless noted otherwise in this document.
- J. If a contestant violates the contest rules, the decision to deduct 20 points or disqualify the entry will be made based on competitive event rules.
- K. Participants in Technosphere contests 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 respective event at Technosphere. If a regional fair winner cannot attend Technosphere, substitutions shall not be permitted in either individual or team events.

GENERAL COMPETITIVE EVENT GUIDELINES

- 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 contest at the Regional Fair in contests unless specified differently on page 13-14.**
 - 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. Cyberspace Pursuit (email)
 - 6. Community Service Award
 - 7. Member of the Year
 - * Plaques will not be presented at Technosphere if the correct forms are not mailed to Virginia TSA by the registration deadline.
 - C. Chapters must register all students for team competitions. Regional Fair team event winners cannot be substituted at Technosphere.
- V. Awards
- A. Awards will be presented to the winning entries in each competitive event at the awards presentation ceremonies. First, second, and third place awards will be presented in the events as listed under Section I of the General Rules.
 - 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.
- 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.
 - B. **Students who place among the top three finishers in Regional competition must register their entries for Technosphere. Substitutions will not be permitted for individual contest 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.**
- 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

GENERAL COMPETITIVE EVENT GUIDELINES

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

A. Official TSA attire:

| | |
|------------------|---|
| Blazer: | navy blue with official 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.

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.

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 competitive event as shown in the Curricular Resources Guide. All judges' rating sheets are the property of Virginia TSA. The information on the rating sheets is confidential and will not be disseminated.

XII. Advisors should carefully review contest registration 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 |
|------------------------------|----------------------------------|--|
| MIDDLE SCHOOL PROGRAM | | |
| A-2 | Career Challenge | Five individual entries per chapter. Students must provide pen, resume, and cover letter. No interviews at the regional fairs. |
| A-3 | Challenging Technology Issues | Three teams of two members per chapter, students must provide own pencils. |
| A-5 | Communication Challenge | Five individual entries per chapter. Topic: Design and produce a newsletter that promotes the chapter's activities, an effective sponsor support request on chapter letterhead, and a business card. (No finalist component at Regional Fairs.) |
| A-8 | Digital Photography Challenge | Five individuals per chapter. Topic: Produce an album and an 8" x 10" collage of digital photographs consisting of six (6) color or black and white digital photographs that present a single chapter activity/theme. (No finalist component at Regional Fairs.) |
| A-9 | Dragster Design Challenge | Five individual entries per chapter. [one (1) dragster per participant] (No wind tunnel test at Regional Fairs.) |
| A-10 | Electrical Applications | Five individual entries per chapter. (Test Only at Regional Fairs. Student Provide own pencil.) |
| A-14 | Flight Challenge | Five individual entries per chapter. Students bring completed documentation notebook with all components, and assembled glider for testing at the Regional Fair. Students must provide own safety glasses. |
| A-15 | Graphic Design Challenge | Five individual entries per chapter. Theme: "Shape the Future" |
| A-20 | Prepared Speech | Five individual entries per chapter. Theme: "TSA: Imagine It!" |
| A-23 | System Control Technology | One team of three members per chapter. Participants must provide all equipment and supplies including a 50 foot extension cord and power strip. |
| A-24 | Technical Design Challenge | Five individuals per chapter. Students must provide own pen. |
| A-25 | Technical Writing Challenge | Five individual entries per chapter. Topic: "The Internet – Making Connections" |
| A-26 | Technology Bowl | One team of three per chapter. The team will only compete in the written exam at the regional fairs. All three team members must take the written exam, no exceptions. No oral competition at the regional fairs. Students must provide own pencil. |
| A-28 | Transportation Challenge | Five individual entries per chapter. Design, engineer, and fabricate a battery-powered vehicle that covers an obstacle course in the shortest amount of time. Students must provide vehicle and documentation at contest check-in. |
| A-29 | TSA Cup: Marine Design Challenge | One team per chapter (maximum 12 members). Produce and race a model sailboat, document the design process, and incorporate knowledge of a specific country into the event display. The chapter advisor is not permitted to assist in setting up the entry on-site. |

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 contest 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.

