

HANDBOOK INTRODUCTION

This handbook is for teachers using the NJAS rules and regulations to guide students doing open-ended, inquiry-based research. It was written with safety for students and research organisms as a major concern. It consists of three sections: Section 1: FACILITATING JUNIOR HIGH/MIDDLE SCHOOL STUDENTS; Section 2: FACILITATING SENIOR HIGH STUDENTS; and Section 3: USEFUL INFORMATION FOR ADULT SPONSORS AND STUDENTS INVOLVED IN NJAS SCIENCE FAIRS. Each section is meant to stand “alone”; if the teacher has only senior high students, Section 1 of the guide would not be used. The complete handbook (and required forms) can be read and/or downloaded from the NAS/NJAS website at <www.neacadsci.org>.

Highlights from the handbook include the following information:

- Two forms are required for *all* junior high NJAS projects and three forms for senior high. (Senior high requires three because one form was divided into two separate forms.)
- On the Student Research Plan Form, the student identifies a particular problem and plans what experimental approach he/she will use to solve the problem. The completed form is submitted to the teacher who reviews it for compliance with local, state, and federal regulations and the NJAS guidelines.
- The other form(s) must be signed by the student and the student’s parent or guardian, and then by the teacher after he/she has reviewed it to make sure necessary signatures have been obtained by the adults involved in approving or supervising any part of the experiment.
- Student experimentation begins after forms are on file with the teacher.
- Additional forms and/or signatures are required only if the project requires special supervision by *qualified* adults because the research poses potential risk to the student and/or to the research organisms. These projects include almost all that involve the use of nonhuman vertebrate animals, human subjects, potentially pathogenic agents (all micro-organisms isolated and/or cultured from any environment are considered pathogenic, including bacteria and fungi but excluding protists), recombinant DNA, controlled substances, human/vertebrate animal tissue, and hazardous substances or devices.
- The rules and regulations for conducting experimentation with each of these “special supervision” subjects are outlined in Chapters 2-7 of Section 1 and Chapters 2-8 in Section 2 of the handbook. It is important that the teacher reads these rules and regulations *before* allowing students to do experimentation.
- Special supervision *must be* provided by a Qualified Scientist and/or a Designated Supervisor.
- Roles and Responsibilities of a Qualified Scientist: Must be thoroughly familiar with the local, state, and federal regulations that govern the student’s area of research. The Qualified Scientist and the teacher may be the same person, if that person is qualified. A student may work with a Qualified Scientist in another city or state. In this case, the student must work

locally with a Designated Supervisor (see below) who has been trained in the techniques the student will use.

- Roles and Responsibilities of Designated Supervisor: The Designated Supervisor is an adult who supervises a student's experiment. The Designated Supervisor need not have an advanced degree, but should be thoroughly familiar with the student's project, and must be trained in the student's area of research. The teacher may act as the Designated Supervisor.
- The teacher must evaluate projects requiring special supervision and make sure criteria for the Qualified Scientist and the Designated Supervisor adhere to those set forth in the NJAS Guidelines.
- The teacher needs to either select the Qualified Scientist and/or the Designated Supervisor for the student or provide substantial input if the student is doing the selecting.
- It is important to be aware that the guidelines are not the same for the two different age groups when the research requires special supervision due to the potential risk to students and/or the research organisms.