

RULES AND REGULATIONS

Sixty-eighth ANNUAL

MONTGOMERY COUNTY SCIENCE
RESEARCH COMPETITION

To be held at

Germantown Academy

Fort Washington, Pennsylvania

during

week of MARCH 17 – 21, 2025

Sponsored by:

MONTGOMERY COUNTY SCIENCE TEACHERS' ASSOCIATION

MONTGOMERY COUNTY INTERMEDIATE UNIT #23

1605 W. Main St.--- Norristown, PA
610-539-8550

Germantown Academy

340 Morris Rd, Fort Washington, PA 19034
215-646-3300

Philip Rittenhouse – Director

Germantown Academy

267-614-8084 (cell/home)

Email: philip.rittenhouse@germantownacademy.org

Melody J. Leithold – Asst. Director **North Penn High School (retired)**

215-285-0870 (cell/home)

Email: leithomj@npenn.org

Mail: Fog Mt. Farm

421 Hill Rd.

Green Lane, Pa.18054

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
Calendar - Montgomery County Science Research Competition	2 -3
General Rules	
Checklist for Registration	4
Important Items	4-5
Definitions/Responsibilities	4-5
Classifications	6
Categories	6-7
SRC/IRB	8
Rules for Exhibiting Projects (In addition, students must comply with the rules in the ISEF Rules Booklet.)	9
Display	9
Safety Regulations	10
Research Involving State and Federal Regulations	10
Entry Deadlines	10
Set up and Take down	10
Judging	11
Awards	11-12
MCSRC Exempt List for human projects	13
Abstract, Rosters and Registration Forms	Appendix

The forms that students need to fill out for the protocol are found in the ISEF Rules booklet and can be downloaded at the Science Service website:

www.societyforscience.org/isef

INTRODUCTION

These are the rules for the Montgomery County Science Research Competition (MCSRC) for the year 2024-2025 competition. All sponsors, teachers, and students MUST read and comply with this booklet and the 2025 International Science and Engineering Fair (ISEF) Rules Booklet. There are some guidelines/rules in the ISEF Rules Booklet that **do not** pertain to the county competition. Furthermore, in some areas the MCSRC Rules may supersede the ISEF Rules. If you have any questions regarding the rules, please contact the Director or Assistant Director immediately. It is the responsibility of each sponsor to adequately supervise each student's progress and get approval for further work.

The development of the scientific method can be enhanced when teachers and supervisors insist that research has clearly defined objectives. Research must be quantitative in nature (taking number data) and be age appropriate. The appropriate certification forms (found in the ISEF Rules Booklet and at the Science Service website (www.societyforscience.org/isef) must be completed **prior to the start of the research** (see below).

**** Two OPTIONAL rules meetings will be held this year via Zoom. Teacher-sponsors should attend one this year. It is the teacher-sponsor's responsibility to understand and follow all guidelines. Failure to follow guidelines and/or meet deadlines could result in disqualification of projects. It is recommended that you bring a downloaded (hard) copy of the ISEF rules from www.societyforscience.org and a copy of these MCSRC rules.

******The two rules meetings this year are: Wednesday, October 9th starting at 4:00 PM and Thursday, October 24th starting at 4:00 PM. The link to both will be posted on MCSTA.org under MCSRC info. Contact Phil Rittenhouse or Melody Leithold with questions.**

Critical Information!!

Each teacher-sponsor is responsible for reading the following rules and explaining them to all students who will be participating in MCSRC. Certain forms are **required for all projects**, regardless of subject. These include the following: **Form (1), Checklist for Adult Sponsor, Form (1A), Student Checklist including "Research Plan", and Form (1B), Approval Form. Please note that these forms need to be completed with approvals BEFORE the student(s) begin data collection! All necessary ISEF forms will be uploaded to Files and Forms on STEM Wizard. Forms must have the dates 2024-2025 legible at the bottom. Projects needing IRB and/or SRC approval will also have to submit a hard-copy to the approval committee(s).**

