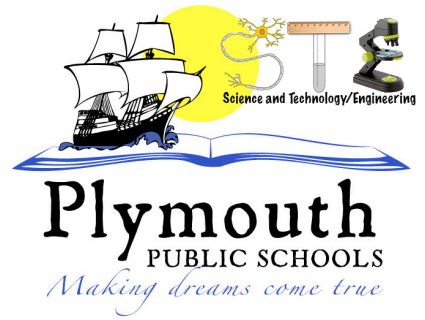


2016

**INDIVIDUAL PROJECT
CONSENT FORM PACKET**



It is *YOUR* responsibility to fill out the forms included in this packet completely and accurately. You must return all necessary forms to your teacher for approval *BEFORE* you begin experimentation.

ADDITIONAL DIRECTIONS

SIGNATURES These forms require signatures including yours, your parent’s and your teacher’s. Do not wait until the last minute!

DATES The ACTUAL start date on the **2016 Massachusetts State High School Science & Engineering Fair Student Checklist (1A)** must match the starting date of experimental work in your log book AND be later than the Teacher/Adult Sponsor’s Date of Review on **Checklist for Teacher/Adult Sponsor (1)**.

The dates next to your parent’s signatures, your teacher’s signature and your signature on **Approval Form (1B)** MUST BE EARLIER than the dated entries in your log book that show the beginning of ANY experimental work.

ADDITIONAL FORMS Some project topics require additional forms and signatures. (Please see the 2016 Consent Form Checklist.)

***RESEARCH PLAN**

You need to attach a complete research plan with this paperwork as outlined in item 5 on form 1A, the Massachusetts State High School Science and Engineering Fair Student Checklist.

According to the instructions for completing form 1A, your research plan must include four parts.

Please note that in the third part, item C, of your research plan the methods/procedures must include any potential risks and safety precautions.

The Bibliography in Item D requires at least 5 major sources (science journal entries, books, etc. – preferably NOT internet sites) from your literature review.

Don’t assume you can leave parts of these forms to fill in later. **IT WILL BE TOO LATE!**

WE UNDERSTAND THAT THE ACCURATE COMPLETION OF ALL RESEARCH FORMS AND ANY OTHER REQUIRED FORMS IS OUR RESPONSIBILITY AND THAT THESE FORMS ARE NECESSARY TO BE ELIGIBLE TO ATTEND HIGHER LEVEL FAIRS.

STUDENT SIGNATURE _____ DATE _____

PARENT SIGNATURE _____ DATE _____

TEACHER SIGNATURE _____ DATE _____

General Instructions for MSSEF Forms

The successful completion of Massachusetts State Science & Engineering Fair (MSSEF) forms involves the understanding of two general issues:

- Issue 1: This is a two-phase process. The first is the completion of those forms relating to starting the project and safety/consent considerations. The second phase of the process is to register to participate in the regional and state fairs. These are two separate and largely discrete processes.
- Issue 2: The Research Plan and Consent (MSSEF/ISEF) forms must be completed and properly submitted and accepted by MSSEF prior to the submittal of Registration, Award Preference, and Abstract forms.

It will help you as a teacher, student, or parent to understand the above two points as you review the following material.

All Massachusetts State Science & Engineering Fair (MSSEF) participants, their parents, teachers and research supervisors must take appropriate steps to thoroughly understand the procedures, and in some cases, the risks involved in the research that students would undertake when working on science projects. **Therefore, all MSSEF participants are required to complete Student Checklist (1A), Research Plan, Approval Form (1B), and the Teacher/Adult Sponsor Form (1).** All sections must be filled out before project work begins. These forms fulfill MSSEF and International Science & Engineering Fair (ISEF) requirements. MSSEF has combined its forms with ISEF so that any students entering a fair on the most basic level will be able to participate on every competitive level through the International competition. Some Massachusetts laws are more restrictive than the Federal laws and ISEF rules, so it is imperative that the MSSEF Rules are closely followed.

Please note the specific Ethics Statement found in this manual and on www.scifair.com. Approval Form (1B) requires the signature of the student, parent, teacher/adult sponsor, and the designated supervisor/qualified scientist (when appropriate) that indicates that this statement has been read, understood, and will be followed. The Student Checklist (1A) requires a student signature at the bottom of the page to verify the type of project.