Virginia TSA 2007 - 2008 Regional Fair Contests

11/12

| Code | Event | Notes |
|-------------|----------------|---|
| A-30 | TSA Multimedia | Five individual entries per chapter. Topic: Create and design a stand-alone multimedia presentation to promote TSA. Participants must provide own development resources and presentation equipment. |

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| Code | Event | Notes |
|----------------------------|---------------------------------------|--|
| HIGH SCHOOL PROGRAM | | |
| B-5 | CADD – Architectural 2D | Five individual entries per chapter, contests will be done on site, students must provide all equipment and supplies. The event time limit will be two (2) hours at the Regional Fair. Students must be available during judging. Entries will be judged from the computer screen. |
| B-6 | CADD – Engineering 3D | Five individual entries per chapter, contests will be done on site, students must provide all equipment and supplies. The event time limit will be two (2) hours at the Regional Fair. Students must be available during judging. Entries will be judged from the computer screen. |
| B-7 | CADD – Animation, Architectural | Five individual entries per chapter, contests will be done on site, students must provide all equipment and supplies. The event time limit will be two (2) hours at the Regional Fair. Students must be available during judging. Entries will be judged from the computer screen. |
| B-8 | CADD – Animation, Engineering | Five individual entries per chapter, contests will be done on site, students must provide all equipment and supplies. The event time limit will be two (2) hours at the Regional Fair. Students must be available during judging. Entries will be judged from the computer screen. |
| B-12 | Desktop Publishing | Five individual entries per chapter, students must provide all equipment & supplies including: computer and printer. Students will do an onsite problem. |
| B-13 | Dragster Design | Five individual entries per chapter. (No wind tunnel test at Regional Fair.) |
| B-14 | Electronic Research & Experimentation | Three teams per chapter. |
| B-16 | Extemporaneous Presentation | Five individual entries per chapter. |
| B-18 | Film | Three (3) team entries per chapter. |
| B-19 | Flight Endurance | Five individual entries per chapter. Students' models must be built and test flown before the Regional Fair. Students must provide documentation notebook and model. |
| B-21 | Imaging Technology | Five individual entries per chapter. Theme: "Technically Speaking". (No finalist component at regional fairs.) |
| B-22 | Manufacturing Prototype | Three (3) team entries per chapter. The product for 2008 is "an original action figure that has a TSA theme. An appropriate marketing package should accompany the product. Neither product should include the use of any copyrighted characters or images. |
| B-24 | Prepared Presentation | Five individual entries per chapter. Theme: "Image It!" (Students must provide own equipment.) |
| B-26 | Promotional Graphics | Five individual entries per chapter. Theme: "Shape the Future" |
| B-30 | System Control Technology | One team of three per chapter, members must provide all resources including a 50 foot extension cord and power strip. |

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 contest 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.

Virginia TSA 2007 - 2008 Regional Fair Contests

11/12

| Code | Event | Notes |
|-------------|--|---|
| B-31 | Technical Research and and Report Writing | Five individual entries per chapter. Theme: "The Influence of Mass Media" with these subtopics: Influence on the individual, Influence on our culture and society. Students provide own pencil/pen. |
| B-32 | Technical Sketching and Applications | Five individual entries per chapter. Participants must provide own sketching tools. |
| B-33 | Technology Bowl | One team of three per chapter. The team will only compete in the written exam at the regional fairs. All three team members must take the written exam, no exceptions. No oral competition at the regional fairs. Students must provide own pencil. |
| B-36 | Transportation Modeling | Five individual entries per chapter. The problem for 2008 is to create a concept Motor Home/Recreational Vehicle. |

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Virginia TSA Technosphere 2007 - 2008 Contests and Codes