*****Any** projects involving vertebrate animals, "Potentially Hazardous Biological Agents", human subjects, tissues, as well as projects that contain risk may require additional forms and approval by the SRC. Refer to the ISEF rules. **All Human Subjects projects, must have approval of an IRB, which is an Institutional Review Board that is created in your school prior to the start of the research. ALL human projects MUST be SRCed unless on the "EXEMPT LIST" on Pg. 13.** Check the calendar in this book as well as the MCSTA website (www.MCSTA.org) for dates to have your projects approved by the SRC. **A student must have approval from both the IRB (for humans) and if necessary, the SRC before he/she can begin his/her research.** Non-compliance will mean disqualification of the project. Read the ISEF rules that govern certification for projects using humans, "Potentially Hazardous Biological Agents", vertebrate animals, tissues, and rDNA. All the above forms are found in the ISEF Rules Booklet and may also be downloaded online at www.societyforscience.org/isef. There is a great "Rules Wizard" to help you determine the forms you need for the project after you have answered a few questions about the project.

THE 2025 MONTGOMERY COUNTY SCIENCE RESEARCH COMPETITION

FEE SCHEDULE FOR 2024-2025:

** Individual student registration fee is \$25.00. School registration fee is tiered. Schools entering 1-24 students pay \$50.00. Schools entering over 24 students pay \$75.00.

The 68th annual Montgomery County Science Research Competition dates are:

<u>Wednesday Sept 25</u>	Protocols needing 1 st SRC due to Phil at GA or Melody at home. They can be dropped off or mailed. Call us for details.
<u>Saturday Sept 28</u>	Phil and Melody (only) will review SRC protocols received by 9-25-24
<u>Wednesday Oct 9</u>	OPTIONAL rules meeting 4-5:15 PM via Zoom link posted on MCSTA.org
<u>Thursday Oct 24</u>	OPTIONAL rules meeting 4-5:15 PM via Zoom link posted on MCSTA.org
<u>Saturday Oct 26</u>	2 nd SRC Committee meeting at Germantown Academy in Phil's room. Protocols must be received by the prior Wednesday. Please volunteer.
<u>Saturday Nov 23</u>	3 rd SRC Committee meeting at Germantown Academy in Phil's room. Protocols must be received by the prior Wednesday. Please volunteer.
<u>Friday Dec 6</u>	Teachers start to sign up by inputting their info into STEM Wizard
<u>Saturday Dec 7</u>	All corrected protocols from prior SRC are turned into Phil or Melody for FINAL review. NO NEW PROTOCOLS.
<u>Friday Jan 3</u>	Teachers' deadline to sign up on STEM Wizard
<u>Monday Jan 6</u>	Students start to register all individual and school info on STEM Wizard milestones. Students submit the ISEF forms into the FILES AND FORMS milestone.
<u>Friday Feb 7 (2 DEADLINES)</u>	**Students' deadline for submitting ISEF forms in FILES AND FORMS. **Checks and rosters are received by Melody by mail or dropped off at home.
<u>Saturday Feb 15</u>	The Files and Forms Committee (all the volunteers we can get) meet at GA in Phil's room to check the ISEF forms are present and signed on SW. Students are notified that they have until Saturday, Feb. 22 nd to fix problems or be DROPPED.
<u>Saturday Feb 22</u>	Non-compliant students are dropped
<u>Monday March 10– Wednesday 12</u>	Students submit the Project Preview (NOT THE ABSTRACT) in SW milestone. This will go to the judges as an intro prior to the interview.