Changes in the research plan and/or project design after initial safety approvals have been received **must** be re-submitted to the Regional SRC **before** such changes are made and before experimentation begins or resumes.

The Student Checklist (1A) contains a listing of projects that require prior Regional SRC approval. Projects requiring prior approval must be submitted to the Regional SRC prior to the date established by each regional fair. Projects not requiring approval must be submitted to the appropriate teacher/adult sponsor and then submitted to the Regional SRC with the registration packet as indicated in the detailed instructions accompanying the forms in this manual.

The Consent Form Checklist serves as a guide to the forms that must be completed depending on the type of project.

The web site at: www.scifair.com contains many useful hints and resources. You may also email us at: src@scifair.com with any questions. Email is the recommended form of communication as it allows us to direct any of your questions to the appropriate person.

**Massachusetts State Science & Engineering Fair
 CONSENT FORM CHECKLIST**

This Consent Form Checklist should be used as a reference when determining that the student/project complies with official requirements of the Massachusetts State Science & Engineering Fair and the International Science and Engineering Fair. For more detailed explanation of project topics, Scientific Review Committee (SRC), Institutional Review Board (IRB), and Consent Forms, refer to the Manual.

Project Topic(s)	Form 1A	Form 1B	Form 1	Form 1C	Form 2	Form 3	Form 4	Form 5A Form 5B	Form 6A	Form 6B	Form 7
	Student Checklist & Research Plan	Approval Form	Teacher/Adult Sponsor Checklist	Research in Industrial Setting	Qualified Scientist	Risk Assessment Form (Desig. Sup.)	Human Subjects	Vertebrate Animal	Potentially Hazardous Biological Agents	Human/Animal Tissue	Continuation Projects Form
All Projects	Yes	Yes	Yes								Yes, If Cont.
Human Subjects (1)	Yes	Yes	Yes	Maybe	Yes or Form 3	Yes or Form 2	Yes and Informed Consent Form				Yes, If Cont.
Vertebrate Animals	Yes	Yes	Yes	Maybe	Maybe	Yes or Form 2		Yes	Maybe	Maybe	Yes, If Cont.
Hazardous Chemicals, Activities or Devices (2)	Yes	Yes	Yes	Maybe	Yes or Form 3	Yes or Form 2					Yes, If Cont.
Potentially Hazardous Biological Agents (3)	Yes	Yes	Yes	Maybe	Yes or Form 3	Maybe			Yes	Maybe	Yes, If Cont.
Research Performed in Industrial/Institutional Setting	Yes	Yes	Yes	Yes	Yes or Form 3	Maybe					Yes, If Cont.

Footnote (1) - Copy of MSSEF Informed Consent Form and all surveys, questionnaires, and other items exposed to participants must be submitted.

Footnote (2) - DEA Controlled Substances, prescription drugs, alcohol and tobacco, firearms and explosives, hazardous chemicals and devices, and radiation are now a part of Hazardous Chemicals, Activities or Devices and **do require** a Qualified Scientist/Designated Supervisor. See Rules.

Footnote (3) - All projects incorporating microorganisms, rDNA technologies, human or animal tissues, blood, or body fluids.

Research Plan & Post Project Summary Instructions

A complete Research Plan & Post Project Summary is required for ALL projects and must accompany Student Checklist (1A)

1. The Research Plan is a succinct detailing of the rationale, research question(s), methodology, and risk assessment of your research project and should be completed before experimentation. For all projects requiring preapproval, this document must be reviewed and approved by the appropriate approval committee (e.g. IRB, IACUC, SRC) before experimentation. **ALL changes made to the original plan should be added to the final document as part of the Post Project Summary.** For projects not requiring preapproval, this document may be completed either pre- or post-experimentation.
2. All projects should complete a Post Project Summary after experimentation.