MIDDLE SCHOOL PROGRAM

11/12

| Code | Event | Notes |
|--------|---|---|
| A-1 | Agriculture and Biotechnology Challenge | One team per chapter. Maximum of two representatives per team for the finalist interview. |
| A-2 * | Career Challenge | Choose one of these careers: Photographer, Auto Mechanic, Construction site manager, Civil engineer, Software publisher. Students must provide own pencil. |
| A-3 * | Challenging Technology Issues | Students must provide own pencil. |
| A-4 | Chapter Team | One team of six per chapter. Participants provide own pencil. |
| A-5 * | Communication Challenge | Topic: Design and produce a newsletter that promotes the chapter's activities, an effective sponsor support request on chapter letterhead, and a business card. |
| A-6 | Construction Challenge | One team per chapter. Challenge: Identify a community need related to construction, and then plan and implement a course of action that involves students and community members. A/C electricity may not be used. |
| A-7 | Cyberspace Pursuit | One entry per chapter, go to the following URL to obtain the design brief for 2008 visit: www.tsaweb.org . The Virginia TSA deadline to submit the URL via email to cyberspace@vatsa.org is mid-night March 26, 2008. |
| A-8 * | Digital Photography Challenge | Topic: Produce an album and an 8" x 10" collage of digital photographs consisting of six (6) color or black and white digital photographs that present a single chapter activity/theme. |
| A-9 * | Dragster Design Challenge | Virginia TSA will provide a wind tunnel for testing entries. |
| A-10 * | Electrical Applications | Finalists provide own standard calculator, battery operated multimeter, and pencil. |
| A-11 | Electronic Game Challenge | One team per chapter. Participants develop an E-rated game that focuses on the subject of their choice. |
| A-12 | Environmental Challenge | One team per chapter. Challenge: Identify and research a specific environmental problem or issue that has been influenced by advancements in technology. |
| A-13 | F-1 in Schools | Separate registration fee required. Visit http://www.tsaweb.org for information. |
| A-14 * | Flight Challenge | Students must provide own tools, safety glasses and drawing. Materials will be provided to construct gliders onsite. |
| A-15 * | Graphic Design Challenge | Theme: "Shape the Future!" |
| A-16 | Inventions and Innovations | One team per chapter (a minimum of three individuals) |
| A-17 | Leadership Challenge | One team of three students per chapter. Participants provide own pencil. |
| A-18 | Manufacturing Challenge | One team of three or more members per chapter submit one entry. |
| A-19 | Medical Technology Challenge | One team per chapter. There is a limit of two (2) or three (3) representatives per team for the finalist presentation. |
| A-20 * | Prepared Speech | Theme: "TSA: Imagine It!" |
| A-21 | Problem Solving | One team of two members per chapter. Teams must provide own tool box containing the required resources. |
| A-22 | Structural Challenge | One team of two members per chapter. Students must provide own cutting tools, Fabrication supplies and safety glasses, which must fit in a single box. |

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 contest 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.

Virginia TSA Technosphere 2007 - 2008 Contests and Codes

MIDDLE SCHOOL PROGRAM

11/12

| Code | Event | Notes |
|-------------|----------------------------------|---|
| A-23 * | System Control Technology | Teams must provide all equipment including 50 foot extension cord and power strip. |
| A-24 * | Technical Design Challenge | Students must provide own pencil. |
| A-25 * | Technical Writing Challenge | Theme: "The Internet – Making Connections" |
| A-26 * | Technology Bowl Challenge | One team of three per chapter. The team will only compete in the oral competition at Technosphere. |
| A-27 | Technology Transfer | One team with a minimum of 2 students or maximum of 6 students. Participating chapters must be from the Commonwealth of Virginia. |
| A-28 * | Transportation Challenge | Five individual entries. Design, engineer, and fabricate a battery powered vehicle that covers an obstacle course in the shortest amount of time. Students must provide vehicle and documentation at contest check-in. |
| A-29 * | TSA Cup: Marine Design Challenge | Produce and race a model sailboat, document the design process, and incorporate knowledge of a specific country into the event display. The chapter advisor is not permitted to assist in setting up the entry on-site. |
| A-30 * | TSA Multimedia | Topic: Create and design a stand-alone multimedia presentation to promote TSA. (Students must provide own equipment.) |
| A-31 | Video Challenge | Entries are limited to 3 (individuals or teams) per chapter. |

Special Awards and Recognition Programs

| | | |
|------|-----------------------------------|---|
| 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. |
| 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.**

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 contest 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.