Monday March 17

Project Setup – There is NO electricity at MCSRC or DEL VAL. Setup of registered projects will begin at 8:00 AM. The setup will end at 5:00 PM. Students must be off the floor at this time. No student will be permitted to the floor for setup after 4:30 PM. Students should bring a blue or black pen for completing the approval forms as well as any equipment (tape, pliers, hammer, etc.) to setup. **Bring 20 copies of the project's abstract on MCSRC abstract form.** One copy should be mounted **on the board in the upper left hand corner.** The rest are left with the project. The project number should be put on all of items (logbooks, research papers, etc) **including abstracts** at your display. NO school names should appear on any papers or the front of the board. **On the back, bottom center of the board should be the student and school name AND school phone number ONE INCH HIGH.** Students who have computers with their exhibit may bring them on judging day. Participation in the Delaware Valley Science Fair will be indicated on the certification sheet at the display.

Tuesday March 18

Judging Day – 9:00 – 12:00 PM - Divisions 9th Grade – 12th Grade

All exhibitors must be at their projects at 9:00 AM. Students will sit at their projects for the judging. They must remain at their project until the Director dismisses them. Projects are to be taken home after the judging is completed. **There will be no public viewing of projects this year.**

1:30 – 4:00 PM Division 6th-8th Grade *SHORTER JUDGING TIME 2025!!*

All exhibitors must be at their projects at 1:30 PM. Students will sit at their projects for the judging. They must remain at their project until the Director dismisses them. Projects are to be taken home after the judging is completed. **There will be no public viewing of projects this year.**

The numbers of the winning projects will be posted on the Internet at the end of the judging that evening after 8 PM. Once again, the Special Award winners will be kept separate from the regular Division winners.

Friday Mar 21

Awards Ceremony at Germantown Academy. Honickman Auditorium.
9th – 12th Grades = 4:30 PM – 5:30 PM 6th – 8th Grade = 6 PM – 7 PM

April 1,2,3

DVSF in Oaks at the Greater Philadelphia Convention Center

May 10 – 16

ISEF in Columbus, Ohio

The Project Preview is a pdf slide presentation. The student introduces/gives an overview of their project. It will be placed in the Project Preview milestone for the judges to access. As soon as DVSF sets the criteria for 2024-2025, Melody will email you with the specifics. MCSRC will match the DVSF format.

****** DO NOT PUT PJAS FORMS ON STEM WIZARD ******

CHECKLIST FOR ROSTERS AND CHECKS RECEIVED BY MELODY ON
FEBRUARY 7th

1. The School Rosters with students' names, categories and sponsors. **Use the one provided in this booklet ONLY.**

*****DO NOT CHANGE THE FORMAT*****

*****WE NEED A SCHOOL ROSTER*****

**** Project name MUST match on roster – protocol forms- STEM Wizard registration-board! ****

2. There should be TWO checks. One is for the school registration and the other is the student registration. If you have students drop out after the checks are received, the money is not refundable because it defers the cost of the fair.

CHECKLIST FOR PROTOCOLS SUBMITTED FOR SRC APPROVAL

** Form 1 with Sponsor's signature MAKE SURE YOU CHECK BOXES on #4

** Research Plan Form 1A with a complete research plan - problem, hypothesis, detailed procedure and bibliography **typed** on a separate sheet from the instruction sheet. DO NOT HAND IN INSTRUCTION SHEET.

**Approval Form 1B complete with all signatures.

Any other forms needed as required by rules for student's project. (If you tested risk issues, potentially hazardous biological agents, humans including questionnaires (unless on "EXEMPT LIST"), risk projects or vertebrate animals, you must also attach the appropriate forms with both the IRB's and the SRC's signatures. **Do NOT send in the original copies. Make photocopies and hand those in. Be sure your copies are dark enough to be read. The student or teacher should keep the original forms.

IMPORTANT ITEMS

1. **PROJECT TITLE** – MUST be 80 spaces or less including blanks, numbers, and characters.

2. **MCSRC - Abstract**

Students must have a typed abstract **using the MCSRC abstract form**. You DO NOT have to reformat the abstract for DVSF if selected to go on. *The project title should be at the top.* Abstracts **must be 250 words or less!** Use the font, Times New Roman. Font size should be 12 point. You may remove the instructions at the bottom of the form. **One abstract should be visible on the display board in the upper left hand corner.**

3. **Display Set Up**

The high school display area will be set up by categories first and then divisions. The same categories will be together. For example, all the Behavior projects would be together: 12th-BEH, 11th-BEH, 10th-BEH, and 9th-BEH. Middle School will be divided by categories. Students in grades 6-8 compete together in the same category.