The Research Plan and Post Project Summary should include the following:

- a. What is the **RATIONALE** for your project? Include a brief synopsis of the background that supports your research problem and explain why this research is important scientifically and if applicable, explain any societal impact of your research.
- b. State your **HYPOTHESIS(ES), RESEARCH QUESTION(S), ENGINEERING GOAL(S), EXPECTED OUTCOMES.** How is this based on the rationale described above?
- c. Describe the following in detail:
 - **Procedures:** Detail all procedures and experimental design including methods for data collection. Describe only your project. Do not include work done by mentor or others.
 - **Risk and Safety:** Identify any potential risks and safety precautions needed.
 - **Data Analysis:** Describe the procedures you will use to analyze the data/results that answer research questions or hypotheses.
 - **Discussion of Results and Conclusions:** Discuss the data/results and the conclusions that can be drawn.
- d. **Bibliography:** List at least five (5) major references (e.g. science journal articles, books, internet sites) from your literature review. **APA format is recommended.** If you plan to use vertebrate animals, one of these references must be an animal care reference.

Items 1–4 below are subject-specific guidelines for additional items to be included in your research plan/project summary as applicable.

1. Human participants research:

- **Participants.** Describe who will participate in your study (age range, gender, racial/ethnic composition). Identify any vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
- **Recruitment.** Where will you find your participants? How will they be invited to participate?
- **Methods.** What will participants be asked to do? Will you use any surveys, questionnaires or tests? What is the frequency and length of time involved for each subject?
- **Risk Assessment**
 - **Risks.** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize the risks?
 - **Benefits.** List any benefits to society or each participant.
- **Protection of Privacy.** Will any identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential or anonymous? If anonymous, describe how the data will be collected anonymously. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will the data be stored? Who will have access to the data? What will you do with the data at the end of the study?
- **Informed Consent Process.** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

2. Vertebrate animal research:

- Briefly discuss potential **ALTERNATIVES** to vertebrate animal use and present a detailed justification for use of vertebrate animals
- Explain potential impact or contribution this research may have
- Detail all procedures to be used
 - Include methods used to minimize potential discomfort, distress, pain and injury to the animals during the course of experimentation. **Under Massachusetts Law, an animal cannot be put under duress/stress. This greatly limits what can be done in a vertebrate animal project.**
 - Detailed chemical concentrations and drug dosages. **Very strict rules apply. No animal's normal diet can be interrupted, etc. See rules.**
- Detail animal numbers, species, strain, sex, age, source, etc.
 - Include justification of the numbers planned for the research
- Describe housing and oversight of daily care
- Discuss disposition of the animals at the termination of the study.

3. Potentially hazardous biological agents research:

- a. Describe Biosafety Level Assessment process and resultant BSL determination
- b. Give source of agent, source of specific cell line, etc.
- c. Detail safety precautions
- d. Discuss methods of disposal

4. Hazardous chemicals, activities & devices:

- a. Describe Risk Assessment process and results
- b. Detail chemical concentrations and drug dosages
- c. Describe safety precautions and procedures to minimize risk
- d. Discuss methods of disposal

Checklist for Teacher/Adult Sponsor (1)

This completed form is required for ALL projects

To be completed by the Teacher/Adult Sponsor in collaboration with the student researcher(s):

Student's Name(s): _____

Project Title: _____

- 1) I have reviewed the MSSEF/ISEF Rules and Guidelines and Ethics Statement.
- 2) I have reviewed the student's completed Student Checklist (1A) and Research Plan.
- 3) I have worked with the student and we have discussed the possible risks involved in the project.
- 4) The project involves one or more of the following and requires prior approval by an SRC, IRB, IACUC, or IBC:

<input type="checkbox"/> Humans	Potentially Hazardous Biological Agents:
<input type="checkbox"/> Vertebrate Animals	<input type="checkbox"/> Microorganisms <input type="checkbox"/> rDNA <input type="checkbox"/> Tissues
- 5) Forms to be completed for **ALL Projects**:

<input type="checkbox"/> Teacher/Adult Sponsor Checklist (1)	<input type="checkbox"/> Research Plan
<input type="checkbox"/> Student Checklist (1A)	<input type="checkbox"/> Approval Form (1B)
<input type="checkbox"/> Regulated Research Institutional/Industrial Setting Form (1C) (when applicable after completed experiment)	
<input type="checkbox"/> Continuation/Research Progression Form (7) (when applicable)	

6) **Additional forms required if the project includes the use of one or more of the following** (check all that apply):