Virginia TSA Technosphere 2007 - 2008 Contests and Codes

HIGH SCHOOL PROGRAM

11/12

| Code | Event | Notes |
|-------------|---------------------------------------|---|
| B-1 | Agriculture & Biotechnology Design | One team per chapter. Two (2) representatives for finalist interview |
| B-2 | Animatronics | One team per chapter. Participants will produce an animatronics device complete with an appropriate display. |
| B-3 | Architectural Model | One individual or team entry per chapter. For 2008, participants design a single family residential home for a family of six that includes an aging set of grandparents, following the principles and guidelines established for the development of affordable housing in America. |
| B-4 | Career Comparisons | One individual per chapter. |
| B-5 * | CADD – Architectural 2D | Contests will be done on-site, students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. |
| B-6 * | CADD – Engineering 3D | Contests will be done on-site, students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. |
| B-7 * | CADD – Animation, Architectural | Contests will be done on-site, students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. |
| B-8 * | CADD – Animation, Engineering | Contests will be done on-site, students must provide all equipment and supplies. Students must be available during judging. Entries will be judged from the computer screen. |
| B-9 | Chapter Team | One team of six per chapter. Students must provide own pencil. |
| B-10 | Construction Systems | Entries are limited to one team of two members per chapter. (Students Must provide own tools and safety glasses. |
| B-11 | Cyberspace Pursuit | One entry per chapter, go to the following URL to obtain the design brief for 2008 visit: www.tsaweb.org . The Virginia TSA deadline to submit the URL via email to cyberspace@vatsa.org is mid-night March 26, 2008. |
| B-12 * | Desktop Publishing | Students must provide all equipment and supplies including computer system and printer. |
| B-13 * | Dragster Design | Judging of this event will include a wind tunnel test. The wind tunnel will be provided by Virginia TSA. |
| B-14 * | Electronic Research & Experimentation | Participants research, plan, design, and construct an electronic device. |
| B-15 | Engineering Design | One team per chapter. |
| B-16 * | Extemporaneous Presentation | Participants give a three to five (3-5) minute speech. |

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Virginia TSA Technosphere 2007 - 2008 Contests and Codes

HIGH SCHOOL PROGRAM

11/12

| Code | Event | Notes |
|-------------|--|--|
| B-17 | F-1 in Schools | Separate registration fee required. Visit http://www.tsaweb.org for information. |
| B-18 * | Film | |
| B-19 * | Flight Endurance | Students must build and test fly their aircraft before the event date. Students must provide documentation notebook. |
| B-20 | Geospatial Technology | Entries are limited to three teams (maximum 5 per term) per chapter. The rules are provided on page 20 in the Virginia TSA Addendum. |
| B-21 * | Imaging Technology | Theme: "Technically Speaking" |
| B-22 * | Manufacturing Prototype | Design and manufacture an original action figure product that has a TSA theme. An appropriate marketing package should accompany the product. The product may not include the use of any copyrighted characters or images. |
| B-23 | Medical Technology | One team per chapter |
| B-24 * | Prepared Presentation | Theme: "TSA: Image It!" |
| B-25 | Principles of Technology (Virginia Only) | Teams that register by the Technosphere registration deadline will receive detailed information about the type of resources to bring to the competition. |
| B-26 * | Promotional Graphics | Theme: "Shape the Future" |
| B-27 | Radio Controlled Transportation | One entry (team of two) per chapter. Participants design, fabricate, test, and demonstrate the use of a radio-controlled robot that collects and distributes a load during a five (5) minute demonstration. |
| B-28 | SciVis | One team per chapter. Participants must provide own equipment. |
| B-29 | Structural Engineering | One team of two per chapter. Participants must provide own tools including safety glasses. |
| B-30 * | System Control Technology | Team must provide all equipment and supplies. Teams must provide a 50 foot extension cord and power strip. |
| B-31 * | Technical Research and Report Writing | Theme: "The Influence of Mass Media" |
| B-32 * | Technical Sketching & Application | Students must provide own sketching tools. |
| B-33 * | Technology Bowl | One team of three per chapter. The team will only compete in the oral competition at Technosphere. |
| B-34 | Technology Challenge | One team of two members per chapter. |
| B-35 | Technology Problem Solving | One team of two per chapter. |
| B-36 * | Transportation Modeling | Topic: Create a concept Motor Home/Recreational Vehicle. |

20

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Virginia TSA Technosphere 2007 - 2008 Contests and Codes

HIGH SCHOOL PROGRAM

11/12

| Code | Event | Notes |
|-------------|-------------------|---|
| B-37 | Video Game Design | One team per chapter. Participants develop an E-rated game that focuses on the subject of their choice. |

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. |
| 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.

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 contest 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.