4. **The display area will not be open to the public this year.** Students take their projects home immediately upon the **completion** of judging.

5. Computer Use

If students are going to use computers at their display, have them fully charged. **No electricity will be available at MCSRC or Del Val.**

6. Category For Middle School Only – Consumer Science

7. Student Harassment of Adults and Other Students

Repeated contact by the student or person(s) representing the student with the purpose of changing official decisions will suspend the student and possibly the school from participation the following year.

DEFINITIONS / RESPONSIBILITIES

STUDENT PARTICIPANT – any student in 6th through 12th grade currently enrolled in a Montgomery County public, private, parochial, charter, or home school. The student may enter as an individual research project or a team of two or three students. All team members must be from the same school district. Teams may not change to individual entries or vice versa once paperwork indicating the designation has been submitted.

SPONSOR – this person must be the student's current teacher or if that teacher is not participating, a teacher in the student's school. If the school is not participating, this may be a current teacher in another participating school within the student's district. If there are no schools participating in the student's district, another teacher in a participating school from another district may "umbrella" the student. The teacher-sponsor **MUST** contact the director about the switch.

SCHOOL LIASON/SUPERVISOR/CONTACT PERSON-this person is a teacher or administrator who attends rules meetings on behalf of all the science teachers in his/her school and acknowledges the responsibility for transmitting all rules/registration information and dates to the faculty that are acting as sponsors. This person may also be a sponsor for his/her own students.

MENTOR – this person is an expert in the student's field of research. He/she provides the student with information on the topic and/or guidance in the experimental methods used. This person may be a teacher-sponsor, independent research professional, or parent. This person does not have to act as the Qualified Scientist or Designated Supervisor.

QUALIFIED SCIENTIST- this person holds a graduate degree (or an undergraduate degree with many years of employment experience) in the student's field of study and offers expert advice on the topic and vouches for the safety of the experimental procedures. This person may be the teacher-sponsor, parent, or independent research professional.

DESIGNATED SUPERVISOR – this person will directly oversee the student as he/she performs the experiment. If required, it is expected that the DS will have some training to ensure safety as the experiment is carried out.

IRB (Institutional Review Board) – this is a board of three individuals who review all student research proposals involving humans. The sponsor will select the IRB members for each student as needed. They do not all have to be from the sponsor's school. The board is composed of an administrator, a teacher (other than the sponsor), and a medical professional from a discipline-appropriate field to the research topic. They will determine the risk involved in the experiment and give approval for it to continue. **NOTE:** If a person signs the IRB – he/she **MAY NOT** sign anything else.

SRC (Scientific Review Committee)- this committee works at the MCSRC level. It is composed of teachers in various science disciplines and grade levels from various Montgomery County schools. They review all protocols identified by ISEF rules as needing special approval because the research deals with humans, vertebrate animals, RNA, PHBA, or hazards as defined by ISEF rules. No project studying these topics may start until they have received SRC approval.

CLASSIFICATION OF EXHIBITS

There are 5 major divisions of exhibits: 12th Grade, 11th Grade, 10th Grade, 9th Grade, and 6th – 8th Grade. Any public, private or parochial school located in Montgomery County as well as any home-schooling association is allowed to enter students in the competition.

Teams will be placed in the division of the oldest member. A senior-junior team would enter 12th Grade. Team Members must be from the same public school district or in the case of private/parochial schools, the members must be from the same school

INFORMATION FOR ALL DIVISIONS

Each school may enter a maximum of 24 projects in each division for 12th, 11th, 10th, and 9th Grades. Thus, a school with grades 9 – 12 may enter a maximum of 96 projects.