- Humans** (Requires prior approval by an Institutional Review Board (IRB) and Scientific Review Committee (SRC))
 - Human Participants Form (4) or appropriate *Institutional IRB* documentation
 - Sample of Informed Consent Form (when applicable and/or required by the IRB)
 - Qualified Scientist Form (2) (when applicable and/or required by the IRB)
- Vertebrate Animals** (Requires prior approval, see rules)
 - Vertebrate Animal Form (5A) - for projects conducted in a school/home/field research site (SRC prior approval required)
 - Vertebrate Animal Form (5B) - for projects conducted at a Regulated Research Institution. (Institutional Animal Care and Use Committee (IACUC) approval required prior to experimentation. SRC prior approval also required.)
 - Qualified Scientist Form (2) (Required for all vertebrate animal projects at a regulated research site or when applicable)
- Potentially Hazardous Biological Agents** (Requires prior approval by SRC, IACUC, or Institutional Biosafety Committee (IBC), see rules)
 - Potentially Hazardous Biological Agents Risk Assessment Form (6A)
 - Human and Vertebrate Animal Tissue Form (6B) - to be completed in addition to Form 6A when project involves the use of fresh or frozen tissue, primary cell cultures, blood, blood products and body fluids.
 - Qualified Scientist Form (2) (when applicable)
 - Risk Assessment Form (3) – required for projects involving protists, archae and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, for projects using color change coliform water test kits, microbial fuel cells, and for projects involving decomposing vertebrate organisms.
- Hazardous Chemicals, Activities and Devices** (Requires prior approval, see rules)
 - Risk Assessment Form (3)
 - Qualified Scientist Form (2) (required for projects involving DEA-controlled substances or when applicable)

Printed Name of Teacher/Adult Sponsor

Signature

Date of Review

(Must be prior to experimentation.)

Phone

Email

Student Checklist (1A-Individual)

This form is required for ALL projects

Every student must fill out this entire form before beginning project experimentation. PLEASE PRINT OR TYPE.

Read the "Research Plan Instructions" on www.scifair.com before completing your Research Plan/Project Summary.

Contact the MSSEF Scientific Review Committee (SRC) by e-mail at src@scifair.com with any questions.

Project year includes research conducted over a maximum, continuous 12-month period between January 2015 and April 2016.

Student Name _____ Grade _____

Home Address _____ Apt # _____ City _____ State _____ Zip Code _____

Telephone _____ Email Address _____

School Name _____

School Address _____ City _____ State _____ Zip Code _____

School Phone _____

Teacher Name _____ Email Address _____

Project Title _____

1. Is this a continuation from a previous year? (Check one) YES NO

If Yes:

a) Attach previous year(s) Abstract and Research Plan

b) Explain how this project is new and different from previous years on Continuation/Research Progression Form (7)

2. This year's laboratory experiment/data collection: (must be stated (mm/dd/yy) – Keep BLANK until experimentation starts and ends)

Start Date: _____ End Date: _____

3. Where will you conduct your experimentation? (Check all that apply)

Research Institution School Field Home Other _____

4. List name, address, and phone number of all work site(s) other than school and home:

Name: _____

Address: _____

Phone: _____

5. Complete a **Research Plan & Post-Project Summary** following the Research Plan & Post-Project Summary Instructions provided and attach to this form.

6. An **Abstract** is required for all projects after experimentation.

Approval Form (1B)

A completed form is required for each student, including all team members.

1. To be completed by Student and Parent

a) Student Acknowledgment:

- I understand the risks and possible dangers to me/my child of the proposed research plan.
- I have read the MSSEF/ISEF Rules and Guidelines and will adhere to all State and International Rules when conducting this research.
- I have read and will abide by the following Ethics Statement and the MSSEF Ethics Statement on www.scifair.com

Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and the Intel ISEF.

Student's Printed Name

Signature

Date Acknowledged (mm/dd/yy)
(Must be prior to experimentation.)

b) Parent/Guardian Approval: I have read and understand the risks and possible dangers involved in the **Research Plan**. I consent to my child participating in this research.

Parent/Guardian's Printed Name

Signature

Date Acknowledged (mm/dd/yy)
(Must be prior to experimentation.)

2. To Be Completed by Fair SRC.

(Required for projects requiring prior Regional or State SRC APPROVAL.)

a) Required for projects that need prior SRC approval BEFORE experimentation

The SRC has carefully studied this project's **Research Plan** and all the required forms are included. My signature indicates approval of the **Research Plan** before the student begins experimentation.

SRC Chair's Printed Name

Signature

Date of Approval (mm/dd/yy)
(Must be prior to experimentation.)