OVERVIEW

Participants develop a pre-conference electronic portfolio, profiling an assigned geographic area and solve an assigned on-site problem given a specific geographic area and the related data set. All participants then work to solve an on-site problem that demonstrates their abilities to use a suite of GIS tools and GPS technology to address a real-world problem.

PURPOSE

Demonstrate understanding of geospatial data and the technology used to prepare a profile of a geographic area of interest and problem solve in a spatial context.

ELIGIBILITY

Entries are limited to three (3) teams (maximum 5 per team) per chapter.

TIME LIMITS

- A. Pre-conference 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 three (3) hours to complete the on-site problem.

ATTIRE

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

PROCEDURE

- A. Participants check in their pre-conference entries at the time and place stated in the conference program.
- B. Entries are reviewed by the contest 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 on-site problem and are allowed three (3) hours to complete their entry.



This flexible event gives students the opportunity to compete in Geospatial Technology using the computer and software of their choice.



There is no finalist "cut" in this event. Everyone who enters participates in the on-site challenge.

- F. The entries are judged on screen. Participants are cautioned to save their projects regularly during the administration of the contest.
- G. All winning entries become the property of Virginia TSA.
- H. Participants pick up their entry from the display area at the time and place stated in the conference program.
- I. Participants supply their own computer workstation with CD burner and CD burning software, extension cord, surge protector, GPS unit (Garmin, Etrex or equivalent suggested), GPS interface cable and GIS software.

REGULATIONS FOR PRE-CONFERENCE PORTFOLIO

- A. The portfolio (hardcopy and electronic copy) must include all Data, documents and imagery and must follow the guidelines included in the pre-conference problem.
- B. The notebook is identified using only the participant's conference identification number.

REGULATIONS FOR THE ON-SITE PROBLEM

- A. External data is used only for the electronic portfolio. All data for the on-site project must come from the CD provided by the contest coordinator or from GPS waypoints collected on site.
- B. All on-site work is saved in digital form and is identified using only the participant's conference identification number as the file name.
- C. Participants leave the event room only with permission from the event coordinator.
- D. The onsite project is completed when a participant completes his/her work or when the contest time elapses.

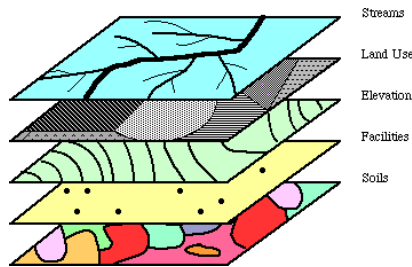
EVALUATION

Evaluation is based on points earned for electronic portfolio development, for presentation (hardcopy) of their portfolio, and for the solution to the on-site problem. Please refer to the official rating form for more information.

2007-2008 Geospatial Technology Contest

TSA Design Brief (PRE-CONFERENCE)

A GREEN VIRGINIA



Virginia is rich in diverse geographical attributes from the rolling hills of the west, to the mountain and valley area, to the sandy terrain of the coastal region. This years TSA will concentrate on an environmental atlas of your county.

Your assignment as a GIS team is to collect data and generate maps concentrating on the environmental uniqueness of your location. Maps, data and documents need to be collected abiding by the parameters listed below. All material should be written to a CD and presented at the time of arrival to the conference. There should be representative maps, data and documents for each of the following categories:

- Location map of your county in relationship to Virginia
- Elevations
- Bathymetry if available
- Watershed identification (regional to local)
- Environmental Factors, anything that politically may have affected the county's current environmental state
- Demographics and its effect on land use within the county
- Green sites: parks (local, state, and national), and other locations
- Locate and mark with GPS the recycling centers (current and proposed)
- Toxic waste sites
- Any local unusual geographic attributes, i.e. karsts, caves, lakes
- Slope and aspect

In the category "green sites" each student team is responsible for mapping at least two sites in their local county. GPS must be used and attributes must be attached to the points. An investigation should be made to identify areas within the county that are lacking in green zones.