Each school may enter up to 35 students in Division 6th - 8th Grade. These limits include up to two team projects. The team projects WILL BE PLACED AND JUDGED IN SUBJECT CATEGORIES. They will count in the total allowed for that category. A school may not put more than 3 projects in each category in a division THIS INCLUDES THE TEAM PROJECTS. For example: Main Street High School may have no more than 3 Botany projects in 12th Grade, 3 Botany projects in 11th Grade, etc. This is to encourage more projects to be attempted in the smaller categories and to reduce the number of projects in some of the larger categories. The teams would count toward these three.

Teachers are urged to review the placement of a student's project so that it is entered in the most correct category. If the project is incorrectly placed, it must be judged in the incorrect category. No changes will be allowed at the time of set-up or judging. If you have a question, call the director or assistant director for help with the correct placement.

CATEGORIES FOR EXHIBITS

Behavioral and Social Sciences (BEH): Human and animal behavior, social and community relationships – psychology, sociology, anthropology, archaeology, ethology, linguistics, learning, perception, urban problems, reading problems, public opinion surveys, educational testing, etc.

Biochemistry (BCM): Chemistry of life processes – molecular biology, molecular genetics, enzymes, photosynthesis, blood chemistry, protein chemistry, food chemistry, hormones, etc.

Botany (BOT): Study of plant life – agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae, etc.

Chemistry (CHM): Study of nature and composition of matter and laws governing it – physical chemistry, organic chemistry (other than biochemistry), inorganic chemistry, materials, plastics, fuels, pesticides, metallurgy, soil chemistry, etc.

Computer Science (CMP): Study and development of computer hardware, software engineering, Internet networking and communications, graphics (including human interface), simulations / virtual reality or computational science (including data structures, encryption, coding and information theory).

Earth and Space (E&S): Geology, mineralogy, physiography, oceanography, meteorology, climatology, astronomy, speleology, seismology, geography, etc.

Engineering (ENG): Technology; projects that directly apply scientific principles to manufacturing and practical uses – civil, mechanical, aeronautical, chemical, electrical, photographic, sound, automotive, marine, heating and refrigerating, transportation, environmental engineering, etc.

Environmental Science (ENV): Study of pollution (air, water, and land) sources and their control; ecology.

Mathematics (MTH): Development of formal logical systems or various numerical and algebraic computations, and the application of these principles – calculus, geometry, abstract algebra, number theory, statistics, complex analysis, probability.

Medicine and Health (MED): Study of diseases and health of humans and animals – dentistry, pharmacology, pathology, ophthalmology, nutrition, sanitation, pediatrics, dermatology, allergies, speech and hearing, etc.

Microbiology (MIC): Biology of microorganisms – bacteriology, virology, protozoology, fungi, bacterial genetics, yeast, etc.

Physics (PHY): Theories, principles, and laws governing energy and the effect of energy on matter – solid state, optics, acoustics, particle, nuclear, atomic, plasma, superconductivity, fluid and gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, biophysics, etc.

Zoology (ZOO): Study of animals – animal genetics, ornithology, ichthyology, herpetology, entomology, animal ecology, paleontology, cellular physiology, circadian rhythms, animal husbandry, cytology, histology, animal physiology, invertebrate neurophysiology, studies of invertebrates, etc.

Consumer Science (CSR): **Middle School Only**. The science of the normal use of consumer products. Students may choose to use this category or enter their project in one of the other categories. This choice depends on the emphasis of the project.

It is impossible to develop category descriptions, which can be applied to all projects without some questions. Try to determine the primary emphasis of the project and enter it in that category. The teacher should work with the student and give final approval for the category to be entered. Once the project is registered and entered in that category, it will be judged in that category! No switching of projects by the student or teacher is allowed once registration is completed. It is extremely important that the student and the teacher both agree that the project should be in the given category. **If you have questions about the category placement, contact the director or assistant director for assistance with project placement.**

These Areas REQUIRE Review and Approval by SRC and/or IRB PRIOR to experimentation:

NOTE: NO FIREARMS of ANY TYPE. NO MOTORIZED VEHICLES RIDDEN.