Region: I II III IV V VI State:

3. Final ISEF Affiliated Fair SRC Approval.

SRC Approval After Experimentation and Shortly Before Competition at Regional/State Fair

I certify that this project adheres to the approved **Research Plan** and complies with all MSSEF/ISEF Rules.

Regional SRC Chair's Printed Name

Signature

Date of Approval

State SRC Chair's Printed Name
(where applicable)

Signature

Date of Approval

MSSEF Ethics Statement

Massachusetts State Science & Engineering Fair, Inc. has adopted an ethics statement that each student is required to adhere to and will be asked to sign as a part of the research plan and application process.

The Statement

The primary reason that science project work enables such a wide range of learning to take place for each individual student is that the students themselves "own the question". Students pose a scientific problem and seek the necessary avenues to find a solution.

When students work with a mentor either at school, in a lab or wherever project work takes place, adults working with students should bear in mind that it is the student's project. The mentor's job is to help students acquire background information, teach the techniques required to test the purpose or hypothesis and above all to look out for the safety of young scientists.

The mentor should not suggest or assign a specific topic to the student (the idea must come from the student), take data for the student (unless the student is willing to give credit to the data taker and does not claim the data as their own) or analyze the data for the student. These actions take away the opportunity for students to do these activities on their own, and devalue student science project work in general. The motive for introducing science projects to young people is to help encourage responsible future scientists. The behavior of adult mentors should model the honesty and integrity expected of scientists in our world.

Before experimentation begins each student is required to complete a Research Plan, which includes signing the Ethics Statement that the student will, "adhere to all MSSEF/ISEF rules when conducting research." Students may compete in only one MSSEF affiliated fair, except when proceeding to the state fair from their affiliated regional fair. Students are only eligible to compete in their assigned science fair region, which is determined by the MSSEF. The student(s) will be judged only on the most recent year's research.

Any act of plagiarism associated with science project work exhibited at the Massachusetts State Science & Engineering Fair will lead to disqualification. Webster's New Collegiate Dictionary defines plagiarize as "to steal and pass off (the ideas or words of another) as one's own: use (a created production) without crediting the source: present as new and original an idea or product derived from an existing source."

In terms of science project work this means the student MUST:

- Complete all the necessary paperwork and permission forms, before, during and after experimentation, honestly.
- Document their work in a dated notebook recording development of the project including all references, procedures, original data and other relevant material.
- Include a bibliography as part of their background research.
- Cite the author of any original statement that is not their own.
- Give credit to anyone giving assistance to the student. If another person(s) performed any part(s) of the experiment, data, collection, etc., credit must be given in the student's journal/log, display, and report.

In the lab

It is generally assumed that work discussed at science fairs is the work of the student. When this is not the case the student needs to make this very clear in their oral and written presentations of the project.

Photographs and Visuals

Any photographs included in the student's paper or on their presentation board are assumed to have been taken by the student. Any photographs NOT taken by the student MUST be clearly labeled giving credit to the photographer. This includes any visuals taken from magazines, newspapers, journals, the internet or texts where appropriate permission must be solicited and included. The use of photographs of persons requires a photo release signed by the subject, and if under 18 years of age, also by the guardian of the subject. Sample consent text: "I consent to the use of visual images, (photos, videos, etc.) involving my participation/my child's participation in the research."

Cheating

Any form of cheating associated with the performance of research, completion of paperwork or in adhering to the stated rules, at any time during the process, will lead to disqualification. *Webster's Dictionary* defines cheat as "mislead; defraud; swindle; to practice deception or trickery". The following acts are considered cheating and will lead to failure to qualify.

Students MUST NOT:

- In any way falsify a permission form or scientific paper.
- Use another person's results or thoughts as their own even with the permission of this person. This includes work done by a family member or a mentor.
- Use information or data obtained from the Internet without proper citation.
- Enter a project for a second or third year with only minor changes.

Please Note

MSSEF, Inc. is responsible for all decisions relative to project acceptance. All decisions are final. MSSEF, Inc. assumes no responsibility for project acceptance decisions made at the school or regional levels.

I have read the information above and will adhere to all rules and accepted procedures throughout the entire science fair experience at all levels of competition.

Student Name (print) _____

Student Signature _____ Date _____

School _____ Teacher _____