PARAMETERS FOR THE CONTEST:

A. Data – GIS data must be collected for each of the above categories. Types of data should be available from your GIS software package, free via the Internet, or by phone order. (shapefiles, imagery, elevation data are examples of data to be collected)

B. Documents –

1. Data dictionary for the above 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.

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

- 2. Map Analysis – A document should accompany each map with an explanation of the map and methods used to create the map.**
 - 3. The Project Journal -- a daily written record of activities and sequential events leading to the final portfolio product is to be kept.**
- C. Maps – 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 should be student generated with all appropriate map parts.**
- D. CD File Structure.**
- 1. A folder for each category.**
 - 2. Subfolders for data, imagery and documents.**
- E. Notebook**
- 1. The notebook is a standard three (3)-ring binder in which the items are contained in clear sheet protectors. Items may be removed and examined by evaluators. Other items may not be included.**
 - 2. The notebook is identified using only the participant's conference identification number.**
 - 3. Include a copy of the backup CD in the binder in an additional plastic sleeve.**

GEOSPATIAL TECHNOLOGY EVENT COORDINATOR INSTRUCTIONS

PERSONNEL

- A. Event coordinator
- B. Evaluators for displays, three (3)
- C. Evaluators for on-site activity, three (3)
- D. Computer coordinator, one (1)

MATERIALS

- A. Coordinator's box, containing:
 - 1. Event guidelines, five (5) copies
 - 2. Official rating forms
 - 3. List of entries with finalist report
 - 4. List of evaluators/assistants
 - 5. Pens for evaluators
 - 6. Results envelope
- C. Tables for computer systems (2' x 4' minimum each), one (1) per participant
- D. Chairs, one (1) per participant

PROCEDURE

- A. Upon arrival at the conference, report to the CRC room and check the contents of the coordinator's box. 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 in the lower right-hand corner of the electronic portfolio. Position electronic portfolios for evaluation and viewing. Secure the entries in the designated area.
- E. 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 review each entry and complete the official rating form.
- G. Inspect the area(s) in which the on-site activity is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.

- H. Meet with your evaluators for the on-site activity to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the event manager before the event begins.
- I. Begin the event at the scheduled time by closing the doors and checking the entry list. All participants and evaluators should be in the room at this time. Participants not present may be disqualified. In order to compete, participants must be on the entry list or must have approval of the CRC chairperson.
- J. Evaluators monitor the participants during the on-site activity, independently review each entry, and complete the official rating form.
- K. For participants who violate the rules, the decision either to deduct twenty points (20) or to disqualify the entry must be discussed and verified with the evaluators, event coordinator, and a CRC manager. Secure the initials of the coordinator and manager on the rating form.
- L. Evaluators total the scores from the electronic portfolio and the on-site problem for each participant, and then take the average of their three (3) scores to determine the ten (10) finalists. Evaluators discuss and break any ties for the top ten (10) placements.
- M. 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.
- N. If necessary, manage security and the removal of materials from the area.

GEOSPATIAL TECHNOLOGY

2007-2008 OFFICIAL RATING FORM

HIGH SCHOOL

| | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| ENTRANT'S ID # | | | | | | | | | | | | | | | | | | | |
| EVALUATIVE CRITERIA | | | | | | | | | | | | | | | | | | | |
| Pre-conference Portfolio (50 pts.) Maps 20 pts. Documents: <ul style="list-style-type: none"> • Data Dictionary 5 pts. • Analysis Documents 5 pts. • Project Journal 5 pts. CD Structure 5 pts. Originality 10 pts. | | | | | | | | | | | | | | | | | | | |
| On-site Challenge (50 pts.) Innovation & Originality 10 pts. Solution to On-site Problem 20 pts. GPS Waypoints Imported 10 pts. Metadata Information Updated 5 pts. Final Product Burned on CD 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. <div style="text-align: center;"> Evaluator's signature _____ </div> | | | | | | | | | | | | | | | | | | | |

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 in the competitive events guide.

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.

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.

C - 7 or C - 8

ADVISOR OF THE YEAR

JUDGE'S OFFICIAL RATING SHEET

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

| ENTRANT'S ID | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| JUDGING CRITERIA Leadership70 points max. a. Initiative (15 points) b. Participation in TSA at local level (15 points) c. Leadership at state/national level (15 points) d. Professional & civic organizations (10 points) e. Student/advisor relationship (15 points) | | | | | | | | | | | | | | |
| Resume.....30 points max. a. Organization of facts in an orderly manner (10 points) b. Neatness (10 points) c. Appropriate information (10 points) | | | | | | | | | | | | | | |
| Total 100 points max. | | | | | | | | | | | | | | |

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
2007-2008

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: _____

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
2007-2008

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 school year 2007-2008. 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