Humans – Read the ISEF Rules Booklet Human Subject section. **All require prior IRB approval. If more than minimal risk, it needs SRC approval unless it appears on the MCSRC “EXEMPT LIST”.** The student will need to use a Qualified Scientist Form (2).

Examples of Qualified Scientists that can be used:

- For a Questionnaire / survey – psychiatrist, psychologist, etc.
- For a Risk project—Risk is defined as any of the following:
 1. Exercise – medical doctor, pediatrician, physical therapist, etc.
 2. Emotional stress – medical doctor, psychiatrist, psychologist, sociologist, etc.
 3. Ingestion – medical doctor, nutritionist, pharmacologist, pediatrician, etc.
 4. A protected group—children under 18, inmates, special education people, etc.

If the student is using an Informed Consent Form, they must have a Qualified Scientist Form (2) completed in detail. **The Informed Consent can be waived by the IRB under certain conditions.** Check the ISEF Rules Booklet for the criteria and other forms that might be necessary.

Nonhuman Vertebrate Animals – Read the ISEF Rules Booklet on Nonhuman Vertebrate Animal Use. **Requires prior SRC approval** for studies conducted in a non-regulated site (home, school, farm, etc.) the research may only be conducted if it involves behavioral, observational or supplemental nutritional studies on animals AND the research involves only non-invasive and non-intrusive methods that do not negatively affect an animal’s health. The student will need to complete a Vertebrate Animal Form (5A) and a Qualified Scientist Form (2). All other studies involving vertebrate animals must be conducted in a regulated research institution. These projects must be approved by that institution’s IACUC (Institutional Animal Care and Use Committee) before experimentation begins. In addition, students must complete forms 1C (Regulated Research Institution Form, a Vertebrate Animal Form (5B), a Qualified Scientist Form (2) & a Risk Assess. Form (3), if applicable.

Potentially Hazardous Biological Agents (formerly “Pathogenic Agents”) - Read the ISEF Rules Booklet on Hazardous Biological Agents. **Requires prior SRC approval**. The student will need to use a Qualified Scientist Form (2). This person can be a bacteriologist, medical doctor, microbiologist, pathologist, virologist, etc. **NO MICROBES MAY BE GROWN OUTSIDE OF A LAB!!!!**

Controlled Substances - Read the ISEF Rules Booklet on Controlled Substances. **Requires prior SRC approval**. The student will need to use Qualified Scientist Form (2). This person can be a pharmacist, medical doctor, or someone trained in the use and handling of these substances.

Recombinant DNA (rDNA) - Read the ISEF Rules Booklet on Recombinant DNA and Potentially Hazardous Biological Agents. **Requires prior SRC approval**. The student will need to use a Qualified Scientist Form (2). This person can be a bacteriologist, geneticist, virologist, pathologist, microbiologist, etc.

Human and Nonhuman Animal Tissue - Read the ISEF Rules Booklet on Tissues. **Requires prior SRC approval**. The student will need to use a Human and Animal Tissue Form (6A or 6B) and a Qualified Scientist Form (2). The qualified scientist can be a microbiologist, pathologist, research scientist, etc.

Hazardous Chemicals, Activities or Devices – Read the ISEF Rules Booklet on these hazards. Student must use a Risk Assessment Form (3). The Designated Supervisor must be directly responsible for overseeing student experimentation. **Does NOT Require SRC approval if serious injury or death is not a consideration.**

2. Safety Regulations

- A. Construction of exhibits must be safe and durable with all moving parts firmly attached and protected.
- B. The Setup Committee has the right to remove any materials that are on display and/or disqualify any exhibit which, in its opinion, is not safe or which constitutes a hazard in a public exhibition or does not comply with the rules and regulations found in this booklet and the ISEF Rules Booklet.

3. Research Involving State and Federal Regulations

- A. All research must have the correct certification forms completed and signed by the appropriate boards prior to the start of the project.

4. Entry Deadlines

- Teacher registration on STEM Wizard begins December 6th and ends January 3rd.
- Student general registration/input in STEM Wizard begins January 6th and ends February 7th.
- Rosters and checks received by Melody on February 7th.

- A. All STEM Wizard registration of students and their projects must be completed by the indicated date. Once the computer link is inactivated, you and students will NOT be able to register resulting in ineligibility.
- B. All hard-copy protocols submitted to SRC must be typed or neatly printed in blue or black ink. All signatures must be complete for acceptance. Protocols received later than the deadline date listed in the calendar on page 2 of this booklet, or if the application is not completed, or if all the appropriate certification forms are not included, will be disqualified. Photocopies of the certification forms should be brought with the protocol packet and the original forms kept safely by the student or sponsor. All photocopies must be clear and legible. **If they are not readable, they will be returned, and the student may become disqualified if the registration is not completed by the final registration date.**
- C. Any exhibit not properly entered will not be permitted to exhibit at the competition. **Teacher/sponsors check entry forms ensuring information is complete and accurate.**

5. Project Set Up and Take Down

- A. Project numbers will be listed on STEM Wizard by early March. Sponsors will receive an email.
- B. Once the project is set up the student should make sure that everything on the checklist is in order. A certifiers' checklist will be at each student's display area. He/she then needs to find a certifier to certify that the project is approved for exhibition. Everyone must have his or her project certified prior to the student's leaving Germantown Academy on setup day. The certifier and student will fill the checklist out. The certifier will collect the form. Nothing may be added to the display after it is certified. The student will indicate intended participation in DVSF. Each student must set up his/her own project or designate a parent, friend, or sponsor to set up. Exhibits not completely set up (except for computers) by the end of setup day will not be approved for judging.
- C. Projects will be removed immediately following judging.

6. Judging

- A. The project is judged from two aspects: the project display and the personal interview. Prior to seeing the student, the judges will review the online project preview, the abstract and the display. It is critical that the student presents the results in as clear a fashion as possible. The student will explain the project with the judges asking questions either during or after the oral presentation. It is critical for the student to understand the basic concepts of the project. This is where the student's background research plays a major role. The judges will ask questions to determine if the student has a strong grasp of the principles involved in the project as well as the basic scientific research techniques involved. If the student's project number is posted that evening at www.MCSTA.org, he/she should attend the Awards Ceremony. See calendar on page 2.
- B. The judges use the following criteria for evaluating the project:
- | | |
|-------------------------|------|
| Creative Thought | 30 % |
| Scientific Thought | 30 % |
| Thoroughness | 10 % |
| Skills | 10 % |
| Clarity of Presentation | 10 % |
| Visual Presentation | 10 % |
- C. Using the above criteria, the judging evaluation is then based on:
- The physical project display
 - The oral presentation
 - The responses given during the judges' questioning session
- D. The judging teams will be composed of professional science researchers, college science faculty, and middle and high school science teachers. The judging team has the final decision on the awards given.

7. Awards and Special Awards

- A. Each category may have only one first place award, one-second-place award, and one-third-place award. If a category has 3 or more entries a first, second, and third place award must be given. If there are fewer than 3 projects in the category, the judges' will award places starting with a first. For example, if there are only two projects, they must give a 1st and 2nd. place award. If there is only one project, it must be given a 1st. In all categories having more than 3 entries, judges may and are encouraged to also select approximately 10% of the category as Honorable Mentions.
- B. Team projects will be judged in the assigned subject category. Winning teams will then be judged against each other at the two levels. DVSF allows MCSRC to send two high school teams and two middle school teams. Teams at DVSF are not eligible to compete at ISEF.

C. All senior and early graduates must fill in Senior Information Sheets and hand them in at the time of registration to determine eligibility for awards from the Scholarship Committee. The awards are determined by their total number of points earned during Montgomery County Science Research

1. **The Dr. William Ritter Award**

This award, in the amount of \$300, is given by the Montgomery County Science Teachers' Association in honor of Dr. William Ritter, former Director of the Montgomery County Science Research Competition. The award will be given to the senior or graduating senior accumulating the highest number of points over their senior high school years (Grades 9-12). Competitions (Grades 9-12). The student must participate in his/her senior year to be eligible.

2. **The Mr. George Purvis Award**

This award, in the amount of \$200, is given in honor of Mr. George Purvis, former Director of Montgomery County Science Research Competition. The award will be given to the senior or graduating senior accumulating the second highest number of points over their senior high school years (Grades 9-12).

3. **The MCSRC Senior Perseverance Awards** are also awarded based on participation information. 5 – 6 years \$75.00 and 4 years \$50.00.

Special Awards - Many organizations and professional societies recognize student research efforts by awarding deserving students monetary prizes and gifts. These awards are also presented at the Awards Ceremony.

D. Scholarships are often available to colleges and universities based on academic achievement.

MCSRC EXEMPT LIST for human projects

If the project is done with human participation and falls within these guidelines/examples, it does **not** need the MCSRC's SRC. It only needs approval from the school IRB. If you have any questions, contact Phil or Melody. We do not want a project disqualified because the wrong decision was made by the teacher-sponsor at the local school level.

Survey asking about music preference if music lyrics do not include drugs, sex, or violence.

Survey asking if music helps study efficiency or test taking as long as music lyrics do not include drugs, sex, or violence.

Test questions/surveys that do not include sex, drugs, violence, racism, race/culture/religious bias, age bias, or gender bias.

Test questions/surveys that do not elicit political divisiveness.

Surveys that do not ask personal questions directly or indirectly that would cause stress in students. Stress situations: divorce, separation, immigration, incarceration, death, chronic illness, terminal illness, physical deformity including weight, cognitive disability, eating disorders, and mental disorders both genetic and non-genetic.

Limited physical activity is OK. The heart rate, breathing rate/depth, and/or blood pressure is not elevated. Ex. Shooting hoops from the foul line is OK. Shooting baskets as subject runs around court is NOT OK. This would need an SRC.

APPENDIX

**DO NOT CHANGE THE FORMAT OF
THESE FORMS**

For the Individual and Group school roster forms, use the ones provided in this booklet.

ABSTRACT

Project title

Project number

250 words or less, 12-point font, Times New Roman type

Double space, must stay within black box

(You may remove this wording at the bottom of this page)

MONTGOMERY COUNTY SCIENCE RESEARCH COMPETITION

School Roster - For Individual Projects

Maximum of three (3) projects in any one category per Division (include teams)

School Name: _____ Phone: _____

School Address: _____

Teacher/Sponsor: _____

Home address: _____

Teacher **Home** phone: _____ Teacher Email: _____

Number	Participant's Name	Division	Category	Sponsor
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				

27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				

NOTE!!!!!!

If any of the projects are done by a team, Do NOT list them on this roster. Use the Group roster. Each school may send two team projects as part of the limit number entered by that school.

\$25.00 X total number of students on rosters combined = Total of Check=

MONTGOMERY COUNTY SCIENCE RESEARCH COMPETITION

School Roster – For Group Projects

Each school district, private school or parochial school is allowed a maximum of two group projects in each division at the high school level (grades 9-12) and two group projects at the middle school level (6-8) regardless of the grade level distribution in buildings. High schools may need to use multiple group roster forms.

There can be up to three members in a group. Each participant in a group must have their own 1B. Other forms are shared. Each student is registered individually. All their SRC paper work must be bundled together as a group.

School Name: _____ Phone: _____

School Address: _____

Teacher/Sponsor: _____

Home address: _____

Teacher **Home** phone: _____ Teacher email: _____

Group	Name of each individual in the group.	Division	Title of Group Project and Category
1.			
1.			
1.			
2.			
2.			
2.			

If not using individual roster, complete below:

Total number of students _____ X \$25.00 = _____ Total of Check= _____